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

*for*

TRANSMITTER

MODEL: LumeroTel-915

Prepared for

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10827 ALDER CIRCLE
DALLAS, TEXAS 75238

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DATE: APRIL 11, 2006

| | 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: | Transmitter<br>Model: LumeroTel-915<br>S/N: N/A |
| Product Description: | See Expository Statement |
| Modifications: | The EUT was not modified in order to meet the specifications. |
| Manufacturer: | Elero USA, Inc.<br>10827 Alder Circle<br>Dallas, Texas 75238 |
| Test Date: | March 16, 2006 |
| Test Specifications: | EMI requirements<br>CFR Title 47, Part 15 Subpart B; and Subpart C, Sections 15.205, 15.209 and 15.249 |
| 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 - 9300 MHz | Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.249. |

# 1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Transmitter Model: LumeroTel-915. 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 15.249.

# 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

Elero USA, Inc.

David Harned

Compatible Electronics, Inc.

| | |
|---|---|
| Kyle Fujimoto | Test Engineer |
| James Ross | Test Engineer |

## 2.4 Date Test Sample was Received

The test sample was received on March 1, 2006

## 2.5 Disposition of the Test Sample

The sample has not yet been returned to Elero USA, Inc. as of April 11, 2006.

## 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 Transmitter Model: LumeroTel-915 (EUT) was tested as a stand alone unit and continuously transmitting. The EUT's antenna was hard wired onto the PCB.

After the transmitter 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 |
|---|---|---|---|---|
| TRANSMITTER (EUT) | ELERO USA, INC. | LumeroTel-915 | N/A | **UFJ282200902** |

## 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** | | | | | |
| Spectrum Analyzer – Main Section | Hewlett Packard | 8566B | 3638A08768 | June 21, 2005 | June 21, 2006 |
| Spectrum Analyzer – Display Section | Hewlett Packard | 85662A | 3701A22262 | June 21, 2005 | June 21, 2006 |
| Quasi-Peak Adapter | Hewlett Packard | 85650A | 2811A01363 | June 17, 2005 | June 17, 2006 |
| Computer | Hewlett Packard | 4530 | US91912319 | N/A | N/A |
| EMI Receiver | Rohde & Schwarz | ESIB40 | 100172 | October 28, 2004 | October 28, 2006 |
| 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 19, 2006 | Jan. 19, 2007 |
| Biconical Antenna | Com Power | AB-900 | 15227 | March 9, 2006 | March 9, 2007 |
| Log Periodic Antenna | Com Power | AL-100 | 16060 | August 22, 2005 | Aug. 22, 2006 |
| Loop Antenna | Com Power | AL-130 | 17089 | September 21, 2005 | Sept. 21, 2006 |
| Horn Antenna | Com Power | AH-118 | 10067 | July 27, 2004 | July 27, 2006 |
| Microwave Preamplifier | Com Power | PA-122 | 181917 | January 20, 2006 | Jan. 20, 2007 |
| 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 Conducted Emissions Test

The spectrum analyzer was used as a measuring meter. The data was collected with the spectrum analyzer in the peak detect mode with the "Max Hold" feature activated. The quasi-peak was used only where indicated in the data sheets. A 10 dB attenuation pad 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: 2001. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

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

**Test Results:**

This test was not performed because the EUT is battery powered only and does not connect to the AC public mains.

## 7.2 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 9.3 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.

For the peak readings below 1000 MHz that were within 3 dB of the spec limit or higher, the quasi-peak adapter was used to quasi-peak the readings.

For the peak readings above 1000 MHz that were within 3 dB of the spec limit or higher, the readings were averaged manually by narrowing the video filter down to 10 Hz and slowing the sweep time to keep the amplitude reading calibrated.

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 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. 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.

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.

## 7.3 Radiated Emissions (Spurious and Harmonics) Test (continued)

**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.

## 8. CONCLUSIONS

The Transmitter Model: LumeroTel-915 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 15.249.

# 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 15.249 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 during testing.

