*Model: T50-6* 

#### FCC PART 15, SUBPART B and C TEST REPORT

for

# MYOPAC WIRELESS TRANSMITTER

MODEL: T50-6

Prepared for

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DATE: MAY 6, 2010

	REPORT		APPENDICES				TOTAL
	BODY	A	В	C	D	E	
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Report Number: B00420A2

**Model: T50-6** 

Myopac Wireless Transmitter



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Report Number: **B00420A2**FCC Part 15 Subpart B and FCC Section 15.247 Test Report

Myopac Wireless Transmitter

Model: T50-6

# 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 or any other agency of the U.S. Government.

Device Tested: Myopac Wireless Transmitter

Model: T50-6 S/N: N/A

Product Description: See Expository Statement.

Modifications: There were no modifications made to the EUT during the testing.

Manufacturer: Konigsberg Instruments, Inc.

2000 Foothill Blvd.

Pasadena, California 91107

Test Dates: April 16, 19, and 20, 2010

Test Specifications: EMI requirements

CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.247

Test Procedure: ANSI C63.4: 2003

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 will be battery powered only.
2	Spurious Radiated RF Emissions, 10 kHz – 9300 MHz	Complies with the <b>Class B</b> limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, section 15.247(d)  Highest reading in relation to spec limit: 33.63 dBuV @ 480.044 MHz (*U = 5.13 dB)
3	Fundamental and Emissions produced by the intentional radiator in non-restricted bands, 10 kHz – 9300 MHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(d)
4	Emissions produced by the intentional radiator in restricted bands, 10 kHz – 9300 MHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.205, 15.209(a), and section 15.247 (d)
5	6 dB Bandwidth	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(a)(2)
6	Peak Power Output	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(b)(3)
7	RF Conducted Antenna Test	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(d)
8	Peak Power Spectral Density Conducted from the Intentional Radiator to the Antenna	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (e)

<sup>\*</sup>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 Myopac Wireless Transmitter, Model: T50-6. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4: 2003. 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 15.247.

Note: For the unintentional radiator portion of the test, the EUT was within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B.

*Model: T50-6* 

#### 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

William J. Mills General Manager

Compatible Electronics Inc.

Kyle Fujimoto Test Engineer James Ross Test Engineer

#### 2.4 Date Test Sample was Received

The EUT was received on April 12, 2010.

#### 2.5 Disposition of the Test Sample

The EUT was returned to Konigsberg Instruments, Inc. on April 20, 2010.

#### 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

N/A Not Applicable

Report Number: B00420A2



## 3. APPLICABLE DOCUMENTS

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

SPEC	TITLE
FCC Title 47,	FCC Rules - Radio frequency devices (including digital devices) –
Part 15	Intentional Radiators
Subpart C	
•	
ANSI C63.4	Methods of measurement of radio-noise emissions from low-voltage
2003	electrical and electronic equipment in the range of 9 kHz to 40 GHz
FCC Title 47,	FCC Rules - Radio frequency devices (including digital devices) –
Part 15	Unintentional Radiators
Subpart B	



#### 4. DESCRIPTION OF TEST CONFIGURATION

# 4.1 Description of Test Configuration - EMI

**Tyco Antenna:** The Myopac Wireless Transmitter, Model: T50-6 (EUT) was connected to two metal bars via its J1, J2, and J3 ports. A voltage divider was also connected to the cable attached to the J3 port and to the two metal bars. A signal generator was also connected to the voltage divider. The EUT was continuously transmitting.

**Note:** A laptop was connected to the USB port of the EUT only to change the channel of the EUT. The USB port is for diagnostic purposes only (i.e. troubleshooting the EUT) and will not be connected during normal usage.

It was determined that the emissions were at their highest level when the EUT was operating in the above configurations. The final emissions data was taken in both mode of operations mentioned above and any cables were maximized. All initial investigations were performed with the EMI 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

- <u>Cable 1</u> This is a 1.5-meter braid shielded cable connecting the signal generator to the voltage divider. The cable has metallic BNC connectors at each end. The shield of the cable was grounded to the chassis via the connectors.
- Cable 2 This is a 1.5-meter braid shielded cable connecting the EUT's J1 port to two metal bars. The cable has a D-37 pin metallic connector at the EUT end and eight red alligator clips connected to the first metal bar and eight black alligator clips connected to the second metal bar.
- <u>Cable 3</u>
  This is a 1.5-meter braid shielded cable connecting the EUT's J2 port to two metal bars. The cable has a D-37 pin metallic connector at the EUT end and eight red alligator clips connected to the first metal bar and eight black alligator clips connected to the second metal bar.
- <u>Cable 4</u>
  This is a 1.5-meter braid shielded cable connecting the EUT's J3 port to two metal bars. The cable has a D-37 pin metallic connector at the EUT end and four red alligator clips connected to the first metal bar and four black alligator clips connected to the second metal bar.
- <u>Cable 5</u> This is a 30-centimeter unshielded cable connecting the voltage divider with cable #4. The cable has a green alligator clip at each end.
- <u>Cable 6</u> This is a 40-centimeter unshielded cable connecting the voltage divider with the first metal bar. The cable has a red alligator clip at each end.
- <u>Cable 7</u> This is a 40-centimeter unshielded cable connecting the voltage divider with the second metal bar. The cable has a black alligator clip at each end.

## 5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

# 5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
MYOPAC WIRELESS TRANSMITTER (EUT)	KONIGSBERG INSTRUMENTS, INC.	T50-6	0102	YCU-T50
FUNCTION/ARBITRARY WAVEFORM GENERATOR	AGILENT TECHNOLOGIES	33120A	MY40000137	N/A
VOLTAGE DIVIDER	KOIGSBERG INSTRUMENTS, INC.	PE140-1	1358	N/A
ANTENNA	ANTENNA FACTOR	ANT-916-CW-HD	N/A	N/A
LAPTOP	COMPAQ	515	CNU9459NN9	DoC



# 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	September 17, 2008	Sept. 17, 2010			
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08784	May 29, 2009	May 29, 2010			
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	2648A14530	May 29, 2009	May 29, 2010			
Quasi-Peak Adapter	Hewlett Packard	85650A	2430A00424	May 29, 2009	May 29, 2010			
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A			
	RF RA	DIATED EMIS	SIONS TEST EQ	QUIPMENT				
CombiLog Antenna	Com Power	AC-220	61027	June 12, 2009	June 12, 2010			
Preamplifier	Com-Power	PA-103	1582	January 6, 2010	January 6, 2011			
Loop Antenna	Com-Power	AL-130	17089	September 29, 2008	Sept. 29, 2010			
Horn Antenna	Com-Power	AH-118	071175	March 18, 2010	March 18, 2012			
Microwave Preamplifier	Com-Power	PA-122	181921	March 10, 2010	March 11, 2011			
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A			

## **5.3 EMI Test Equipment (Continued)**

EQUIPMENT TYPE	MANU- FACTURER RF	MODEL NUMBER POWER OUP	SERIAL NUMBER UT TEST EQUIP	CALIBRATION DATE PMENT	CALIBRATION DUE DATE
Power Measuring Analyzer	Boonton Electronics	4500A-01	1282	June 20, 2008	June 20, 2010
Peak Power Sensor	Boonton Electronics	57318	3723	June 25, 2008	June 25, 2010

#### 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.

FCC Part 15 Subpart B and FCC Section 15.247 Test Report

Myopac Wireless Transmitter

Model: T50-6

#### CHARACTERISTICS OF THE TRANSMITTER

# 7.1 Channel Number and Frequencies

Channel 1: 911 MHz Channel 2: 912 MHz Channel 3: 913 MHz Channel 4: 914 MHz Channel 5: 915 MHz Channel 6: 916 MHz Channel 7: 917 MHz Channel 8: 918 MHz Channel 9: 919 MHz

#### 7.2 Antenna Gain

The antenna gain of the antenna is 0.04 dBi.

#### 8. TEST PROCEDURES

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

#### 8.1 RF Emissions

#### **8.1.1** Conducted Emissions Test

The Spectrum Analyzer was used as a measuring meter. The data was collected with the EMI 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 Spectrum Analyzer input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the Spectrum Analyzer. 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: 2003. 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 EMI Receiver 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 performed because the EUT will be battery powered only.

#### 8.1.2 Radiated Emissions (Spurious and Harmonics) Test

The EMI Receiver and Spectrum Analyzer were used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The EMI Receiver and Spectrum Analyzer were used in the peak detect mode with the "Max Hold" feature activated. In this mode, the EMI Receiver and Spectrum Analyzer record the highest measured reading over all the sweeps.

The quasi-peak adapter was used only for those readings which are marked accordingly on the data sheets.

The frequencies above 1 GHz were averaged manually by narrowing the video filter down to 10 Hz and putting the sweep time on AUTO on the spectrum analyzer to keep the amplitude reading calibrated.

The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
10 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	CombiLog Antenna
300 MHz to 1 GHz	120 kHz	CombiLog Antenna
1 GHz to 9.3 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: 2003. 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 by the Radiated Emission Manual Test software. 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.

