Certification Test Report

For a

CryMed Cryoablator Hand-Held Remote Control

Manufacturer:

BIOMEC, Inc. 1771 East 30th Street Cleveland, Ohio 44114 United States of America

Testing Laboratory:

F-Squared Laboratories 16740 Peters Road Middlefield, Ohio 44062 United States of America

The Hand-Held Remote Control (DTS Transmitter) model CTI-G2-50L-R, for the BIOMEC/Crymed Cryoablator, was tested and was found to comply with the requirements of the Federal Communications Commission outlined in the Federal Register CFR 47, Part 15.247.

The product was received on Nov. 21, 2005 and the testing was completed on Dec. 6, 2005.

Evaluation Conducted By:

11 11

Kenneth P. Klann

EMC Engineer

John Harrington

Report Reviewed By:

EMC Technical Manager

Squared aboratories

F-Squared Laboratories

14333Kinsman Road Burton, OH 44021 (440) 834-8926 Fax: (440) 834-8914

This report shall not be duplicated except in full without the written approval of F-Squared Laboratories.

EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 1 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Table of Contents

Section	Title	Page
	Cover Page	1
	Table of Contents	2
1	Engineering Statement	3
2	List of Measurement Instrumentation	4
3	EUT Information and Data	5
4	EUT Configuration and Cables	6
5	FCC Part 15.403(f) – Digital Modulation	7
6	FCC Part 15.31(m) – Operating Frequencies	8
7	FCC Part 15.247(a)(2) – Bandwidth	9
8	FCC Part 15.247(b)(3) – Power Output	10
9	FCC Part 15.247(b)(5) – RF Safety	11
10	FCC Part 15.247(c) – Spurious Emissions	12
11	FCC Part 15.247(d) – Peak Power Spectral Density	17
12	Figures – Spectral Data Plots	18
13	Photos/Exhibits – Product Photos. Test Setups	45

EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 2 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

1. ENGINEERING STATEMENT

This report has been prepared on behalf of BIOMEC, Inc. to provide documentation for the testing described herein. This equipment has been tested and found to comply with Part 15.247 of the FCC Rules using ANSI C63.4 1992 standards. The test results found in this test report relate only to the items tested.

1.1. Equipment Under Test:

BIOMEC/Crymed Cryoablator Hand-Held Remote Control

FCC ID: TUYCTIG250LR

1.2. Trade Name:

BIOMEC

1.3. Model:

BIOMEC/Crymed Cryoablator CTI-G2-50L-R Hand-Held Remote Control

1.4. Power Supply:

Batteries - 2 AAA

1.5. Applicable Rules:

CFR 47, Part 15.247, subpart C

1.6. Equipment Category:

Radio Transmitter-DTS

1.7. Antenna:

Chip Antenna (integral)

Johnson Technology CPN: Antenna AT-45 PN: 2Y50AT45A100S

1.8. Measurement Location:

F-Squared Laboratories in Middlefield, Ohio. Site description and attenuation data are on file with the FCC's Sampling and Measurement Branch at the FCC Laboratory in Columbia, MD.

1.9. Measurement Procedure:

All measurements were performed according to the 2003 version of ANSI C63.4 and recommended FCC procedure of measurement of DTS operating under Section 15.247 dated March 2005. A list of the measurement equipment can be found in Section 2.

1.10. Uncertainty Budget:

Radiated Emission - Combined Uncertainty (+ or -) 2.24 dB; Expanded Uncertainty (+ or -) 4.48 dB

1.11. Engineering Certification:

The undersigned of this report hereby state that the measurements shown in this application were made in accordance with the procedures indicated, and that the energy emitted by this equipment was found to

EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 3 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

be within the limits. The undersigned assume full responsibility for the accuracy and completeness of these measurements and further state that, on the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of Part 15.247 of the FCC Rules under normal use and maintenance.

2. LIST OF MEASUREMENT INFORMATION

Equipment Type	Manufacturer	Model	Serial Number	Calibration Due Date
Thermohygrometer	Oakton	32230-80	001	June 7, 2006
OATS	Compliance Labs	N/A	001	Aug. 24, 2006
Receiver	Rohde & Schwarz	Display, EASI-0-804- 8932-52; RF Unit, ESMI- RF 1032-5640-53	84982/015; 849152/005	Mar. 31, 2006
Antenna 2-OATS	Sunol Sciences	JB1	A101101	Apr. 15, 2006
Horn Antenna	Emco	3115	9809-5580	Apr. 6, 2006
Pre-Amplifier	Hewlett Packard	83006A	310A00500	Oct. 20, 2006

EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 4 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

3. EQUIPMENT UNDER TEST (EUT) INFORMATION AND DATA

3.1 Test Item Condition:

The equipment to be tested was received in good condition.

3.2 Testing Algorithm:

The Remote Control was configured with Radio Test Software to permit frequency changes from low-mid-upper transmission channel using digital modulation (required for digital transmission systems) or unmodulated carrier. For RF antenna conducted tests, the Remote Control was equipped with an SMA connector for connection to the measuring equipment. For radiated emissions tests, on the OATS, the Remote Control was equipped with integral/internal chip antenna. All measurements were performed with the output power set to Level 7 (set in firmware). The highest emissions were recorded in the data tables.

3.3 Radiated Emission Testing on Open Area Test Site (OATS):

The EUT was tested at a distance of 1.0 meter. The emissions were maximized by rotating the table and raising/lowering the antenna mounted on a 4.0 meter mast.* Both horizontal and vertical field components were measured. The output of the antenna was connected to the input of the receiver and emissions were measured in the range 30MHz to 25 GHz. The values up to 1GHz with a resolution bandwidth of 120 kHz are quasi-peak readings made at 1.0 meter. The measurements above 1GHz with a resolution bandwidth of 1MHz are average readings at a distance of 1.0 meters. The raw measurements were corrected to allow for antenna factor, cable loss and preamplifier gain. All data for radiated emissions can be found in Section 10.2.

*The Hand-Held Remote Control was examined in three orthogonal positions to ensure maximization of emissions.

EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 5 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

4. EUT CONFIGURATION AND CABLES

4.1. Equipment Under Test (EUT):

Device	Manufacturer	Model Number	Serial Number
Hand-Held Remote Control	BIOMEC/CryMed	CTI-G2-50L-R	Production
(DTS Transmitter)	BIOMEC/Crywied	C11-02-30L-K	Prototype

4.2. Accessories (Support Equipment):

Device	Manufacturer	Model Number	Serial Number	
Batteries (2)	Not Specified	AAA	Not Specified	

4.3. Cables:

None

EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 6 of 52 Issue Date: Feb. 20, 2006

	,
Model:	CTI-G2-50L-R

Test Date:	Dec. 6, 2005	Test Engineer:	K. Klann
Standards	ECC 47 CED 15 247	Air Temperature:	17°-22° C
Standard:	FCC 47 CFR 15.247	Relative Humidity:	20%-35%

5. FCC PART 15.403(f) – DIGITAL MODULATION

Product Description:

The Remote Control is a digital transmission system (DTS).* Digital modulation was applied in single frequency mode for all tests except the FCC Part 15.247(c) Radiated Emissions Test for Harmonics/Spurs performed on the Open Area Test Site (OATS). FCC Part 15.247(c) measurements on the OATS utilized continuous wave (CW) operation.

EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 7 of 52 Issue Date: Feb. 20, 2006

^{*}Based on the Cypress CYWUSB6934 module chip set.