# APPENDIX C

# *ADDITIONAL MODELS COVERED UNDER THIS REPORT*

# ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

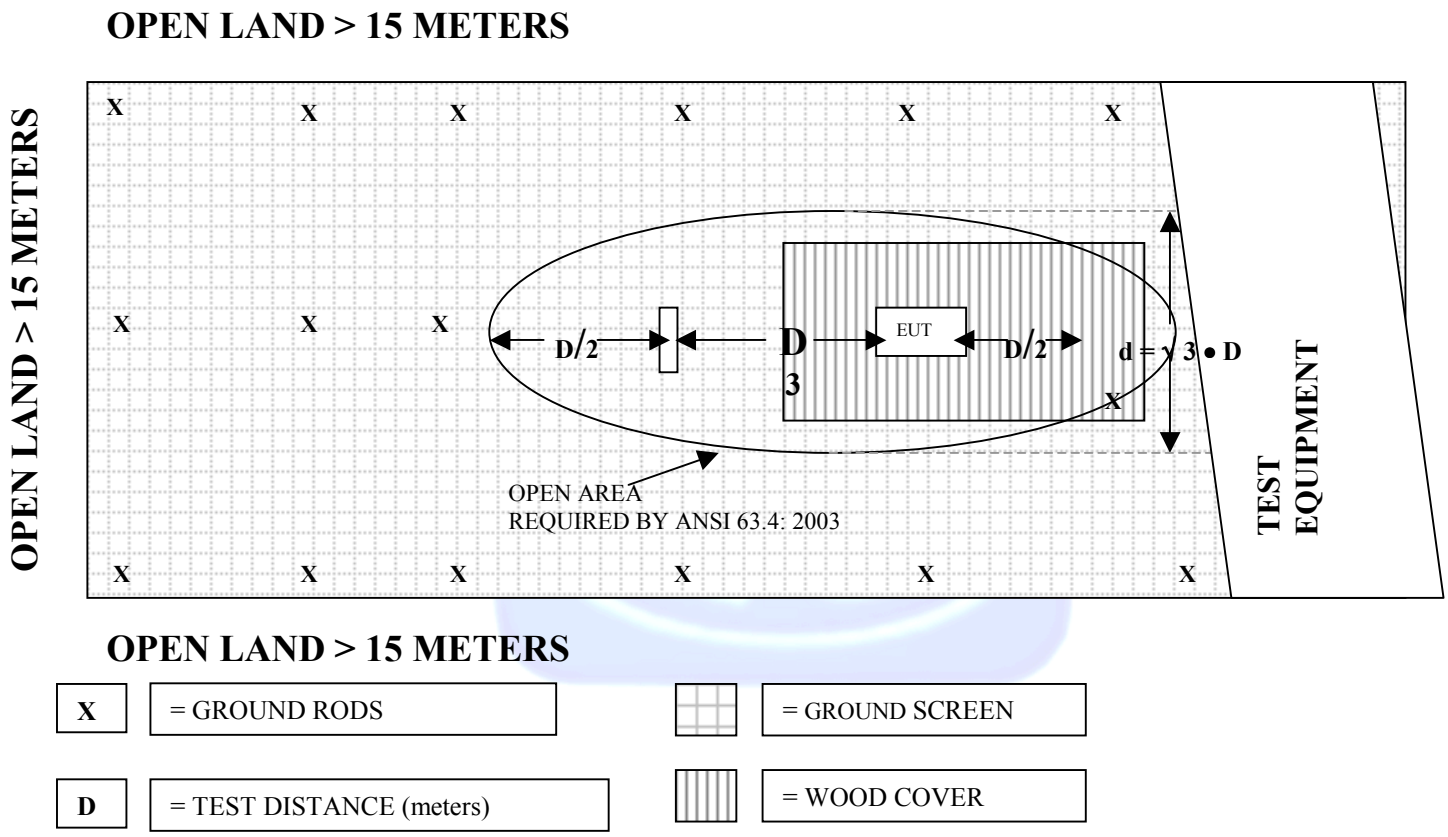
Transmitter
Model: LumeroTel-915
S/N: N/A

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 9, 2006

| FREQUENCY (MHz) | FACTOR (dB) | FREQUENCY (MHz) | FACTOR (dB) |
|---|---|---|---|
| 30 | 11.12 | 120 | 13.50 |
| 35 | 10.17 | 125 | 12.63 |
| 40 | 9.75 | 140 | 12.20 |
| 45 | 12.22 | 150 | 11.85 |
| 50 | 13.28 | 160 | 13.25 |
| 60 | 11.36 | 175 | 15.74 |
| 70 | 7.95 | 180 | 16.23 |
| 80 | 5.95 | 200 | 16.79 |
| 90 | 7.62 | 250 | 16.47 |
| 100 | 10.89 | 300 | 17.49 |