#### Radiated Emissions (Spurious and Harmonics) Test (con't)

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 the final test data.

#### **Test Results:**

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, Sections 15.209 and 15.247 (d) for radiated emissions. Please see Appendix E for the data sheets.

#### 8.2 6 dB Bandwidth

The 6 dB bandwidth was measured using the EMI Receiver. The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz.

#### **Test Results:**

This test complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (a)(2).

#### 8.3 Peak Output Power

The Peak Output Power was taken using the power meter and power sensor. The EUT was directly connected to the power sensor, which was directly connected to the power meter. The Peak Output Power was then taken.

#### **Test Results:**

This test complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (b)(3).

#### 8.4 RF Antenna Conducted Test

The RF antenna conducted test was taken using the EMI Receiver. The RF antenna conducted test was measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver. The resolution bandwidth was 100 kHz, and the video bandwidth 300 kHz. The spans were wide enough to include all the harmonics and emissions that were produced by the intentional radiator.

#### **Test Results:**

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). The RF power that is produced by the intentional radiator is at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of desired power. Please see the radiated emission data sheets located in Appendix E.

## 7.5 RF Band Edges

The RF band edges were taken at the edges of the ISM spectrum (902 MHz when the EUT was on the low channel and 928 MHz when the EUT was on the high channel) using the EMI Receiver. The RBW was set to 100 kHz and the VBW was set to 300 kHz. Plots of the fundamental were taken to ensure the amplitude at the band edges were at least 20 dB down from the peak of the fundamental emission.

#### **Test Results:**

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). The RF power at the band edges at 902 MHz and 928 MHz meet the requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). Please see the data sheets located in Appendix E.

# 8.7 Spectral Density Test

The spectral density output was measured using the EMI Receiver. The spectral density output was measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver. The resolution bandwidth was 3 kHz, and the video bandwidth was 10 kHz. The highest 1.5 MHz of the signal was used as the frequency span with the sweep rate being 1 second for every 3 kHz of span.

#### **Test Results:**

This test complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (e).

## 8. CONCLUSIONS

The Myopac Wireless Transmitter Model: T50-6 meets all of the specification limits defined in FCC Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.247.

Note: For the unintentional radiator portion of the test, the EUT was within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B.



# **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 Subpart B and FCC 15.247 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

Myopac Wireless Transmitter

Model: T50-6 S/N: N/A

There were no additional models covered under this test report.



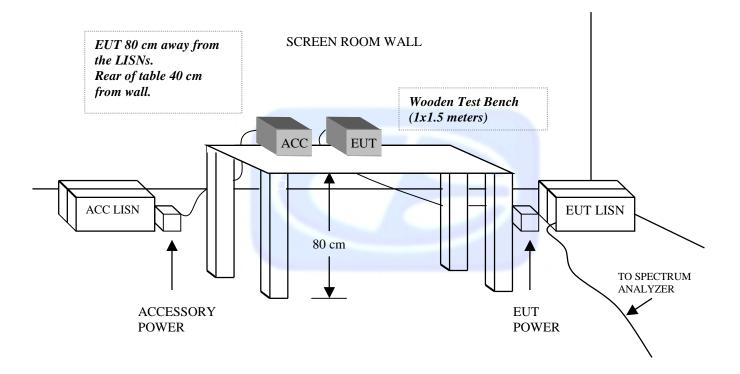
Model: T50-6

# APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS



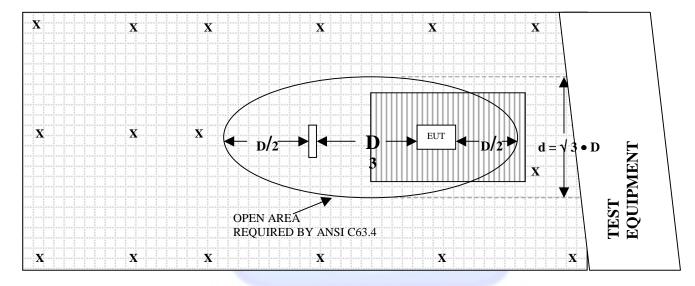
# FIGURE 1: CONDUCTED EMISSIONS TEST SETUP





# 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 AC-220

# **COMBILOG ANTENNA**

S/N: 61027

# CALIBRATION DATE: JUNE 12, 2009

FREQUENCY	FACTOR	FREQUENCY	FACTOR
(MHz)	(dB)	(MHz)	(dB)
25	17.7	180	10.0
30	18.1	200	10.2
35	17.4	250	11.7
40	16.8	275	13.3
45	16.1	300	13.9
50	16.3	400	15.8
60	14.0	500	17.3
70	8.1	600	18.7
80	7.5	700	19.6
90	8.5	800	20.9
100	9.9	900	21.5
120	9.9	1000	22.3
125	10.4	1200	18.1
140	10.1	1400	17.9
150	8.9	1600	20.1
160	8.9	1800	18.8
175	10.2	2000	20.0



# **COM-POWER PA-103**

# **PREAMPLIFIER**

S/N: 1582

# CALIBRATION DATE: JANUARY 6, 2010

FREQUENCY	FACTOR	FREQUENCY	FACTOR
(MHz)	(dB)	(MHz)	(dB)
30	33.1	300	32.7
40	33.0	350	32.6
50	32.9	400	33.0
60	33.1	450	32.3
70	33.1	500	32.1
80	32.9	550	32.5
90	32.9	600	32.3
100	32.9	650	32.0
125	33.0	700	32.6
150	32.9	750	32.5
175	32.9	800	31.8
200	32.7	850	31.9
225	32.8	900	32.2
250	32.8	950	32.1
275	32.8	1000	32.1



# **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-122**

# **PREAMPLIFIER**

S/N: 181921

# CALIBRATION DATE: MARCH 10, 2010

FREQUENCY	FACTOR	FREQUENCY	FACTOR
(GHz)	(dB)	(GHz)	(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

Model: T50-6



#### **FRONT VIEW**

KONIGSBERG INSTRUMENTS, INC.
MYOPAC WIRELESS TRANSMITTER
MODEL: T50-6
FCC SUBPART B AND C – RADAITED EMISSIONS

# PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS





#### **REAR VIEW**

KONIGSBERG INSTRUMENTS, INC.
MYOPAC WIRELESS TRANSMITTER
MODEL: T50-6
FCC SUBPART B AND C – RADAITED EMISSIONS

# PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



**APPENDIX E** 

DATA SHEETS

Model: T50-6

## RADIATED EMISISONS

DATA SHEETS



Konigsberg Instruments, Inc. Myopac Wireless Transmitter

Model: T50-6

Date: 04/16/2010

Lab: B

Tested By: Kyle Fujimoto

Low Channel Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margi n	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
911								Not required as Power
911								Output done via Conducted.
1822								Not in
1822								Restricted Band*
2733	45.81	V	74	-28.19	Peak	1.25	135	
2733	34.21	V	54	-19.79	Avg	1.25	135	
3644	39.49	V	74	-34.51	Peak	1.35	145	
3644	26.62	V	54	-27.38	Avg	1.35	145	
4555	41.15	V	74	-32.85	Peak	1.25	165	
4555	29.22	V	54	-24.78	Avg	1.25	165	
5466	44.84	V	74	-29.16	Peak	1.35	175	
5466	31.76	V	54	-22.24	Avg	1.35	175	
6377								Not in
6377								Restricted Band*
7288	43.96	V	74	-30.04	Peak	1.25	155	
7288	33.58	V	54	-20.42	Avg	1.25	155	
8199	46.15	V	74	-27.85	Peak	1.35	175	
8199	34.71	V	54	-19.29	Avg	1.35	175	
9110	42.52	V	74	-31.48	Peak	1.15	135	
9110	31.03	V	54	-22.97	Avg	1.15	135	

<sup>\*</sup>Measured Using Conducted Measurements as allowed by FCC 15.247(d)



Konigsberg Instruments, Inc.

Myopac Wireless Transmitter

Date: 04/16/2010

Lab: B

Model: T50-6 Tested By: Kyle Fujimoto

Low Channel Transmit Mode - X-Axis

Freq.	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
911								Not required as Power
911								Output done via Conducted.
1822								Not in
1822								Restricted Band*
2733	46.35	Н	74	-27.65	Peak	1.25	135	
2733	34.21	Н	54	-19.79	Avg	1.25	135	
3644	38.48	Н	74	-35.52	Peak	1.35	155	
3644	26.67	Н	54	-27.33	Avg	1.35	155	
4555	41.51	Н	74	-32.49	Peak	1.25	135	
4555	29.19	Н	54	-24.81	Avg	1.25	135	
5466	44.41	Н	74	-29.59	Peak	1.15	155	
5466	31.77	Н	54	-22.23	Avg	1.15	155	
6377								Not in
6377								Restricted Band*
7288	44.41	Н	74	-29.59	Peak	1.25	135	
7288	33.47	Н	54	-20.53	Avg	1.25	135	
		<b> </b>						
8199	46.21	H	74	-27.79	Peak	1.35	175	
8199	34.75	Н	54	-19.25	Avg	1.35	175	
0446	40.05	<b> </b>		04.05		4.45	405	
9110	42.95	Н	74	-31.05	Peak	1.45	185	
9110	31.03	Н	54	-22.97	Avg	1.45	185	

<sup>\*</sup> Measured Using Conducted Measurements as allowed by FCC 15.247 (d)



Konigsberg Instruments, Inc.