Model: CTI-G2-50L-R

6. FCC PART 15.31(m) – OPERATING FREQUENCIES

Number of Operating Frequencies:

The Remote Control normally operates on frequencies selected between Channels 10-70 (60 channels total),* extending from 2.410-2.470 GHz in the 2.400-2.4835 GHz band.

*As defined by firmware for the Cypress CYWUSB6934 Chip Set.

EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 8 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

7. FCC PART 15.247(a)(2) – BANDWIDTH

7.1. Requirements:

The 6dB bandwidth shall be greater than 500 kHz.

Bandwidth measurements were made at the low (channel 10-2.410 GHz), mid (channel 40-2.440 GHz) and upper (channel 70-2.470 GHz) frequencies with the spectrum analyzer impulse bandwidth set at 120 kHz (video bandwidth set at 300 kHz). The bandwidth was measured using the analyzer's marker function.

7.2. Results:

The measured 6dB bandwidth with the remote control operating on the low channel (2.410 GHz) is 822 kHz (see spectral plot in Figure 1).

The 6dB bandwidth at the mid channel (2.440 GHz) is 822 kHz (see spectral plot in Figure 2).

Finally, the 6dB bandwidth at the upper channel (2.470 GHz) is 811 kHz (see spectral plot in Figure 3).

The measured 6dB bandwidths meet the FCC 500 kHz requirements. The remote control meets the FCC Part 15.247(a)(2) bandwidth requirements.

EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 9 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

8. FCC PART 15.247(b)(3) – POWER OUTPUT

The remote control antenna port was fitted with an SMA connector and directly connected to the input of the spectrum analyzer. The peak power output was measured.

8.1. Requirements:

The peak power output shall be 1 watt (30 dBm) or less.

Power output measurements were made at the low (channel 10-2.410 GHz), mid (channel 40-2.440 GHz) and upper (Channel 70-2.470 GHz) frequencies, with the spectrum analyzer impulse bandwidth set at 1 MHz (video bandwidth set at 3 MHz). The peak output level was measured using the spectrum analyzer's marker function.

8.2. Results:

The measured peak power output found with the remote control operating on the low channel (2.410 GHz) is $101.37 \text{ dB}\mu\text{V} = -5.63 \text{ dBm} = 0.274 \text{ mW}$ (see plot in Figure 4).

The peak power output at the mid channel (2.440 GHz) is $101.02 \text{ dB}\mu\text{V} = -5.98 \text{ dBm} = 0.252 \text{ mW}$ (see plot in Figure 5).

Finally, the power output at the upper channel (2.470 GHz) is 99.95 dB μ V = -7.05 dBm = 0.197 mW (see plot in Figure 6).

The measured peak power output is less than the 1 watt limit. The remote control meets FCC Part 15.247(b)(3) power requirements.

EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 10 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

9. FCC PART 15.247(b)(5) – RF SAFETY

The output power level (>0.5 mW) coupled with the inherent low gain of the chip antenna ensures that the user and/or general public will not be exposed to radio frequency energy levels in excess of FCC guidelines, per OET Bulletin 65 Supplement C Edition 01-01 June 2001.

EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 11 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

10. FCC Part 15.247(c) – SPURIOUS EMISSIONS

The following tests were performed to demonstrate compliance.

10.1. RF Antenna Conducted Test

The remote control antenna port was fitted with an SMA connector and directly connected to the input of the spectrum analyzer.

10.1.1. Requirements:

All harmonics and spurs must be at least 20dB down from the highest emission level measured within the authorized band up through the tenth harmonic.

Spurious emissions measurements were made at the low (channel 10-2.410 GHz), mid (channel 40-2.440 GHz, and upper (channel 70-2.470 GHz) frequencies with the spectrum analyzer impulse bandwidth set at 120 kHz (video bandwidth set at 300 kHz). Additionally, 20 dB down points were measured for the low and high channels to verify band edge compliance.

10.1.2. Results:

Low (channel 10-2.410 GHz) frequency spectral data plots are shown in figures 7-19. The data is summarized in the table below.

Hand-Held Remote Control Harmonics & Spurious Emissions: Low Frequency, Channel 10-2.410 GHz

Frequency (GHz)			dB down from f ₀
2.4100	99.95	f_0	-
4.8200	61.76	f_2	-38.19
7.2300	55.92	f_3	-44.03
9.6400	41.90	f_4	-58.05

Mid (channel 40-2.440 GHz) frequency spectral data plots are shown in figures 20-32. The data is summarized in the table below.

Hand-Held Remote Control Harmonics & Spurious Emissions: Mid Frequency, Channel 40-2.440 GHz

Frequency (GHz)	Level (dBµV)	Harmonic Order	dB down from f ₀
2.440	98.96	f_0	-
4.880	61.12	f_2	-34.88
7.320	54.34	f_3	-44.62
9.760	41.74	f_4	-57.22

EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 12 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Upper (channel 70-2.470 GHz) frequency spectral data plots are shown in Figures 33-45. The data is summarized in the table below.

Hand-Held Remote Control Harmonics & Spurious Emissions: Upper Frequency, Channel 70-2.470 GHz

Frequency (GHz)	Level (dBµV)	Harmonic Order	dB down from f ₀
2.470	98.20	f_0	-
4.940	59.90	f_2	-38.30
7.410	53.25	f_3	-44.95
9.880	44.23	f_4	-53.97

Lower band edge compliance measurement with the remote control operating on the low frequency (channel 10, 2.410 GHz) yields a 20 dB down point of 2.409422 GHz. This is within the 2.4000-2.4835 GHz authorized band.

Upper band edge compliance measurement with the remote control operating on the upper frequency (channel 70, 2.470 GHz) yields a 20 dB down point of 2.470655 GHz. This is within the 2.4000-2.4835 GHz authorized band.

The harmonics/spurs and band edge measurements demonstrate that all emissions outside authorized band are suppressed by at least 20 dB. The Hand-Held Remote Control meets FCC Part 15.247(c) requirements for conducted spurious emissions.

EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 13 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

10.2. RADIATED EMISSIONS (Restricted Bands)

The remote control antenna port was fitted with its integral/internal chip antenna. Radiated emissions were measured on the Open Area Test Site (OATS). All emissions generated that fall in the restricted bands per FCC Part 15.205 were examined.

10.2.1. Requirements:

All emissions that fall in the restricted bands defined in FCC Part 15.205 shall not exceed the maximum field strength listed in FCC Part 15.209(a).

10.2.2. Results:

The measurement results are contained in the tables on the following pages. Measurements were performed on the low, middle and upper frequencies with the transmitter unmodulated.

The Hand-Held Remote Control meets FCC Part 15.209 restrictions on field intensity in the restricted bands. Hence, the Remote Control satisfies FCC Part 15.247(c) regarding emissions in the restricted bands.

EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 14 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Hand-Held Remote Control Harmonics & Spurious Emissions: Low Frequency, Channel 10-2.410 GHz

Frequency (GHz)	Antenna Polarization	Reading Position Height @ 1m (dBµV)	Antenna Factor (dB)	Coax Factor (dB)	Preamp Gain (dB)	Emission @ 1m (dBμV/m)	Emission Extrapolated to 3m (dBµV/m) - (9.54dB)	Limit (dBµV/m)	Margin (dB)
4.820	\mathbf{V}^1	38.3	32.8	7.6	28.0	50.7	41.2	54.0	-12.8
4.820	H^2	41.0	32.8	7.6	28.0	53.4	43.9	54.0	-10.1

¹Maximum emission level found on side orthogonal position.