# COM-POWER AL-100

# LOG PERIODIC ANTENNA

# S/N: 16060

# CALIBRATION DATE: AUGUST 22, 2005

| FREQUENCY (MHz) | FACTOR (dB) | FREQUENCY (MHz) | FACTOR (dB) |
|---|---|---|---|
| 300 | 12.73 | 700 | 19.72 |
| 400 | 13.38 | 800 | 20.49 |
| 500 | 15.12 | 900 | 21.31 |
| 600 | 16.27 | 1000 | 24.25 |

# COM-POWER PA-102

# PREAMPLIFIER

# S/N: 1017

# CALIBRATION DATE: JANUARY 19, 2006

| FREQUENCY (MHz) | FACTOR (dB) | FREQUENCY (MHz) | FACTOR (dB) |
|---|---|---|---|
| 30 | 38.3 | 300 | 38.4 |
| 40 | 38.4 | 350 | 38.4 |
| 50 | 38.3 | 400 | 38.0 |
| 60 | 38.4 | 450 | 38.1 |
| 70 | 38.5 | 500 | 37.5 |
| 80 | 38.4 | 550 | 38.0 |
| 90 | 38.4 | 600 | 38.0 |
| 100 | 38.4 | 650 | 37.7 |
| 125 | 38.1 | 700 | 37.7 |
| 150 | 38.5 | 750 | 37.7 |
| 175 | 38.4 | 800 | 37.0 |
| 200 | 38.3 | 850 | 37.2 |
| 225 | 38.3 | 900 | 36.6 |
| 250 | 38.1 | 950 | 36.3 |
| 275 | 38.3 | 1000 | 36.3 |

# COM-POWER PA-122

# PREAMPLIFIER

# S/N: 181917

# CALIBRATION DATE: JANUARY 20, 2006

| FREQUENCY (GHz) | FACTOR (dB) | FREQUENCY (GHz) | FACTOR (dB) |
|---|---|---|---|
| 1.0 | 34.697 | 10.0 | 36.558 |
| 1.5 | 33.817 | 10.5 | 35.048 |
| 2.0 | 33.587 | 11.0 | 33.258 |
| 2.5 | 33.804 | 11.5 | 32.960 |
| 3.0 | 33.850 | 12.0 | 33.312 |
| 3.5 | 33.943 | 12.5 | 33.836 |
| 4.0 | 34.399 | 13.0 | 34.178 |
| 4.5 | 34.847 | 13.5 | 34.197 |
| 5.0 | 35.172 | 14.0 | 33.769 |
| 5.5 | 35.383 | 14.5 | 33.392 |
| 6.0 | 35.539 | 15.0 | 33.387 |
| 6.5 | 34.802 | 15.5 | 34.038 |
| 7.0 | 33.793 | 16.0 | 34.884 |
| 7.5 | 33.511 | 16.5 | 35.740 |
| 8.0 | 33.910 | 17.0 | 35.341 |
| 8.5 | 34.907 | 17.5 | 34.729 |
| 9.0 | 36.036 | 18.0 | 33.760 |
| 9.5 | 36.661 | | |

# COM POWER AH-118

# HORN ANTENNA

# S/N: 10067

# CALIBRATION DATE: JULY 27, 2004

| FREQUENCY (GHz) | FACTOR (dB) | FREQUENCY (GHz) | FACTOR (dB) |
|---|---|---|---|
| 1.0 | 25.0 | 10.0 | 37.8 |
| 1.5 | 27.9 | 10.5 | 39.4 |
| 2.0 | 31.5 | 11.0 | 39.4 |
| 2.5 | 31.1 | 11.5 | 40.6 |
| 3.0 | 30.6 | 12.0 | 40.8 |
| 3.5 | 30.5 | 12.5 | 40.5 |
| 4.0 | 30.6 | 13.0 | 41.2 |
| 4.5 | 31.4 | 13.5 | 42.0 |
| 5.0 | 33.7 | 14.0 | 43.1 |
| 5.5 | 33.8 | 14.5 | 43.4 |
| 6.0 | 34.7 | 15.0 | 39.2 |
| 6.5 | 35.0 | 15.5 | 38.8 |
| 7.0 | 35.9 | 16.0 | 40.1 |
| 7.5 | 38.1 | 16.5 | 40.2 |
| 8.0 | 38.2 | 17.0 | 43.4 |
| 8.5 | 37.7 | 17.5 | 46.6 |
| 9.0 | 37.7 | 18.0 | 45.8 |
| 9.5 | 38.4 | | |