Myopac Wireless Transmitter

Date: 04/16/2010

Lab: B

Model: T50-6 Tested By: Kyle Fujimoto

Middle Channel Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
915								Not required as Power
915								Output done via Conducted.
1830								Not in
1830								Restricted Band*
2745	47.07	V	74	-26.93	Peak	1.25	135	
2745	35.51	V	54	-18.49	Avg	1.25	135	
3660	39.69	V	74	-34.31	Peak	1.35	165	
3660	27.36	V	54	-26.64	Avg	1.35	165	
4575	43.03	V	74	-30.97	Peak	1.65	175	
4575	29.92	V	54	-24.08	Avg	1.65	175	
5490	46.32	V	74	-27.68	Peak	1.75	185	
5490	34.15	V	54	-19.85	Avg	1.75	185	
6405								Not in
6405								Restricted Band*
7320	47.16	V	74	-26.84	Peak	1.25	135	
7320	35.45	V	54	-18.55	Avg	1.25	135	
8235	49.11	V	74	-24.89	Peak	1.58	135	
8235	37.84	V	54	-16.16	Avg	1.58	135	
9150	45.99	V	74	-28.01	Peak	1.75	125	
9150	35.22	V	54	-18.78	Avg	1.75	125	
		1						

<sup>\*</sup> Measured Using Conducted Measurements as allowed by FCC 15.247 (d)

**Model: T50-6** 

#### FCC 15.247

Konigsberg Instruments, Inc.

Myopac Wireless Transmitter

Date: 04/16/2010

Lab: B

Model: T50-6 Tested By: Kyle Fujimoto

#### Middle Channel Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
915								Not required as Power
915								Output done via Conducted.
1830								Not in
1830								Restricted Band*
2745	48.12	Н	74	-25.88	Peak	1.25	135	
2745	35.52	Н	54	-18.48	Avg	1.25	135	
3660	39.47	Н	74	-34.53	Peak	1.35	165	
3660	27.39	Н	54	-26.61	Avg	1.35	165	
4575	43.08	Н	74	-30.92	Peak	1.58	175	
4575	29.95	Н	54	-24.05	Avg	1.58	175	
5490	46.62	Н	74	-27.38	Peak	1.35	155	
5490	34.24	Н	54	-19.76	Avg	1.35	155	
6405								Not in
6405								Restricted Band*
7320	46.92	Н	74	-27.08	Peak	1.45	165	
7320	35.42	Н	54	-18.58	Avg	1.45	165	
8235	49.51	Н	74	-24.49	Peak	1.25	135	
8235	37.77	Н	54	-16.23	Avg	1.25	135	
9150	46.52	Н	74	-27.48	Peak	1.35	155	
9150	35.25	Н	54	-18.75	Avg	1.35	155	
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<sup>\*</sup> Measured Using Conducted Measurements as allowed by FCC 15.247 (d)



Konigsberg Instruments, Inc.

Myopac Wireless Transmitter

Date: 04/16/2010

Lab: B

Model: T50-6 Tested By: Kyle Fujimoto

High Channel Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
919								Not required as Power
919								Output done via Conducted.
1838								Not in
1838								Restricted Band*
2757	48.73	V	74	-25.27	Peak	1.25	155	
2757	35.56	V	54	-18.44	Avg	1.25	155	
3676	39.61	V	74	-34.39	Peak	1.35	165	
3676	27.31	V	54	-26.69	Avg	1.35	165	
4595	42.12	V	74	-31.88	Peak	1.25	135	
4595	29.74	V	54	-24.26	Avg	1.25	135	
5514	47.71	V	74	-26.29	Peak	1.35	155	
5514	34.61	V	54	-19.39	Avg	1.35	155	
6433								Not in
6433								Restricted Band*
7352	48.11	V	74	-25.89	Peak	1.25	155	
7352	35.43	V	54	-18.57	Avg	1.25	155	
8271	49.35	V	74	-24.65	Peak	1.35	175	
8271	37.88	V	54	-16.12	Avg	1.35	175	
	ļ							
9190	49.11	V	74	-24.89	Peak	1.25	135	
9190	35.32	V	54	-18.68	Avg	1.25	135	

<sup>\*</sup> Measured Using Conducted Measurements as allowed by FCC 15.247 (d)



Konigsberg Instruments, Inc.

Myopac Wireless Transmitter

Date: 04/16/2010

Lab: B

Model: T50-6 Tested By: Kyle Fujimoto

High Channel Transmit Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
919								Not required as Power
919								Output done via Conducted.
1000								
1838								Not in
1838								Restricted Band*
0757	20.27		74	27.72	Dools	4.05	135	
2757	36.27	H		-37.73	Peak	1.25		
2757	23.51	Н	54	-30.49	Avg	1.25	135	
3676	39.79	Н	74	-34.21	Peak	1.35	155	
3676	27.29	Н	54	-26.71	Avg	1.35	155	
0070	21.20		<u> </u>	20.71	7179	1.00	100	
4595	42.46	Н	74	-31.54	Peak	1.45	165	
4595	29.73	Н	54	-24.27	Avg	1.45	165	
5514	46.33	Н	74	-27.67	Peak	1.65	175	
5514	34.52	Н	54	-19.48	Avg	1.65	175	
6433								Not in
6433	ļ							Restricted Band*
7352	48.18	Н	74	-25.82	Peak	1.35	185	
7352	35.35	H	54	-18.65	Avg	1.35	185	
1002	33.33	''	J <del>1</del>	-10.03	Avy	1.00	100	
8271	49.42	Н	74	-24.58	Peak	1.45	195	
8271	37.87	Н	54	-16.13	Avg	1.45	195	
9190	47.25	Н	74	-26.75	Peak	1.65	205	
9190	35.42	Н	54	-18.58	Avg	1.65	205	
<del></del>								

<sup>\*</sup> Measured Using Conducted Measurements as allowed by FCC 15.247 (d)



#### FCC 15.247 and FCC Class B

Konigsberg Instruments, Inc.

Myopac Wireless Transmitter

Date: 04/16/2010

Lab: B

Model: T50-6 Tested By: Kyle Fujimoto

Non Harmonic Emissions from the Tx - 1 GHz to 9.3 GHz - X-Axis Digital Portion of the EUT - 1 GHz to 9.3 GHz - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Emissions Detected from
								the Non-Harmonic Emissions
								of the Transmitter from
								1 GHz to 9.3 GHz
								No Emissions Detected from
								the Digital Portion of
								the EUT from 1 GHz
								to 9.3 GHz
								Test in both Vertical
								and Horizontal Polarizations



Date: 04/16/2010

Lab: B

*Model: T50-6* 

#### FCC 15.247

Konigsberg Instruments, Inc.
Myopac Wireless Transmitter

Model: T50-6 Tested By: Kyle Fujimoto

Low Channel

**Transmit Mode - Y-Axis** 

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
911								Not Required as Power
911								Output done via Conducted
1822								Not in
1822								Restricted Band*
2733	47.02	V	74	-26.98	Peak	1.25	0	
2733	35.97	V	54	-18.03	Avg	1.25	0	
3644	40.03	V	74	-33.97	Peak	1.55	135	
3644	27.79	V	54	-26.21	Avg	1.55	135	
4555	45.18	V	74	-28.82	Peak	1.25	175	
4555	30.34	V	54	-23.66	Avg	1.25	175	
5466	45.36	V	74	-28.64	Peak	1.35	185	
5466	33.68	V	54	-20.32	Avg	1.35	185	
6377								Not in
6377								Restricted Band*
7288	46.23	V	74	-27.77	Peak	1.55	185	
7288	34.51	V	54	-19.49	Avg	1.55	185	
8199	48.01	V	74	-25.99	Peak	1.25	135	
8199	35.11	V	54	-18.89	Avg	1.25	135	
9110	44.11	V	74	-29.89	Peak	1.35	165	
9110	31.23	V	54	-22.77	Avg	1.35	165	

<sup>\*</sup> Measured Using Conducted Measurements as allowed by FCC 15.247 (d)



Model: T50-6

#### FCC 15.247

Konigsberg Instruments, Inc.