All measurements were performed at 1 MHz (IMP) RBW using linear average detector.

Hand-Held Remote Control Harmonics & Spurious Emissions: Mid Frequency, Channel 40-2.440 GHz

Frequency (GHz)	Antenna Polarization	Reading Position Height @ 1m (dBµV)	Antenna Factor (dB)	Coax Factor (dB)	Preamp Gain (dB)	Emission @ 1m (dBμV/m)	Emission Extrapolated to 3m (dBμV/m) - (9.54dB)	Limit (dBμV/m)	Margin (dB)
4.880	V^1	36.80	32.9	7.6	28.0	49.3	39.8	54.0	-14.2
4.880	H^2	41.30	32.9	7.6	28.0	53.8	44.3	54.0	-9.7
7.320	V^2	36.00	35.6	10.5	28.0	54.1	44.6	54.0	-9.4
7.320	H^2	35.60	35.6	10.5	28.0	53.7	44.2	54.0	-9.8

¹Maximum emission level found on side orthogonal position.

All measurements were performed at 1 MHz (IMP) RBW using linear average detector.

EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 15 of 52 Issue Date: Feb. 20, 2006

²Maximum emission level found on upright orthogonal position.

²Maximum emission level found on upright orthogonal position.

Model: CTI-G2-50L-R

Hand-Held Remote Control Harmonics & Spurious Emissions: Upper Frequency, Channel 70-2.470 GHz

Frequency (GHz)	Antenna Polarization	Reading Position Height @ 1m (dBµV)	Antenna Factor (dB)	Coax Factor (dB)	Preamp Gain (dB)	Emission @ 1m (dBμV/m)	Emission Extrapolated to 3m (dBµV/m) - (9.54dB)	Limit (dBµV/m)	Margin (dB)
4.940	V^1	38.20	33.1	7.6	28.0	50.9	41.4	54.0	-12.6
4.940	H^2	41.30	33.1	7.6	28.0	54.0	44.5	54.0	-9.5
7.410	V^2	35.40	35.8	10.5	28.0	53.7	44.2	54.0	-9.8
7.410	H^2	34.20	35.8	10.5	28.0	52.5	43.0	54.0	-11.0

¹Maximum emission level found on side orthogonal position.

All measurements were performed at 1 MHz (IMP) RBW using linear average detector.

EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 16 of 52 Issue Date: Feb. 20, 2006

²Maximum emission level found on upright orthogonal position.

Model: CTI-G2-50L-R

11. FCC PART 15.247(d) – PEAK POWER SPECTRAL DENSITY (PSD)

Peak power spectral density measurements were performed.

11.1. Requirements:

The peak power spectral density shall not exceed +8dBm in any 3 kHz band during any time interval of continuous transmission.

Power spectral density measurements were performed at a resolution bandwidth of 3 kHz (video bandwidth set at 3 MHz). The peak spectral densities were measured at the low (channel 10-2.410 GHz), mid (channel 40-2.440 GHz) and upper (channel 70-2.470 GHz) frequencies.

11.2. Results:

The spectral plots of the PSD at the low channel are shown in figures 46 and 47. The peak spectral densities were found at:

Frequency (GHz)	Peak PSD (dBμV)	Peak PSD (dBm)
2.40954	88.87	-18.13
2.41004	99.34	-7.66
2.41054	88.85	-18.15

The spectral plots of the PSD at the mid channel are shown in figures 48 and 49. The peak spectral densities were found at:

Frequency (GHz)	Peak PSD (dBμV)	Peak PSD (dBm)
2.43955	88.31	-18.69
2.44004	98.81	-8.09
2.44054	88.31	-18.69

The plots of the PSD for the upper channel are shown in figures 50 and 51. The peak spectral densities were found at:

Frequency (GHz)	Peak PSD (dBμV)	Peak PSD (dBm)
2.46955	87.76	-19.24
2.47004	98.12	-8.88
2.47054	87.73	-19.27

The peak power spectral densities measured from the Remote Control are less than the 8 dBm limit per FCC Part 15.247(d). The Hand-Held Remote Control meets the requirements of FCC Part 15.247(d).

EMC007 Rev. 1

Model: CTI-G2-50L-R

12. FIGURES – SPECTRAL DATA PLOTS

Figure 1: Occupied Bandwidth, Low Channel

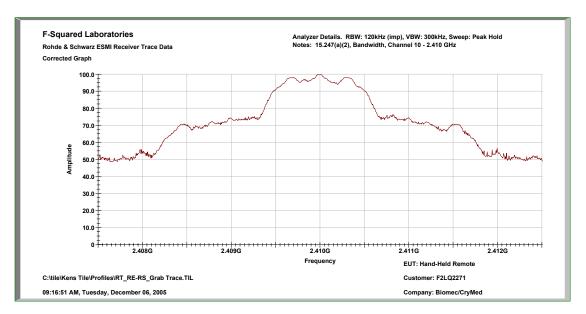
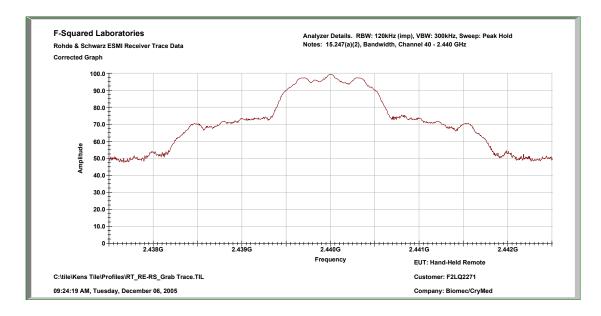


Figure 2: Occupied Bandwidth, Mid Channel



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 18 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 3: Occupied Bandwidth, Upper Channel

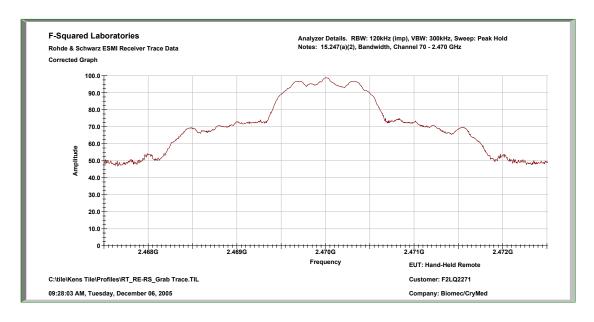
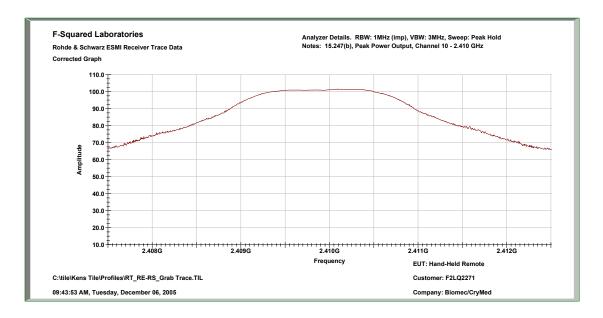


Figure 4: Peak Power Output, Low Channel



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 19 of 52 Issue Date: Feb. 20, 2006 Client: BIOMEC, Inc.