# 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**

ELERO USA, INC.
TRANSMITTER
MODEL: LumeroTel-915
FCC SUBPART B AND FCC SUBPART C – RADIATED EMISSIONS – LAB D

## PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

**REAR VIEW**

ELERO USA, INC.
TRANSMITTER
MODEL: LumeroTel-915
FCC SUBPART B AND FCC SUBPART C – RADIATED EMISSIONS – LAB D

## PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

**FRONT VIEW**

ELERO USA, INC.
TRANSMITTER
MODEL: LumeroTel-915
FCC SUBPART B AND FCC SUBPART C – RADIATED EMISSIONS – LAB B

## PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

**REAR VIEW**

ELERO USA, INC.
TRANSMITTER
MODEL: LumeroTel-915
FCC SUBPART B AND FCC SUBPART C – RADIATED EMISSIONS – LAB B

## PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

# APPENDIX E

# *DATA SHEETS*

# *RADIATED EMISSIONS*

# *DATA SHEETS*

**FCC 15.249**

Elero USA, Inc.
Transmitter
Model: LumeroTel-915

Date: 03/16/06
Labs: B and D
Tested By: Kyle Fujimoto

**X-Axis**

| Freq. (MHz) | Level (dBuV) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Ant. Height (m) | Table Angle (deg) | Comments |
|---|---|---|---|---|---|---|---|---|
| 915.25 | 85.96 | V | 94 | -8.04 | Peak | 1 | 45 | |
| | | | | | | | | |
| 1830.69 | 39.94 | V | 74 | -34.06 | Peak | 2.62 | 135 | |
| 1830.69 | 29.42 | V | 54 | -24.58 | Avg | 2.62 | 135 | |
| | | | | | | | | |
| 2746.05 | 40.12 | V | 74 | -33.88 | Peak | 1.91 | 135 | |
| 2746.05 | 26.84 | V | 54 | -27.16 | Avg | 1.91 | 135 | |
| | | | | | | | | |
| 3661.32 | 46.59 | V | 74 | -27.41 | Peak | 1.75 | 180 | |
| 3661.32 | 40.62 | V | 54 | -13.38 | Avg | 1.75 | 180 | |
| | | | | | | | | |
| 4576.75 | 42.31 | V | 74 | -31.69 | Peak | 2.42 | 315 | |
| 4576.75 | 31.01 | V | 54 | -22.99 | Avg | 2.42 | 315 | |
| | | | | | | | | |
| 5491.88 | 47.21 | V | 74 | -26.79 | Peak | 2.11 | 45 | |
| 5491.88 | 34.9 | V | 54 | -19.1 | Avg | 2.11 | 45 | |
| | | | | | | | | |
| 6407.45 | 46.16 | V | 74 | -27.84 | Peak | 2.29 | 45 | |
| 6407.45 | 34.14 | V | 54 | -19.86 | Avg | 2.29 | 45 | |
| | | | | | | | | |
| 7322.8 | | V | 74 | -74 | Peak | | | No Emission |
| 7322.8 | | V | 54 | -54 | Avg | | | Detected |
| | | | | | | | | |
| 8238.15 | | V | 74 | -74 | Peak | | | No Emission |
| 8238.15 | | V | 54 | -54 | Avg | | | Detected |
| | | | | | | | | |
| 9153.5 | | V | 74 | -74 | Peak | | | No Emission |
| 9153.5 | | V | 54 | -54 | Avg | | | Detected |
| | | | | | | | | |