Myopac Wireless Transmitter

Date: 04/16/2010

Lab: B

Model: T50-6 Tested By: Kyle Fujimoto

Low Channel Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
911								Not Required as Power
911								Output done via Conducted
1822								Not in
1822								Restricted Band*
2733	46.91	Н	74	-27.09	Peak	1.25	45	
2733	34.74	Н	54	-19.26	Avg	1.25	45	
3644	39.08	Н	74	-34.92	Peak	1.35	135	
3644	26.88	Н	54	-27.12	Avg	1.35	135	
4555	41.99	Н	74	-32.01	Peak	1.25	155	
4555	29.38	Н	54	-24.62	Avg	1.25	155	
					J			
5466	44.48	Н	74	-29.52	Peak	1.35	165	
5466	31.97	Н	54	-22.03	Avg	1.35	165	
					J			
6377								Not in
6377								Restricted Band*
7288	44.85	Н	74	-29.15	Peak	1.25	135	
7288	34.29	Н	54	-19.71	Avg	1.25	135	
8199	47.47	Н	74	-26.53	Peak	1.25	155	
8199	35.08	Н	54	-18.92	Avg	1.25	155	
9110	41.94	Н	74	-32.06	Peak	1.35	175	
9110	31.19	Н	54	-22.81	Avg	1.35	175	
					<u>J</u>			
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<sup>\*</sup> Measured Using Conducted Measurements as allowed by FCC 15.247 (d)

**Model: T50-6** 

#### FCC 15.247

Konigsberg Instruments, Inc.

Myopac Wireless Transmitter

Date: 04/16/2010

Lab: B

Model: T50-6 Tested By: Kyle Fujimoto

#### Middle Channel Transmit Mode - Y-Axis

Freq.	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
915								Not Required as Power
915								Output done via Conducted
1830								Not in
1830								Restricted Band*
2745	48.39	V	74	-25.61	Peak	1.52	135	
2745	35.87	V	54	-18.13	Avg	1.52	135	
3660	40.12	V	74	-33.88	Peak	1.58	150	
3660	27.61	V	54	-26.39	Avg	1.58	150	
4575	42.77	V	74	-31.23	Peak	1.59	175	
4575	30.09	V	54	-23.91	Avg	1.59	175	
5490	46.88	V	74	-27.12	Peak	2.05	0	
5490	34.28	V	54	-19.72	Avg	2.05	0	
6405								Not in
6405								Restricted Band*
7320	47.61	V	74	-26.39	Peak	1.58	0	
7320	36.17	V	54	-17.83	Avg	1.58	0	
8235	46.41	V	74	-27.59	Peak	1.59	180	
8235	35.81	V	54	-18.19	Avg	1.59	180	
9150	44.11	V	74	-29.89	Peak	1.25	150	
9150	32.21	V	54	-21.79	Avg	1.25	150	

<sup>\*</sup> Measured Using Conducted Measurements as allowed by FCC 15.247 (d)



**Model: T50-6** 

#### FCC 15.247

Konigsberg Instruments, Inc.

Myopac Wireless Transmitter

Date: 04/16/2010

Lab: B

Model: T50-6 Tested By: Kyle Fujimoto

#### Middle Channel Transmit Mode - Y-Axis

Freq.	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
915								Not Required as Power
915								Output done via Conducted
1830								Not in
1830								Restricted Band*
2745	35.29	Н	74	-38.71	Peak	1.58	135	
2745	22.49	Н	54	-31.51	Avg	1.58	135	
3660	40.27	Н	74	-33.73	Peak	1.59	45	
3660	26.67	Н	54	-27.33	Avg	1.59	45	
4575	41.05	Н	74	-32.95	Peak	1.58	150	
4575	29.15	Н	54	-24.85	Avg	1.58	150	
5490	44.45	Н	74	-29.55	Peak	1.35	225	
5490	32.13	Н	54	-21.87	Avg	1.35	225	
6405								Not in
6405								Restricted Band*
7320	46.18	Н	74	-27.82	Peak	1.59	145	
7320	33.92	Н	54	-20.08	Avg	1.59	145	
8235	48.07	Н	74	-25.93	Peak	1.38	225	
8235	35.95	Н	54	-18.05	Avg	1.38	225	
9150	44.44	Н	74	-29.56	Peak	1.58	155	
9150	32.01	Н	54	-21.99	Avg	1.58	155	

<sup>\*</sup> Measured Using Conducted Measurements as allowed by FCC 15.247 (d)

**Model: T50-6** 

#### FCC 15.247

Konigsberg Instruments, Inc.

Myopac Wireless Transmitter

Date: 04/16/2010

Lab: B

Model: T50-6 Tested By: Kyle Fujimoto

High Channel Transmit Mode - Y-Axis

Freq.	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
919								Not Required as Power
919								Output done via Conducted
1838								Not in
1838								Restricted Band*
2757	46.67	V	74	-27.33	Peak	1.25	155	
2757	34.52	V	54	-19.48	Avg	1.25	155	
3676	36.33	V	74	-37.67	Peak	1.58	135	
3676	26.56	V	54	-27.44	Avg	1.58	135	
4595	40.84	V	74	-33.16	Peak	1.25	150	
4595	28.73	V	54	-25.27	Avg	1.25	150	
5514	44.09	V	74	-29.91	Peak	1.25	150	
5514	31.37	V	54	-22.63	Avg	1.25	150	
6433								Not in
6433								Restricted Band*
7352	45.81	V	74	-28.19	Peak	1.25	150	
7352	34.61	V	54	-19.39	Avg	1.25	150	
8271	46.25	V	74	-27.75	Peak	1.25	135	
8271	35.62	V	54	-18.38	Avg	1.25	135	
9190	42.15	V	74	-31.85	Peak	1.25	135	
9190	33.13	V	54	-20.87	Avg	1.25	135	

<sup>\*</sup> Measured Using Conducted Measurements as allowed by FCC 15.247 (d)



*Model: T50-6* 

#### FCC 15.247

Konigsberg Instruments, Inc.

Myopac Wireless Transmitter

Date: 04/16/2010

Lab: B

Model: T50-6 Tested By: Kyle Fujimoto

High Channel Transmit Mode - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
919								Not Required as Power
919								Output done via Conducted
1838								Not in
1838								Restricted Band*
2757	34.49	Н	74	-39.51	Peak	1.35	165	
2757	22.44	Н	54	-31.56	Avg	1.35	165	
3676	40.11	Н	74	-33.89	Peak	1.25	175	
3676	26.54	Н	54	-27.46	Avg	1.25	175	
4595	41.1	Н	74	-32.9	Peak	1.35	185	
4595	28.75	Н	54	-25.25	Avg	1.35	185	
5514	43.19	Н	74	-30.81	Peak	1.25	155	
5514	31.44	Н	54	-22.56	Avg	1.25	155	
C400								NI d'
6433 6433								Not in
0433								Restricted Band*
7352	46.75	Н	74	-27.25	Peak	1.65	175	
7352	34.29	Н	54	-19.71	Avg	1.65	175	
				1				
8271	48.33	Н	74	-25.67	Peak	1.25	165	
8271	35.67	Н	54	-18.33	Avg	1.25	165	
9190	44.62	Н	74	-29.38	Peak	1.25	135	
9190	33.34	Н	54	-20.66	Avg	1.25	135	

<sup>\*</sup> Measured Using Conducted Measurements as allowed by FCC 15.247 (d)

*Model: T50-6* 

#### FCC 15.247 and FCC Class B

Konigsberg Instruments, Inc.

Myopac Wireless Transmitter

Date: 04/16/2010

Lab: B

Model: T50-6 Tested By: Kyle Fujimoto

Non Harmonic Emissions from the Tx - 1 GHz to 9.3 GHz -Y-Axis Digital Portion of the EUT - 1 GHz to 9.3 GHz - Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Emissions Detected from
								the Non-Harmonic Emissions
								of the Transmitter from
								1 GHz to 9.3 GHz
								No Emissions Detected from
								the Digital Portion of
								the EUT from 1 GHz
								to 9.3 GHz
								Test in both Vertical
								and Horizontal Polarizations

**Model: T50-6** 

#### FCC 15.247

Konigsberg Instruments, Inc.

Myopac Wireless Transmitter

Date: 04/16/2010

Lab: B

Model: T50-6 Tested By: Kyle Fujimoto

#### Low Channel Transmit Mode - Z-Axis

Freq.	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
911								Not Required as Power
911								Output done via Conducted
1822								Not in
1822								Restricted Band*
2733	44.79	V	74	-29.21	Peak	1.25	135	
2733	34.36	V	54	-19.64	Avg	1.25	135	
3644	39.22	V	74	-34.78	Peak	1.35	155	
3644	26.72	V	54	-27.28	Avg	1.35	155	
4555	42.26	V	74	-31.74	Peak	1.25	135	
4555	29.31	V	54	-24.69	Avg	1.25	135	
5466	43.56	V	74	-30.44	Peak	1.35	145	
5466	31.79	V	54	-22.21	Avg	1.35	145	
6377								Not in
6377								Restricted Band*
7288	45.99	V	74	-28.01	Peak	1.25	135	
7288	33.64	V	54	-20.36	Avg	1.25	135	
8199	46.24	V	74	-27.76	Peak	1.35	165	
8199	34.79	V	54	-19.21	Avg	1.35	165	
9110	42.79	V	74	-31.21	Peak	1.25	175	
9110	31.11	V	54	-22.89	Avg	1.25	175	

<sup>\*</sup> Measured Using Conducted Measurements as allowed by FCC 15.247 (d)

*Model: T50-6* 

#### FCC 15.247

Konigsberg Instruments, Inc.