Order Number: F2LQ2271

Model: CTI-G2-50L-R

Figure 5: Peak Power Output, Mid Channel

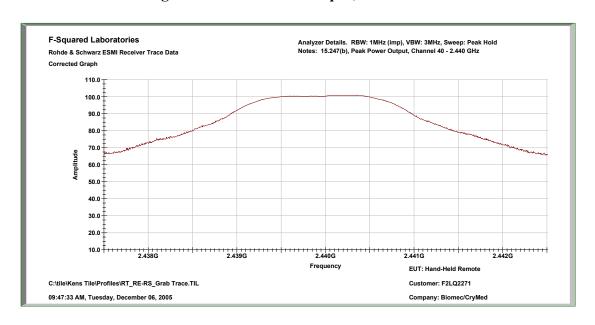


Figure 6: Peak Power Output, Upper Channel



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 20 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 7: Harmonics & Spurious Emissions, Low Channel, 0-1 GHz

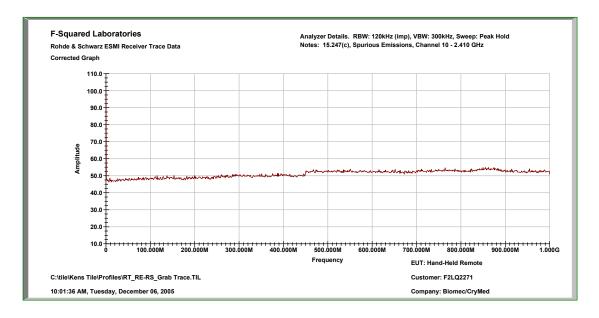
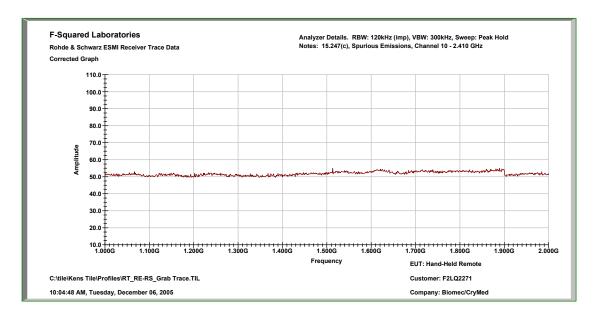


Figure 8: Harmonics & Spurious Emissions, Low Channel, 1-2 GHz



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 21 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 9: Harmonics & Spurious Emissions, Low Channel, 2-3 GHz

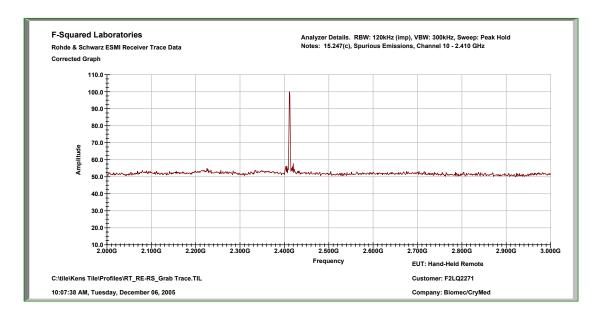
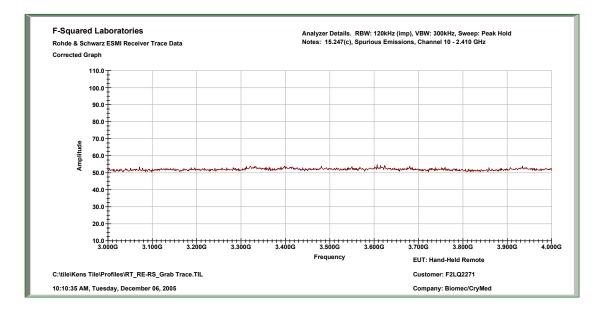


Figure 10: Harmonics & Spurious Emissions, Low Channel, 3-4 GHz



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 22 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 11: Harmonics & Spurious Emissions, Low Channel, 4-5 GHz

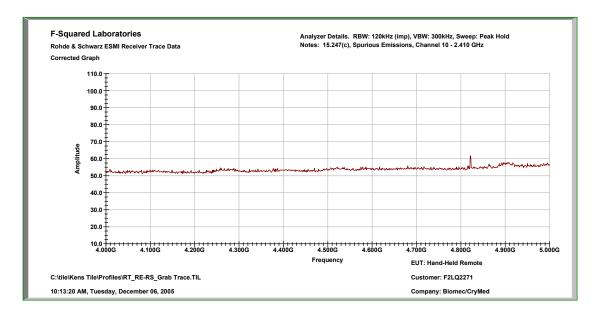
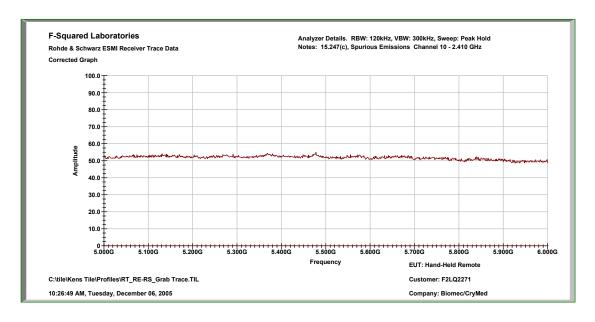


Figure 12: Harmonics & Spurious Emissions, Low Channel, 5-6 GHz



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 23 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 13: Harmonics & Spurious Emissions, Low Channel, 6-7 GHz

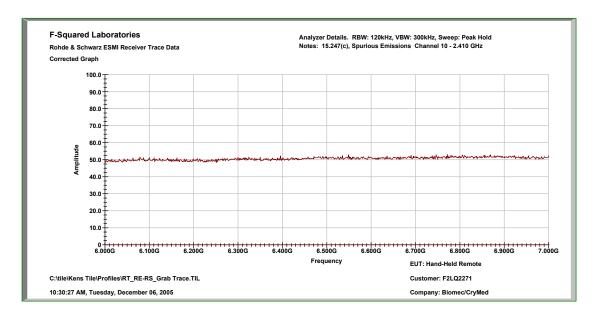
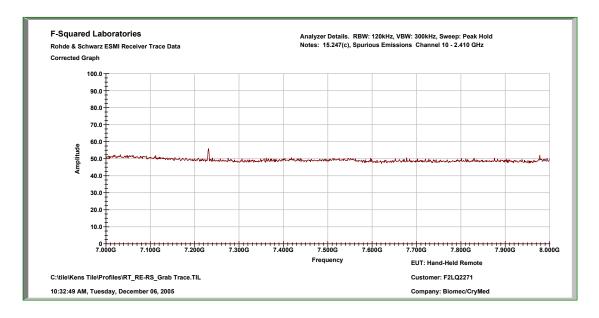


Figure 14: Harmonics & Spurious Emissions, Low Channel, 7-8 GHz



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 24 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 15: Harmonics & Spurious Emissions, Low Channel, 8-9 GHz