**FCC 15.249**

Elero USA, Inc.
Transmitter
Model: LumeroTel-915

Date: 03/16/06
Labs: B and D
Tested By: Kyle Fujimoto

**X-Axis**

| Freq. (MHz) | Level (dBuV) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Ant. Height (m) | Table Angle (deg) | Comments |
|---|---|---|---|---|---|---|---|---|
| 915.25 | 94.34 | H | 94 | 0.34 | Peak | 1 | 90 | |
| 915.25 | 93.92 | H | 94 | -0.08 | QP | 1 | 90 | |
| | | | | | | | | |
| 1830.69 | 46.3 | H | 74 | -27.7 | Peak | 2.03 | 135 | |
| 1830.69 | 42.38 | H | 54 | -11.62 | Avg | 2.03 | 135 | |
| | | | | | | | | |
| 2746.05 | 37.32 | H | 74 | -36.68 | Peak | 1.72 | 270 | |
| 2746.05 | 26.14 | H | 54 | -27.86 | Avg | 1.72 | 270 | |
| | | | | | | | | |
| 3661.32 | 39.15 | H | 74 | -34.85 | Peak | 1.94 | 135 | |
| 3661.32 | 26.72 | H | 54 | -27.28 | Avg | 1.94 | 135 | |
| | | | | | | | | |
| 4576.75 | 44.07 | H | 74 | -29.93 | Peak | 1.92 | 135 | |
| 4576.75 | 31.23 | H | 54 | -22.77 | Avg | 1.92 | 135 | |
| | | | | | | | | |
| 5491.87 | 44.48 | H | 74 | -29.52 | Peak | 1.78 | 135 | |
| 5491.86 | 31.94 | H | 54 | -22.06 | Avg | 1.78 | 135 | |
| | | | | | | | | |
| 6407.45 | 45.81 | H | 74 | -28.19 | Peak | 1.53 | 225 | |
| 6407.45 | 33.16 | H | 54 | -20.84 | Avg | 1.53 | 225 | |
| | | | | | | | | |
| 7322.8 | | H | 74 | -74 | Peak | | | No Emission |
| 7322.8 | | H | 54 | -54 | Avg | | | Detected |
| | | | | | | | | |
| 8238.15 | | H | 74 | -74 | Peak | | | No Emission |
| 8238.15 | | H | 54 | -54 | Avg | | | Detected |
| | | | | | | | | |
| 9153.5 | | H | 74 | -74 | Peak | | | No Emission |
| 9153.5 | | H | 54 | -54 | Avg | | | Detected |
| | | | | | | | | |

**FCC 15.249**

Elero USA, Inc.
Transmitter
Model: LumeroTel-915

Date: 03/16/06
Labs: B and D
Tested By: Kyle Fujimoto

**Y-Axis**

| Freq. (MHz) | Level (dBuV) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Ant. Height (m) | Table Angle (deg) | Comments |
|---|---|---|---|---|---|---|---|---|
| 915.25 | 92.54 | V | 94 | -1.46 | Peak | 1 | 0 | |
| 915.25 | 92.27 | V | 94 | -1.73 | QP | 1 | 0 | |
| | | | | | | | | |
| 1830.69 | 45.12 | V | 74 | -28.88 | Peak | 1.25 | 90 | |
| 1830.69 | 39.26 | V | 54 | -14.74 | Avg | 1.25 | 90 | |
| | | | | | | | | |
| 2746.05 | 38.55 | V | 74 | -35.45 | Peak | 2.23 | 0 | |
| 2746.05 | 27.05 | V | 54 | -26.95 | Avg | 2.23 | 0 | |
| | | | | | | | | |
| 3661.32 | 43.99 | V | 74 | -30.01 | Peak | 2.19 | 135 | |
| 3661.32 | 36.57 | V | 54 | -17.43 | Avg | 2.19 | 135 | |
| | | | | | | | | |
| 4576.75 | 43.89 | V | 74 | -30.11 | Peak | 1.44 | 0 | |
| 4576.75 | 33.69 | V | 54 | -20.31 | Avg | 1.44 | 0 | |
| | | | | | | | | |
| 5491.87 | 47.45 | V | 74 | -26.55 | Peak | 2.71 | 135 | |
| 5491.86 | 36 | V | 54 | -18 | Avg | 2.71 | 135 | |
| | | | | | | | | |
| 6407.45 | 46.25 | V | 74 | -27.75 | Peak | 1.81 | 0 | |
| 6407.45 | 33.55 | V | 54 | -20.45 | Avg | 1.81 | 0 | |
| | | | | | | | | |
| 7322.8 | | V | 74 | -74 | Peak | | | No Emission |
| 7322.8 | | V | 54 | -54 | Avg | | | Detected |
| | | | | | | | | |
| 8238.15 | | V | 74 | -74 | Peak | | | No Emission |
| 8238.15 | | V | 54 | -54 | Avg | | | Detected |
| | | | | | | | | |
| 9153.5 | | V | 74 | -74 | Peak | | | No Emission |
| 9153.5 | | V | 54 | -54 | Avg | | | Detected |
| | | | | | | | | |