Myopac Wireless Transmitter

Date: 04/16/2010

Lab: B

Model: T50-6 Tested By: Kyle Fujimoto

#### Low Channel Transmit Mode - Z-Axis

Freq.	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
911								Not Required as Power
911			77 11					Output done via Conducted
1822								Not in
1822								Restricted Band*
2733	46.29	Н	74	-27.71	Peak	1.25	135	
2733	34.33	Н	54	-19.67	Avg	1.25	135	
3644	39.05	Н	74	-34.95	Peak	1.35	155	
3644	26.75	Н	54	-27.25	Avg	1.35	155	
4555	41.67	Н	74	-32.33	Peak	1.45	165	
4555	29.28	Н	54	-24.72	Avg	1.45	165	
5466	42.93	Н	74	-31.07	Peak	1.25	135	
5466	31.87	Н	54	-22.13	Avg	1.25	135	
6377								Not in
6377								Restricted Band*
7288	44.56	Н	74	-29.44	Peak	1.35	165	
7288	33.64	Н	54	-20.36	Avg	1.35	165	
	12.25	<b> </b>						
8199	46.28	Н	74	-27.72	Peak	1.25	165	
8199	34.82	Н	54	-19.18	Avg	1.25	165	
04:5	40.55			04.55		4.5-	4=-	
9110	42.38	H	74	-31.62	Peak	1.35	175	
9110	31.08	Н	54	-22.92	Avg	1.35	175	

<sup>\*</sup> Measured Using Conducted Measurements as allowed by FCC 15.247 (d)

*Model: T50-6* 

#### FCC 15.247

Konigsberg Instruments, Inc.

Myopac Wireless Transmitter

Date: 04/16/2010

Lab: B

Model: T50-6 Tested By: Kyle Fujimoto

#### Middle Channel Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
915								Not Required as Power
915								Output done via Conducted
1830								Not in
1830								Restricted Band*
2745	46.47	V	74	-27.53	Peak	1.25	155	
2745	34.35	V	54	-19.65	Avg	1.25	155	
3660	39.31	V	74	-34.69	Peak	1.35	165	
3660	26.65	V	54	-27.35	Avg	1.35	165	
4575	40.81	V	74	-33.19	Peak	1.25	175	
4575	29.08	V	54	-24.92	Avg	1.25	175	
5490	44.36	V	74	-29.64	Peak	1.35	185	
5490	41.93	V	54	-12.07	Avg	1.35	185	
6405								Not in
6405								Restricted Band*
7320	45.96	V	74	-28.04	Peak	1.25	185	
7320	33.75	V	54	-20.25	Avg	1.25	185	
8235	48.33	V	74	-25.67	Peak	1.55	125	
8235	35.82	V	54	-18.18	Avg	1.55	125	
	ļ			1				
9150	43.67	V	74	-30.33	Peak	1.25	135	
9150	31.89	V	54	-22.11	Avg	1.25	135	

<sup>\*</sup> Measured Using Conducted Measurements as allowed by FCC 15.247 (d)

**Model: T50-6** 

#### FCC 15.247

Konigsberg Instruments, Inc.

Myopac Wireless Transmitter

Date: 04/16/2010

Lab: B

Model: T50-6 Tested By: Kyle Fujimoto

#### Middle Channel Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
915								Not Required as Power
915								Output done via Conducted
1830								Not in
1830								Restricted Band*
								- 1
2745	46.74	Н	74	-27.26	Peak	1.25	135	
2745	34.34	Н	54	-19.66	Avg	1.25	135	
3660	38.17	Н	74	-35.83	Peak	1.35	165	
3660	26.62	Н	54	-27.38	Avg	1.35	165	
4575	41.32	Н	74	-32.68	Peak	1.45	175	
4575	29.11	Н	54	-24.89	Avg	1.45	175	
5490	44.75	Н	74	-29.25	Peak	1.25	155	
5490	32.02	Н	54	-21.98	Avg	1.25	155	
6405								Not in
6405								Restricted Band*
7320	45.37	Н	74	-28.63	Peak	1.25	135	
7320	33.86	Н	54	-20.14	Avg	1.25	135	
8235	48.25	Н	74	-25.75	Peak	1.55	165	
8235	35.77	Н	54	-18.23	Avg	1.55	165	
9150	44.75	Н	74	-29.25	Peak	1.25	175	
9150	32.03	Н	54	-21.97	Avg	1.25	175	

<sup>\*</sup> Measured Using Conducted Measurements as allowed by FCC 15.247 (d)



**Model: T50-6** 

#### FCC 15.247

Konigsberg Instruments, Inc.

Myopac Wireless Transmitter

Date: 04/16/2010

Lab: B

Model: T50-6 Tested By: Kyle Fujimoto

#### High Channel Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
919								Not Required as Power
919								Output done via Conducted
1838								Not in
1838								Restricted Band*
2757	35.57	V	74	-38.43	Peak	1.25	135	
2757	22.46	V	54	-31.54	Avg	1.25	135	
3676	38.14	V	74	-35.86	Peak	1.35	155	
3676	26.56	V	54	-27.44	Avg	1.35	155	
4595	42.25	V	74	-31.75	Peak	1.25	135	
4595	28.73	V	54	-25.27	Avg	1.25	135	
5514	43.76	V	74	-30.24	Peak	1.35	155	
5514	31.36	V	54	-22.64	Avg	1.35	155	
6433								Not in
6433								Restricted Band*
7352	44.22	V	74	-29.78	Peak	1.25	135	
7352	33.94	V	54	-20.06	Avg	1.25	135	
8271	47.12	V	74	-26.88	Peak	1.35	165	
8271	35.58	V	54	-18.42	Avg	1.35	165	
9190	43.85	V	74	-30.15	Peak	1.25	165	
9190	33.31	V	54	-20.69	Avg	1.25	165	

<sup>\*</sup> Measured Using Conducted Measurements as allowed by FCC 15.247 (d)

Model: T50-6

#### FCC 15.247

Konigsberg Instruments, Inc.

Myopac Wireless Transmitter

Date: 04/16/2010

Lab: B

Model: T50-6 Tested By: Kyle Fujimoto

#### High Channel Transmit Mode - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
919								Not Required as Power
919								Output done via Conducted
1838								Not in
1838								Restricted Band*
2757	48.87	Н	74	-25.13	Peak	1.25	180	
2757	34.41	Н	54	-19.59	Avg	1.25	180	
3676	39.78	Н	74	-34.22	Peak	1.35	165	
3676	26.55	Н	54	-27.45	Avg	1.35	165	
4595	41.84	Н	74	-32.16	Peak	1.45	175	
4595	28.73	Н	54	-25.27	Avg	1.45	175	
5514	42.92	Н	74	-31.08	Peak	1.65	185	
5514	31.36	Н	54	-22.64	Avg	1.65	185	
6433								Not in
6433								Restricted Band*
7352	44.62	H	74	-29.38	Peak	1.25	135	
7352	33.44	Н	54	-20.56	Avg	1.25	135	
0074	47.74		7.4	00.00	Deel	4.50	455	
8271	47.71	Н	74	-26.29	Peak	1.58	155	
8271	35.64	Н	54	-18.36	Avg	1.58	155	
0100	44.20	Н	71	20.74	Dools	1.05	225	
9190	44.29		74 54	-29.71	Peak	1.25	225	
9190	33.36	Н	54	-20.64	Avg	1.25	225	

<sup>\*</sup> Measured Using Conducted Measurements as allowed by FCC 15.247 (d)

Lab: B

Date: 04/16/2010



FCC 15.247 and FCC Class B

Konigsberg Instruments, Inc.
Myopac Wireless Transmitter

Model: T50-6 Tested By: Kyle Fujimoto

Non Harmonic Emissions from the Tx - 1 GHz to 9.3 GHz -Z-Axis Digital Portion of the EUT - 1 GHz to 9.3 GHz - Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Emissions Detected from
								the Non-Harmonic Emissions
								of the Transmitter from
								1 GHz to 9.3 GHz
								No Emissions Detected from
								the Digital Portion of
								the EUT from 1 GHz
								to 9.3 GHz
								Test in both Vertical
								and Horizontal Polarizations





Test Location : Compatible Electronics Page : 1/1

Customer : Konigsberg Instruments, Inc. Date : 4/20/2010 Manufacturer : Konigsberg Instruments, Inc. Time : 9:12:47

Eut name : Myopac Wireless Transmitter Lab : A Model : T50-6 Test Distance : 3

Serial # : N/A Specification : FCC B

Distance correction factor (20 \* log(test/spec) : 0.00

Test Type: Radiated Emissions Qualification

Test Range: 10 kHz to 1 GHz (Vertical and Horizontal)
Clocks: 10 MHz and 40 MHz - Tx Freq.: 911-919 MHz