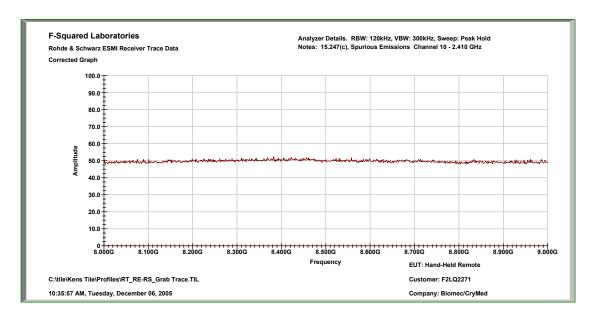
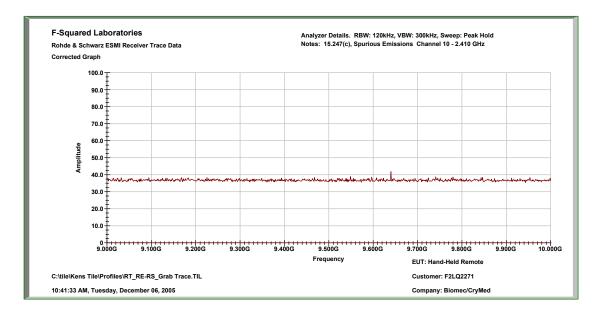


Figure 16: Harmonics & Spurious Emissions, Low Channel, 9-10 GHz



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 25 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 17: Harmonics & Spurious Emissions, Low Channel, 10-15 GHz

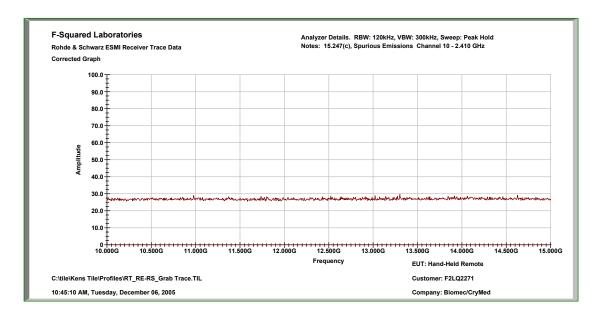
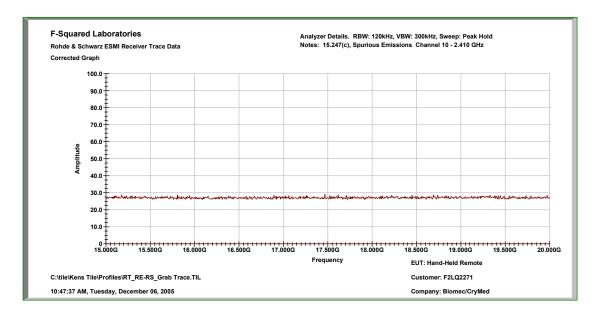


Figure 18: Harmonics & Spurious Emissions, Low Channel, 15-20 GHz

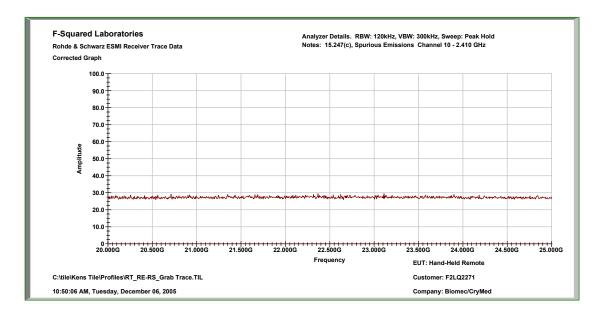


EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 26 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 19: Harmonics & Spurious Emissions, Low Channel, 20-25 GHz



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 27 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 20: Harmonics & Spurious Emissions, Mid Channel, 0-1 GHz

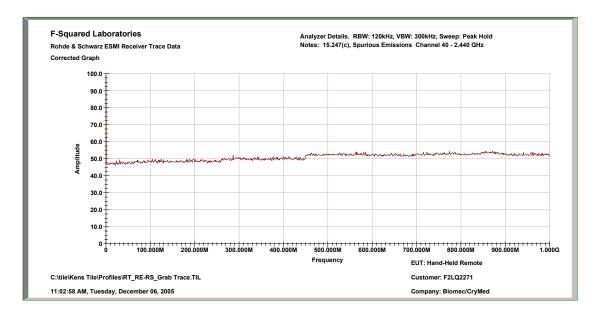
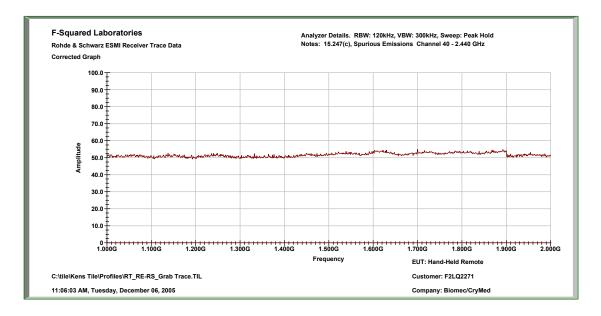


Figure 21: Harmonics & Spurious Emissions, Mid Channel, 1-2 GHz



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 28 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 22: Harmonics & Spurious Emissions, Mid Channel, 2-3 GHz

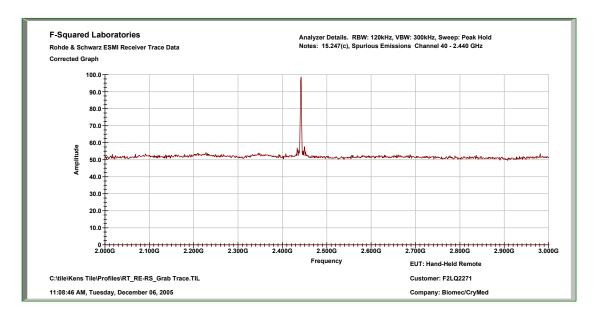
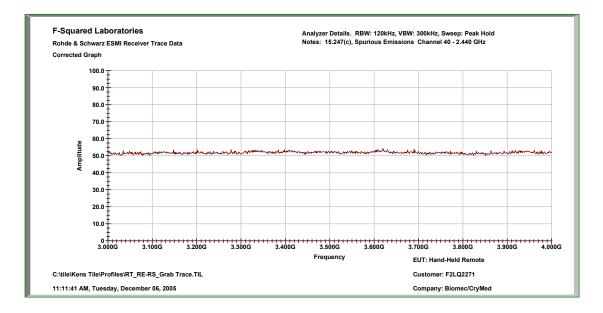


Figure 23: Harmonics & Spurious Emissions, Mid Channel, 3-4 GHz



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 29 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 24: Harmonics & Spurious Emissions, Mid Channel, 4-5 GHz

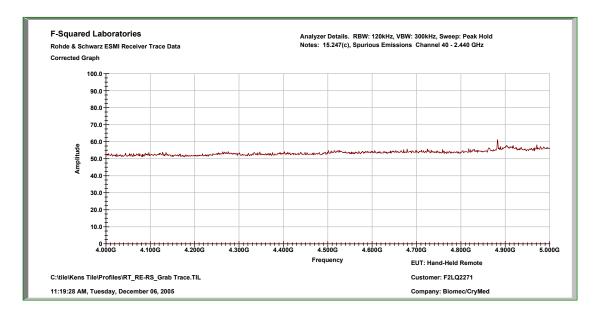
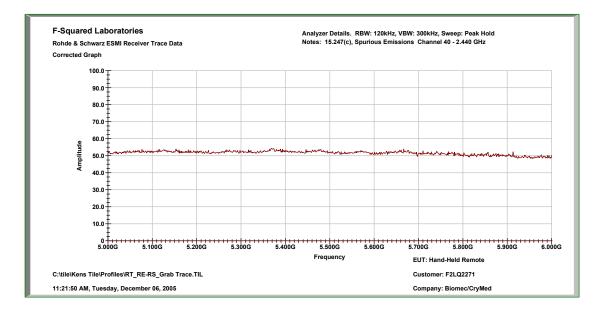