**FCC 15.249**

Elero USA, Inc.
Transmitter
Model: LumeroTel-915

Date: 03/16/06
Labs: B and D
Tested By: Kyle Fujimoto

**Y-Axis**

| Freq. (MHz) | Level (dBuV) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Ant. Height (m) | Table Angle (deg) | Comments |
|---|---|---|---|---|---|---|---|---|
| 915.25 | 78.75 | H | 94 | -15.25 | Peak | 1.25 | 315 | |
| | | | | | | | | |
| 1830.69 | 43.59 | H | 74 | -30.41 | Peak | 2.18 | 225 | |
| 1830.69 | 37.5 | H | 54 | -16.5 | Avg | 2.18 | 225 | |
| | | | | | | | | |
| 2746.05 | 40.5 | H | 74 | -33.5 | Peak | 2.43 | 135 | |
| 2746.05 | 26.58 | H | 54 | -27.42 | Avg | 2.43 | 135 | |
| | | | | | | | | |
| 3661.32 | 39.4 | H | 74 | -34.6 | Peak | 1.82 | 135 | |
| 3661.32 | 27.58 | H | 54 | -26.42 | Avg | 1.82 | 135 | |
| | | | | | | | | |
| 4576.75 | 41.28 | H | 74 | -32.72 | Peak | 1.82 | 135 | |
| 4576.75 | 28.72 | H | 54 | -25.28 | Avg | 1.82 | 135 | |
| | | | | | | | | |
| 5491.87 | 44.74 | H | 74 | -29.26 | Peak | 1.82 | 135 | |
| 5491.86 | 31.96 | H | 54 | -22.04 | Avg | 1.82 | 135 | |
| | | | | | | | | |
| 6407.45 | 47.35 | H | 74 | -26.65 | Peak | 1.82 | 225 | |
| 6407.45 | 33.57 | H | 54 | -20.43 | Avg | 1.82 | 225 | |
| | | | | | | | | |
| 7322.8 | | H | 74 | -74 | Peak | | | No Emission |
| 7322.8 | | H | 54 | -54 | Avg | | | Detected |
| | | | | | | | | |
| 8238.15 | | H | 74 | -74 | Peak | | | No Emission |
| 8238.15 | | H | 54 | -54 | Avg | | | Detected |
| | | | | | | | | |
| 9153.5 | | H | 74 | -74 | Peak | | | No Emission |
| 9153.5 | | H | 54 | -54 | Avg | | | Detected |
| | | | | | | | | |