Test Engineer: James Ross

Pol	Freq MHz	Rdng dBuV	Cable loss dB	Ant factor dB	Amp gai n dB	Cor'd rdg = R dBuV	Li mi t = L dBuV/m	Delta R-L dB
V V V H	30. 048 120. 071 200. 055 240. 055 200. 061	41. 30 44. 20 48. 90 43. 20 46. 50	0. 90 1. 73 2. 30 2. 50 2. 30	18. 09 9. 91 10. 20 11. 43 10. 20	33. 10 32. 98 32. 70 32. 80 32. 70	27. 19 22. 85 28. 70 24. 33 26. 30	40. 00 43. 50 43. 50 46. 00 43. 50	- 12. 81 - 20. 65 - 14. 80 - 21. 67 - 17. 20
H H H H	480. 044 520. 044 560. 059 680. 059	45. 10 41. 20 42. 00 39. 30	3. 68 3. 96 4. 22 4. 74	17. 03 17. 60 18. 17 19. 43	32. 18 32. 26 32. 46 32. 37	33. 63 30. 50 31. 93 31. 11	46. 00 46. 00 46. 00 46. 00	- 12. 37 - 15. 50 - 14. 07 - 14. 89

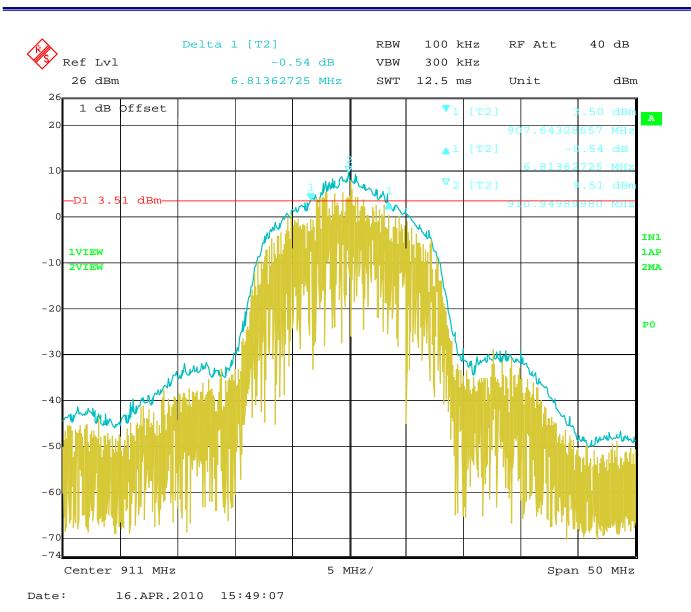
**Model: T50-6** 



-6 dB BANDWIDTH

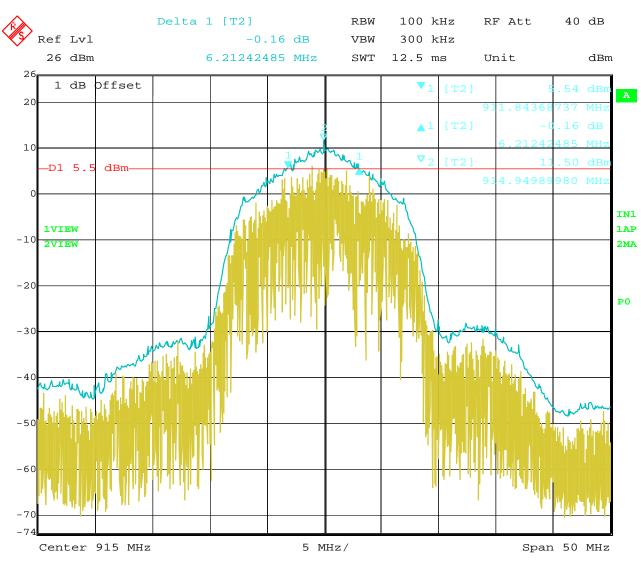
DATA SHEETS

Model: T50-6



Bandwidth 6 dB - Low Channel

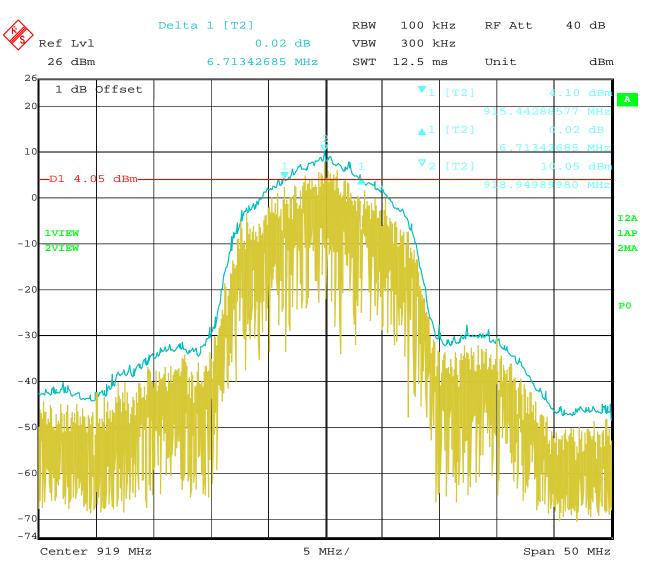
Myopac Wireless Transmitter Model: T50-6



19.APR.2010 08:43:58 Date:

Bandwidth 6 dB - Middle Channel

Myopac Wireless Transmitter Model: T50-6



16.APR.2010 15:21:31 Date:

Bandwidth 6 dB – High Channel

Model: T50-6

# PEAK POWER OUTPUT

DATA SHEETS



## PEAK OUTPUT POWER

# KONIGSBERG INSTRUMENTS, INC.

## MYOPAC WIRELESS TRANSMITTER

Model: T50-6

CHANNEL	PEAK POWER OUTPUT (dBm)
LOW (911 MHz)	22.34
MID (915 MHz)	22.22
HIGH (919 MHz)	22.11

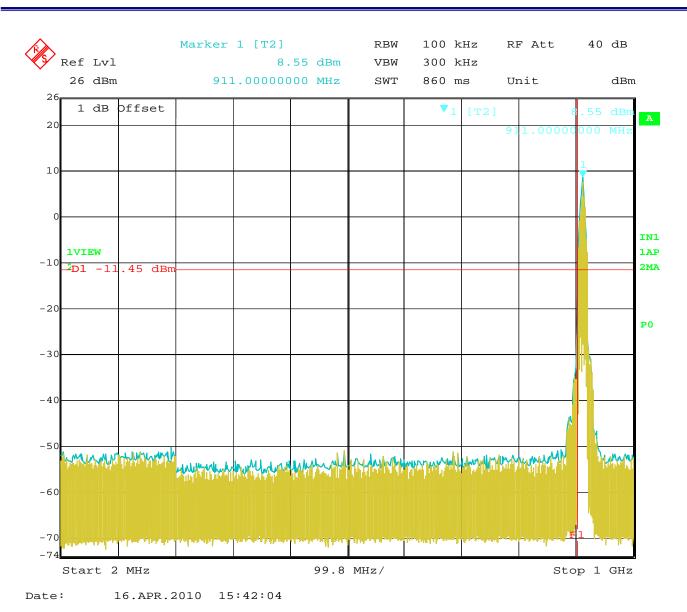


## RF CONDUCTED ANTENNA TEST

DATA SHEETS

Report Number: **B00420A2** FCC Part 15 Subpart B and FCC Section 15.247 Test Report

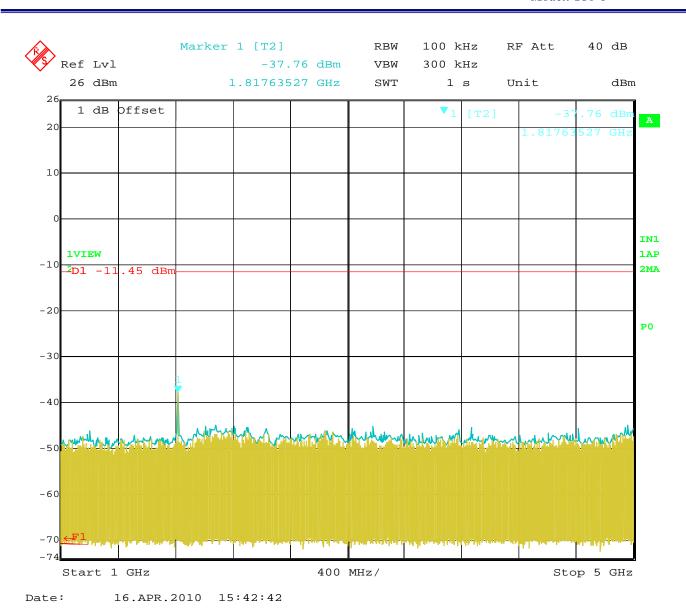
Myopac Wireless Transmitter Model: T50-6



RF Antenna Conducted Test – Low Channel – 2 MHz to 1 GHz

Report Number: **B00420A2 FCC Part 15 Subpart B** and **FCC Section 15.247** Test Report