Figure 25: Harmonics & Spurious Emissions, Mid Channel, 5-6 GHz



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 30 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 26: Harmonics & Spurious Emissions, Mid Channel, 6-7 GHz

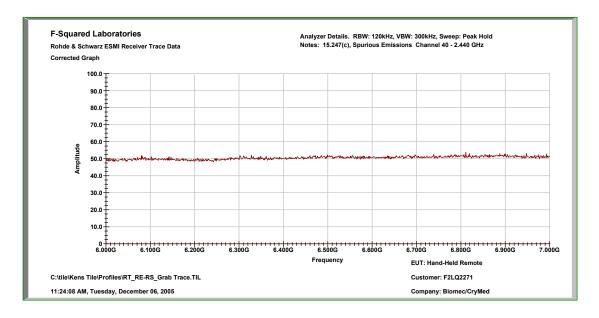
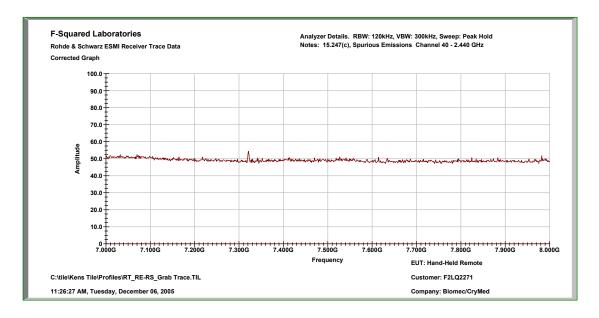


Figure 27: Harmonics & Spurious Emissions, Mid Channel, 7-8 GHz



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 31 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 28: Harmonics & Spurious Emissions, Mid Channel, 8-9 GHz

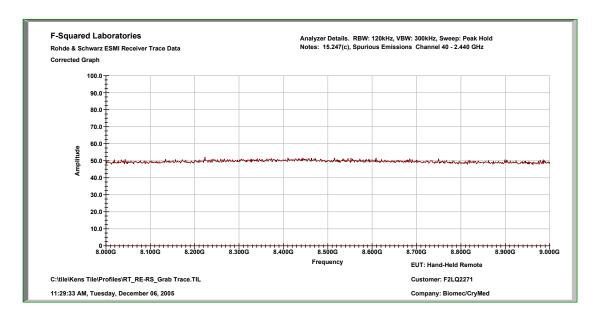
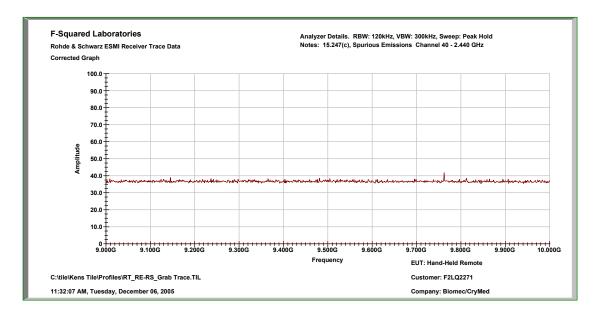


Figure 29: Harmonics & Spurious Emissions, Mid Channel, 9-10 GHz



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 32 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 30: Harmonics & Spurious Emissions, Mid Channel, 10-15 GHz

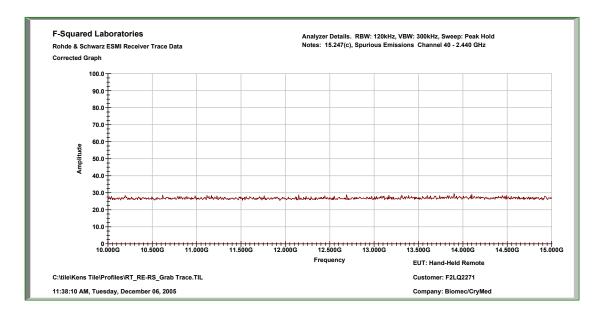
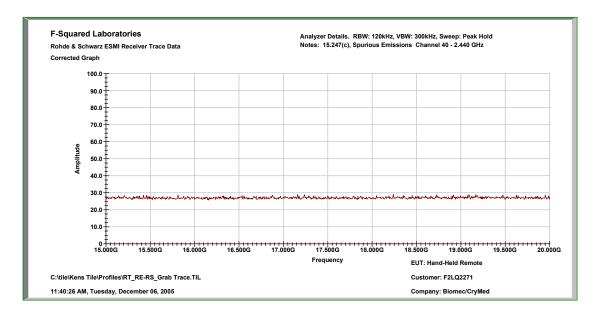


Figure 31: Harmonics & Spurious Emissions, Mid Channel, 15-20 GHz

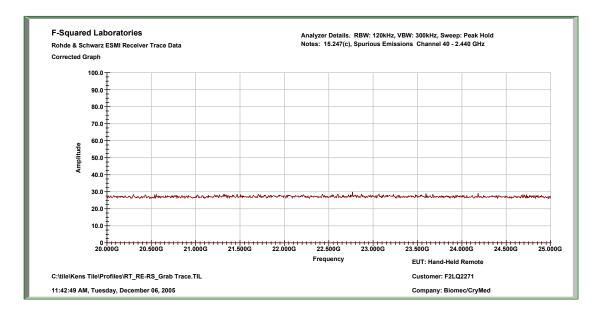


EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 33 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 32: Harmonics & Spurious Emissions, Mid Channel, 20-25 GHz



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 34 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 33: Harmonics & Spurious Emissions, Upper Channel, 0-1 GHz

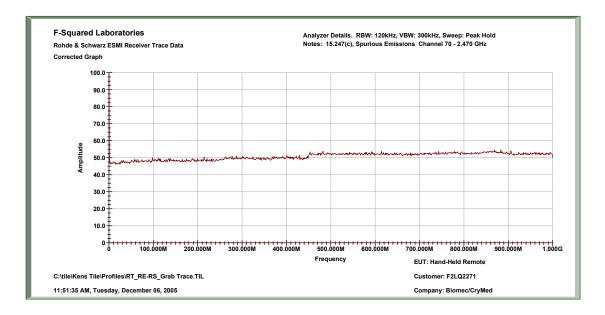
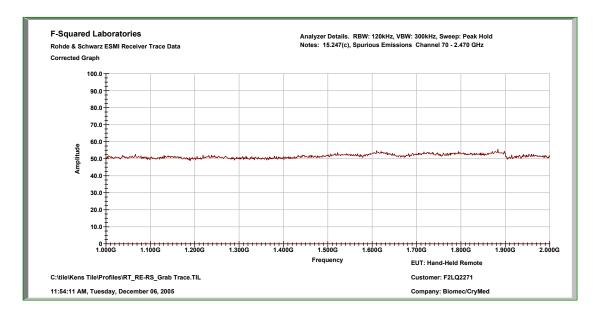


Figure 34: Harmonics & Spurious Emissions, Upper Channel, 1-2 GHz



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 35 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 35: Harmonics & Spurious Emissions, Upper Channel, 2-3 GHz