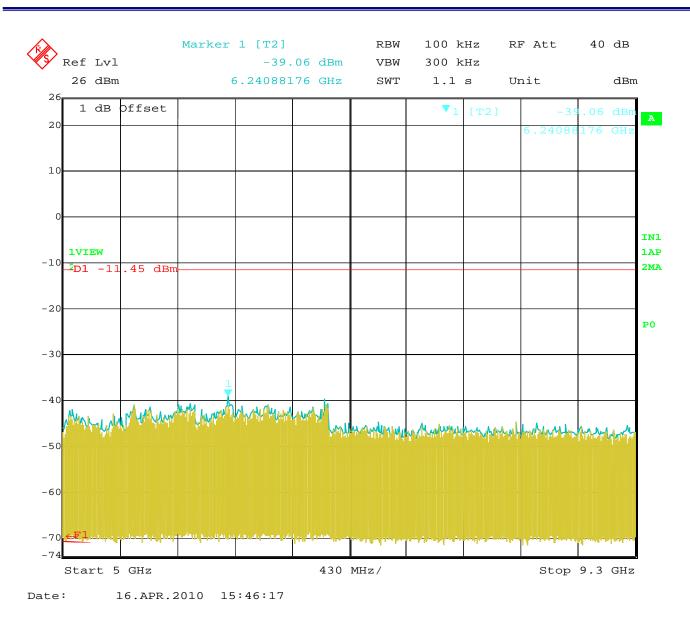
Myopac Wireless Transmitter Model: T50-6



RF Antenna Conducted Test - Low Channel - 1 GHz to 5 GHz

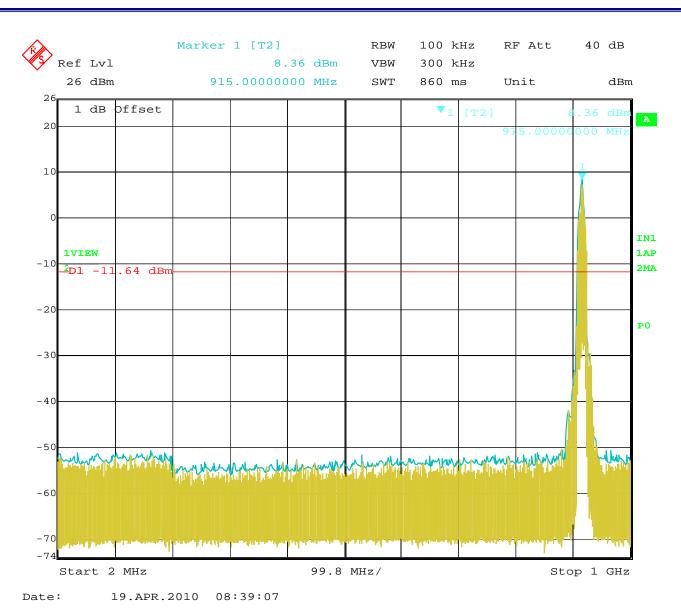
Report Number: **B00420A2 FCC Part 15 Subpart B** and **FCC Section 15.247** Test Report *Myopac Wireless Transmitter* 

Model: T50-6



RF Antenna Conducted Test – Low Channel – 5 GHz to 9.3 GHz

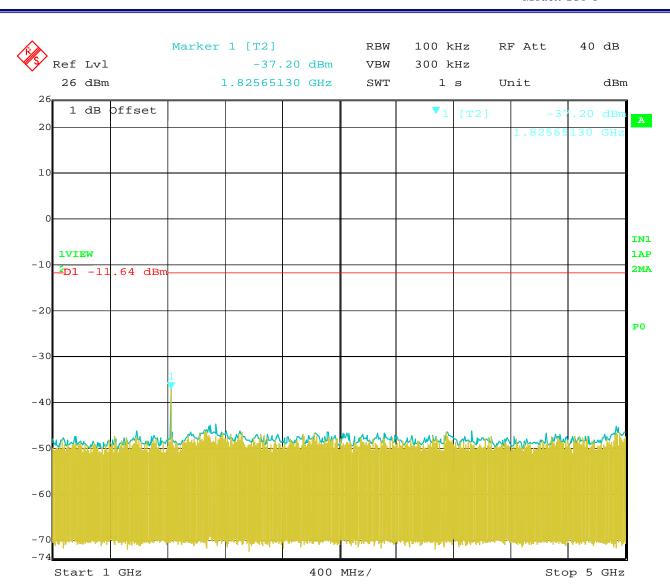
Report Number: B00420A2 FCC Part 15 Subpart B and FCC Section 15.247 Test Report



RF Antenna Conducted Test – Middle Channel – 2 MHz to 1 GHz

Report Number: **B00420A2 FCC Part 15 Subpart B** and **FCC Section 15.247** Test Report

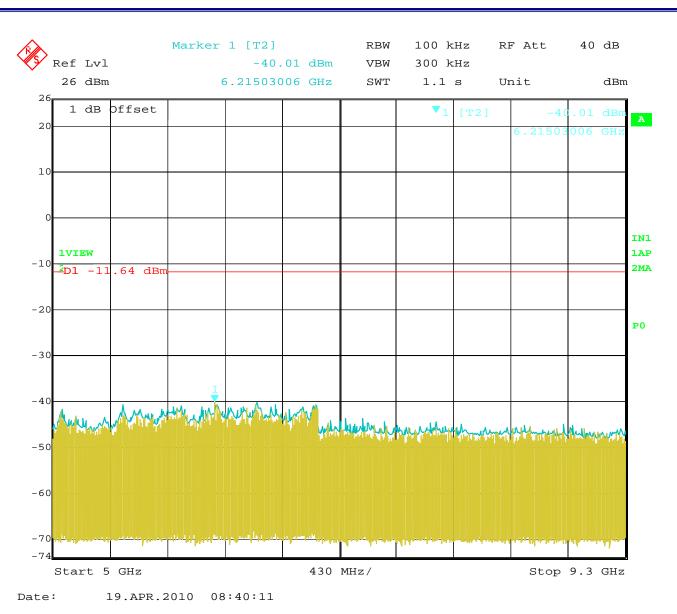
Myopac Wireless Transmitter Model: T50-6



Date: 19.APR.2010 08:39:39

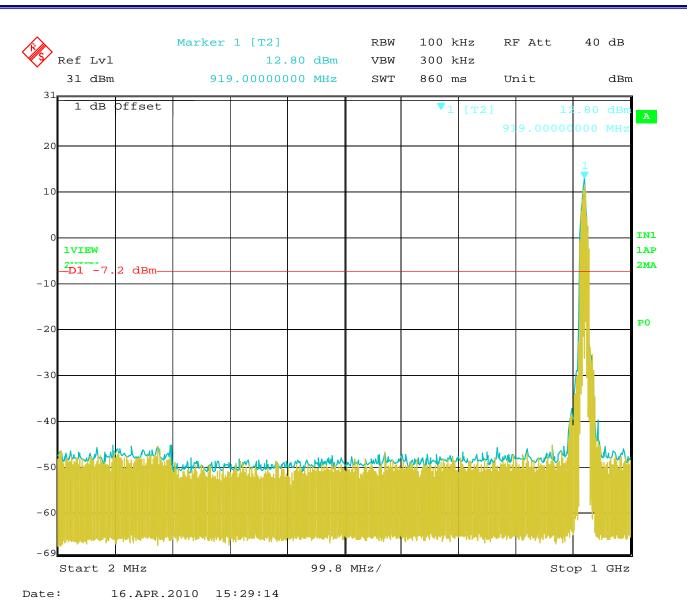
RF Antenna Conducted Test – Middle Channel – 1 GHz to 5 GHz

Report Number: **B00420A2 FCC Part 15 Subpart B** and **FCC Section 15.247** Test Report



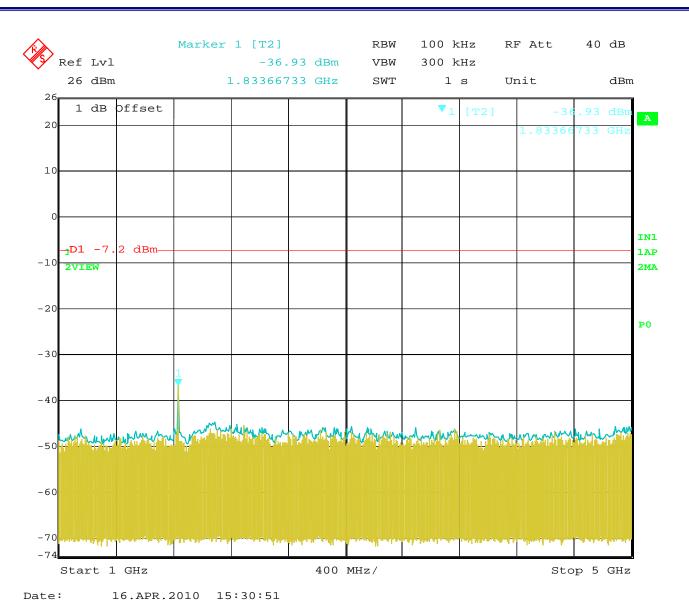
RF Antenna Conducted Test – Middle Channel – 5 GHz to 9.3 GHz



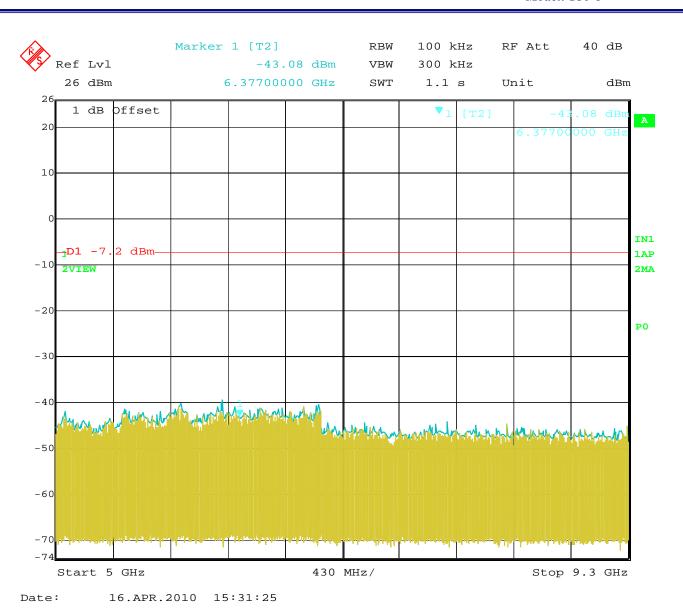


RF Antenna Conducted Test – High Channel – 2 MHz to 1 GHz

Report Number: **B00420A2** FCC Part 15 Subpart B and FCC Section 15.247 Test Report



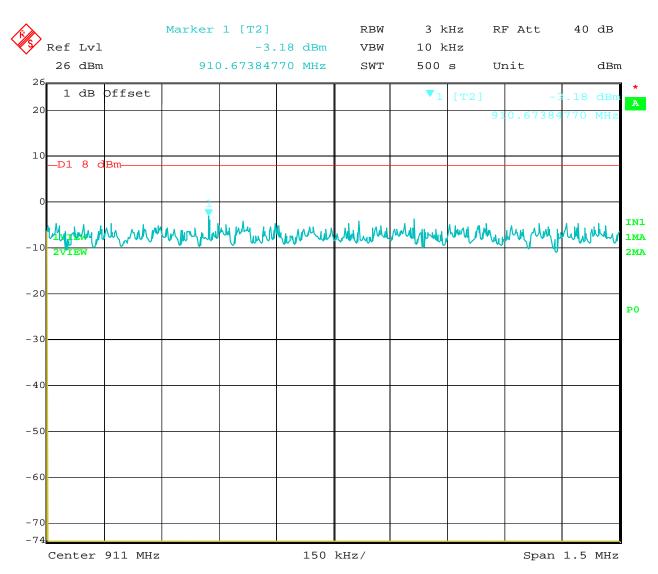
RF Antenna Conducted Test – High Channel – 1 GHz to 5 GHz



RF Antenna Conducted Test – High Channel – 5 GHz to 9.3 GHz

## SPECTRAL DENSITY OUTPUT

DATA SHEETS

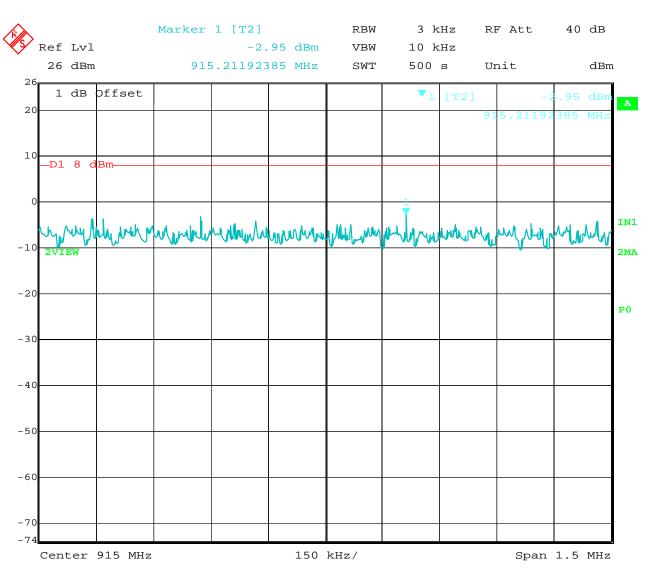


Date: 16.APR.2010 16:04:15

Spectral Density Output - Low Channel

Report Number: **B00420A2** FCC Part 15 Subpart B and FCC Section 15.247 Test Report

Myopac Wireless Transmitter Model: T50-6



Date: 16.APR.2010 16:20:24

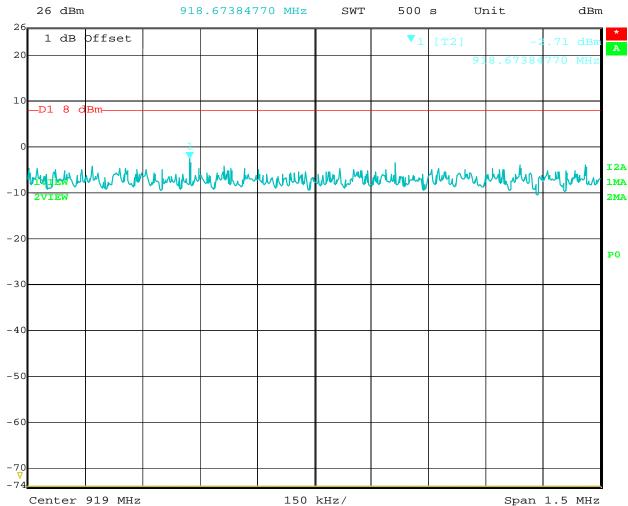
Spectral Density Output - Middle Channel

Ref Lvl

Report Number: **B00420A2 FCC Part 15 Subpart B** and **FCC Section 15.247** Test Report

Myopac Wireless Transmitter Model: T50-6

Marker 1 [T2] RBW 3 kHz RF Att 40 dB
-2.71 dBm VBW 10 kHz
918.67384770 MHz SWT 500 s Unit dB



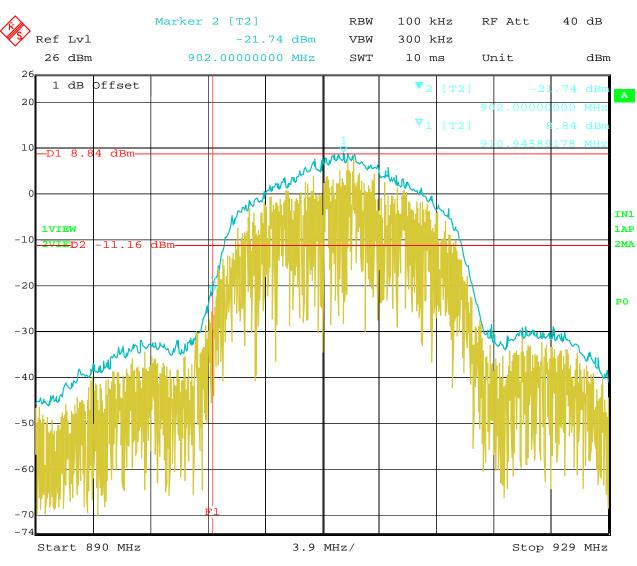
Date: 16.APR.2010 15:19:47

Spectral Density Output – High Channel

**BAND EDGES** 

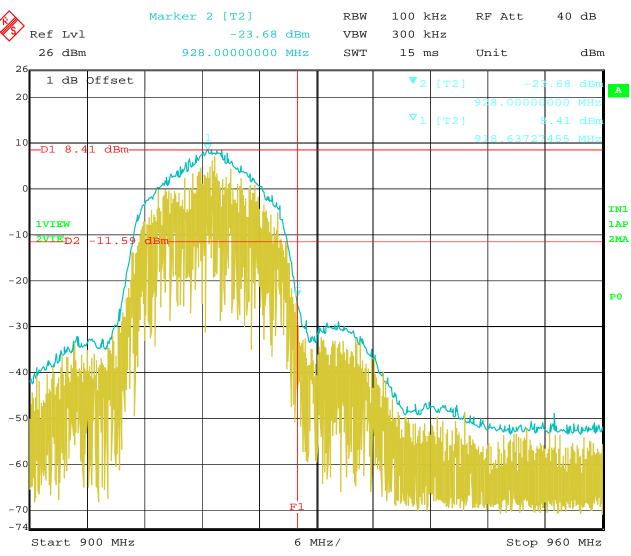
DATA SHEETS





16.APR.2010 15:40:20 Date:

Band Edge - Low Channel



Date: 16.APR.2010 15:33:24

Band Edge - High Channel