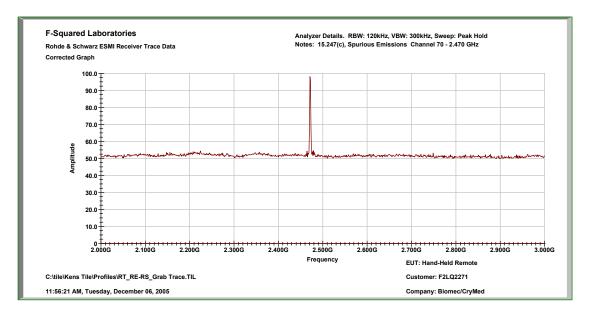
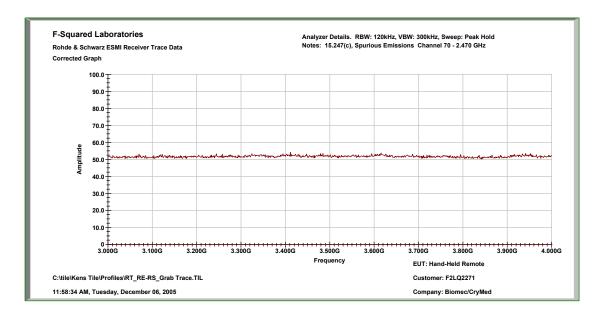


Figure 36: Harmonics & Spurious Emissions, Upper Channel, 3-4 GHz



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 36 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 37: Harmonics & Spurious Emissions, Upper Channel, 4-5 GHz

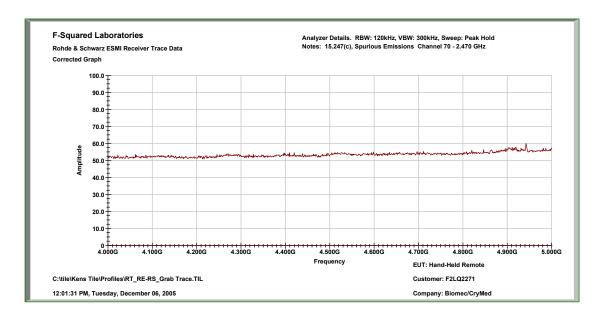
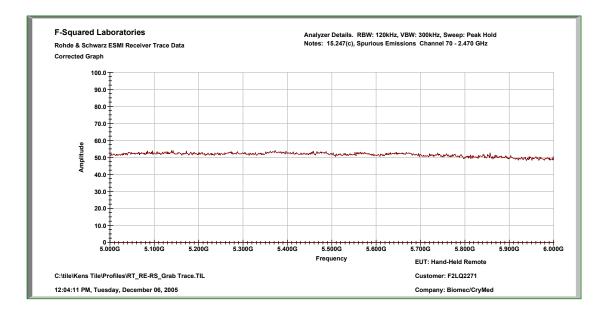


Figure 38: Harmonics & Spurious Emissions, Upper Channel, 5-6 GHz



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 37 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 39: Harmonics & Spurious Emissions, Upper Channel, 6-7 GHz

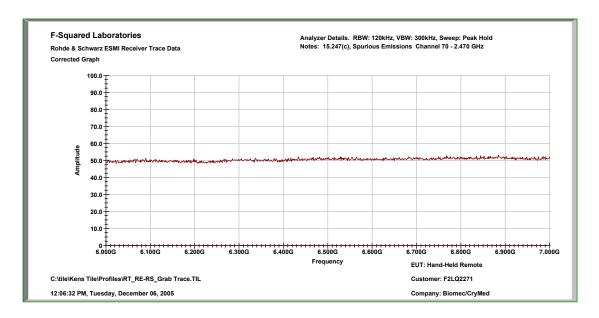
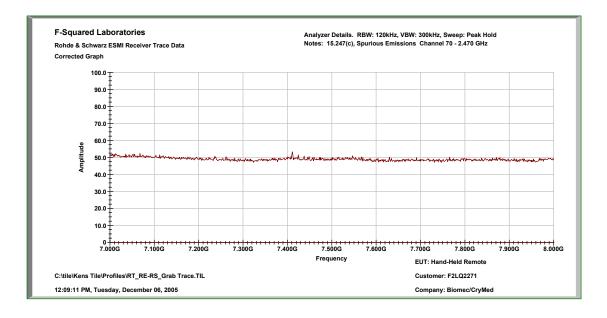


Figure 40: Harmonics & Spurious Emissions, Upper Channel, 7-8 GHz



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 38 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 41: Harmonics & Spurious Emissions, Upper Channel, 7-8 GHz

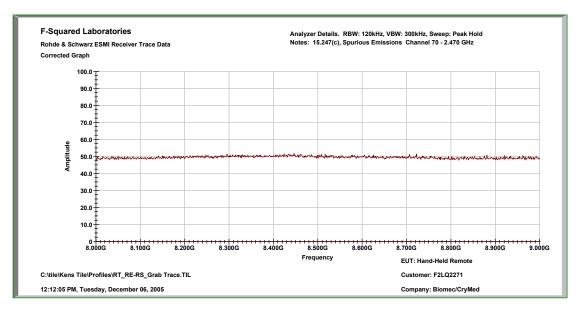
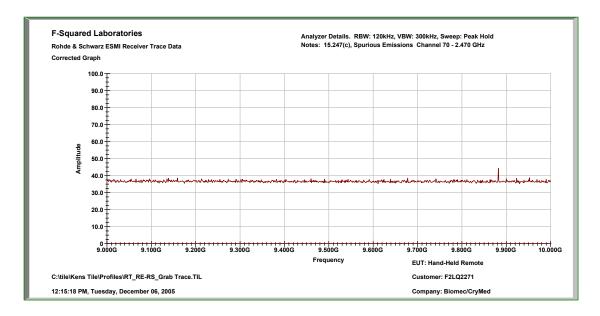


Figure 42: Harmonics & Spurious Emissions, Upper Channel, 7-8 GHz



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 39 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 43: Harmonics & Spurious Emissions, Upper Channel, 10-15 GHz

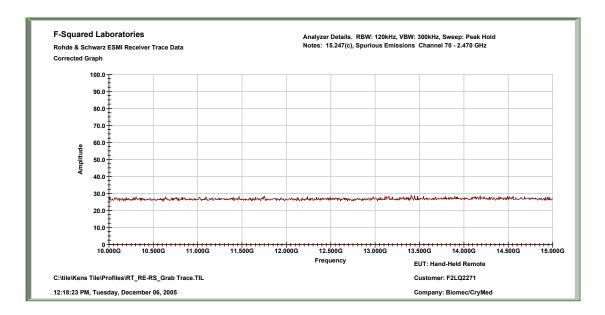
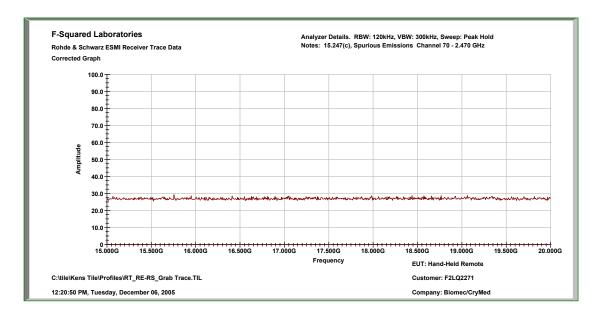


Figure 44: Harmonics & Spurious Emissions, Upper Channel, 15-70 GHz

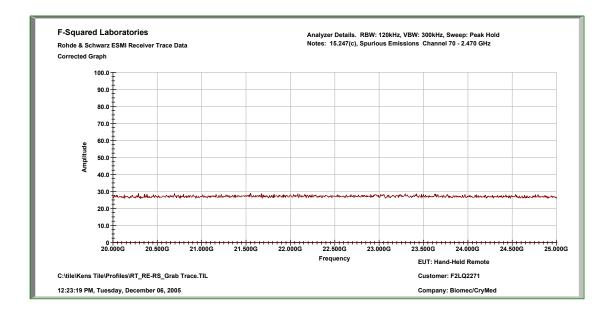


EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 40 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 45: Harmonics & Spurious Emissions, Upper Channel, 20-25 GHz



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 41 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 46: Peak Power Spectral Density, Low Channel, 200 kHz Span

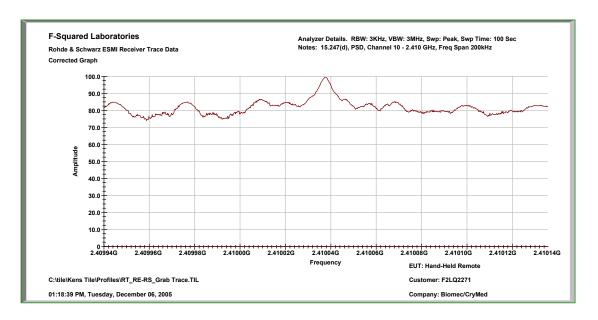
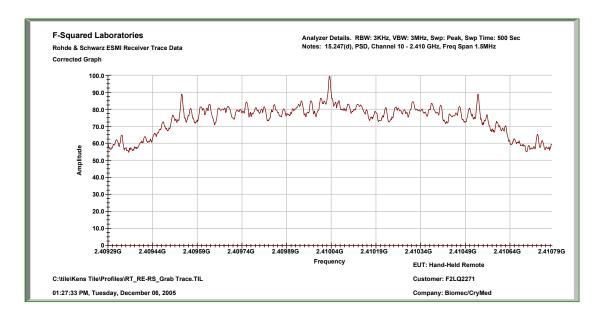


Figure 47: Peak Power Spectral Density, Low Channel, 1.5 MHz Span



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 42 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 48: Peak Power Spectral Density, Mid Channel, 200 kHz Span

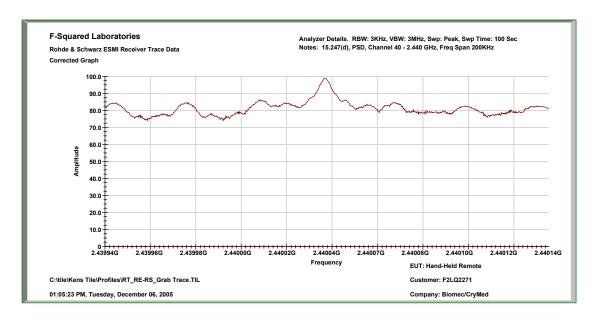
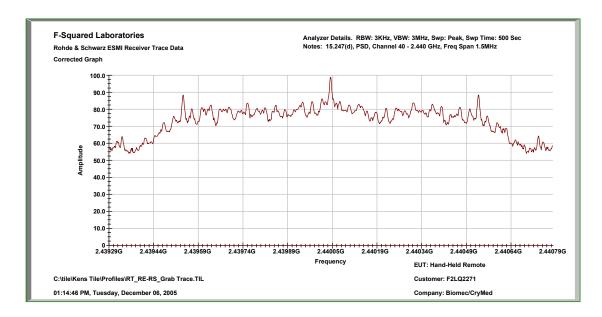


Figure 49: Peak Power Spectral Density, Mid Channel, 1.5 MHz Span



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 43 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Figure 50: Peak Power Spectral Density, Upper Channel, 200 kHz Span

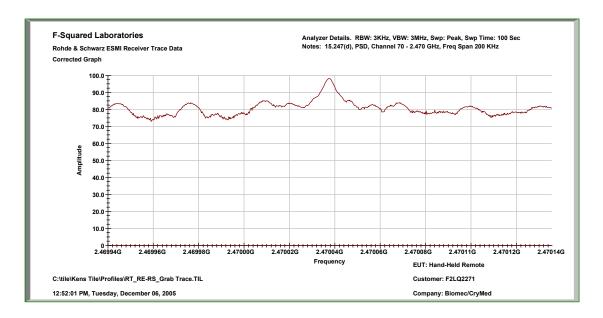
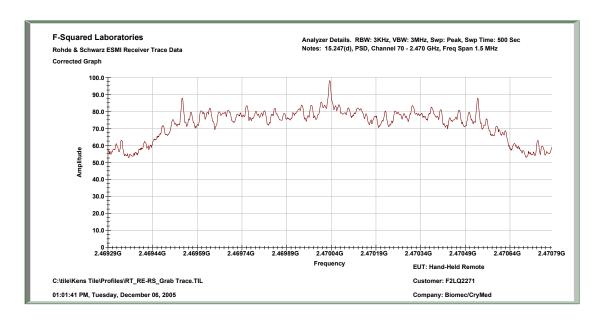


Figure 51: Peak Power Spectral Density, Upper Channel, 1.5 MHz Span



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 44 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

13. PHOTOGRAPHS/EXHIBITS – PRODUCT PHOTOS, TEST SETUPS

Hand-Held Remote Control: Component Side of Printed Circuit Board. SMA Connector Installed.



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 45 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Hand-Held Remote Control: Component Side of Printed Circuit Board. Chip Antenna Installed.

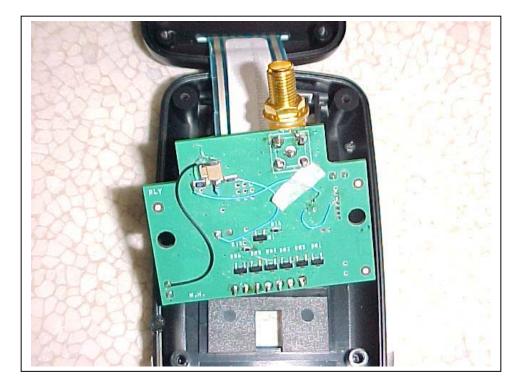


EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 46 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Hand-Held Remote Control: Solder Side of Printed Circuit Board. SMA Connector Installed.



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 47 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Hand-Held Remote Control: External View



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 48 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

RF Antenna Conducted Test: Remote Control Direct Connection to Spectrum Analyzer



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 49 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Orthagonal Positions of Remote Control – Radiated Emissions Test on OATS: Remote Control on Side



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 50 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Orthagonal Positions of Remote Control – Radiated Emissions Test on OATS: Remote Control Upright

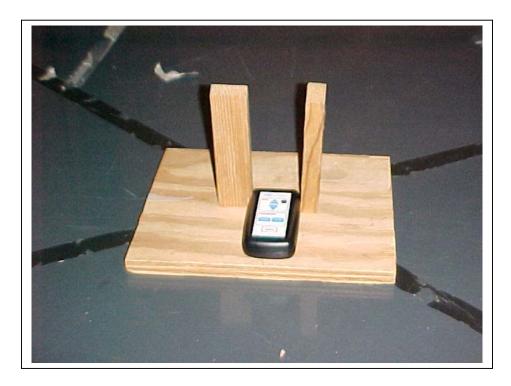


EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 51 of 52 Issue Date: Feb. 20, 2006

Model: CTI-G2-50L-R

Orthagonal Positions of Remote Control – Radiated Emissions Test on OATS: Remote Control on Back



EMC007 Rev. 1

Report Number: F2LQ2271-01E Page 52 of 52 Issue Date: Feb. 20, 2006