**FCC 15.249**

Elero USA, Inc.
Transmitter
Model: LumeroTel-915

Date: 03/16/06
Labs: B and D
Tested By: Kyle Fujimoto

**Z-Axis**

| Freq. (MHz) | Level (dBuV) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Ant. Height (m) | Table Angle (deg) | Comments |
|---|---|---|---|---|---|---|---|---|
| 915.25 | 80.61 | V | 94 | -13.39 | Peak | 1 | 45 | |
| | | | | | | | | |
| 1830.69 | 41.15 | V | 74 | -32.85 | Peak | 2.52 | 135 | |
| 1830.69 | 31.88 | V | 54 | -22.12 | Avg | 2.52 | 135 | |
| | | | | | | | | |
| 2746.05 | 40.9 | V | 74 | -33.1 | Peak | 1.86 | 135 | |
| 2746.05 | 26.53 | V | 54 | -27.47 | Avg | 1.86 | 135 | |
| | | | | | | | | |
| 3661.32 | 45.6 | V | 74 | -28.4 | Peak | 1.83 | 135 | |
| 3661.32 | 40.54 | V | 54 | -13.46 | Avg | 1.83 | 135 | |
| | | | | | | | | |
| 4576.75 | 41.38 | V | 74 | -32.62 | Peak | 1.54 | 135 | |
| 4576.75 | 28.62 | V | 54 | -25.38 | Avg | 1.54 | 135 | |
| | | | | | | | | |
| 5491.87 | 43.89 | V | 74 | -30.11 | Peak | 2.27 | 135 | |
| 5491.86 | 32.74 | V | 54 | -21.26 | Avg | 2.27 | 135 | |
| | | | | | | | | |
| 6407.45 | 44.54 | V | 74 | -29.46 | Peak | 2.27 | 315 | |
| 6407.45 | 33.47 | V | 54 | -20.53 | Avg | 2.27 | 315 | |
| | | | | | | | | |
| 7322.8 | | V | 74 | -74 | Peak | | | No Emission |
| 7322.8 | | V | 54 | -54 | Avg | | | Detected |
| | | | | | | | | |
| 8238.15 | | V | 74 | -74 | Peak | | | No Emission |
| 8238.15 | | V | 54 | -54 | Avg | | | Detected |
| | | | | | | | | |
| 9153.5 | | V | 74 | -74 | Peak | | | No Emission |
| 9153.5 | | V | 54 | -54 | Avg | | | Detected |
| | | | | | | | | |

**FCC 15.249**

Elero USA, Inc.
Transmitter
Model: LumeroTel-915

Date: 03/16/06
Labs: B and D
Tested By: Kyle Fujimoto

**Z-Axis**

| Freq. (MHz) | Level (dBuV) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Ant. Height (m) | Table Angle (deg) | Comments |
|---|---|---|---|---|---|---|---|---|
| 915.25 | 94.2 | H | 94 | 0.2 | Peak | 1 | 180 | |
| 915.25 | 93.66 | H | 94 | -0.34 | Peak | 1 | 180 | |
| | | | | | | | | |
| 1830.69 | 54.32 | H | 74 | -19.68 | Peak | 1 | 0 | |
| 1830.69 | 52.94 | H | 54 | -1.06 | Avg | 1 | 0 | |
| | | | | | | | | |
| 2746.05 | 38.48 | H | 74 | -35.52 | Peak | 2.18 | 135 | |
| 2746.05 | 26.23 | H | 54 | -27.77 | Avg | 2.18 | 135 | |
| | | | | | | | | |
| 3661.32 | 42.76 | H | 74 | -31.24 | Peak | 2.56 | 135 | |
| 3661.32 | 28.66 | H | 54 | -25.34 | Avg | 2.56 | 135 | |
| | | | | | | | | |
| 4576.75 | 44.4 | H | 74 | -29.6 | Peak | 2.66 | 0 | |
| 4576.75 | 34.13 | H | 54 | -19.87 | Avg | 2.66 | 0 | |
| | | | | | | | | |
| 5491.87 | 45.57 | H | 74 | -28.43 | Peak | 1.48 | 0 | |
| 5491.86 | 32.61 | H | 54 | -21.39 | Avg | 1.48 | 0 | |
| | | | | | | | | |
| 6407.45 | 45.3 | H | 74 | -28.7 | Peak | 1.92 | 135 | |
| 6407.45 | 33.58 | H | 54 | -20.42 | Avg | 1.92 | 135 | |
| | | | | | | | | |
| 7322.8 | | H | 74 | -74 | Peak | | | No Emission |
| 7322.8 | | H | 54 | -54 | Avg | | | Detected |
| | | | | | | | | |
| 8238.15 | | H | 74 | -74 | Peak | | | No Emission |
| 8238.15 | | H | 54 | -54 | Avg | | | Detected |
| | | | | | | | | |
| 9153.5 | | H | 74 | -74 | Peak | | | No Emission |
| 9153.5 | | H | 54 | -54 | Avg | | | Detected |
| | | | | | | | | |

**FCC 15.249**

Elero USA, Inc.
Transmitter
Model: LumeroTel-915

Date: 03/16/06
Labs: B and D
Tested By: Kyle Fujimoto

**Vertical and Horizontal Polarization**
**Spurious Emissions from the EUT -- 10 kHz to 9300 MHz**

| Freq. (MHz) | Level (dBuV) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Ant. Height (m) | Table Angle (deg) | Comments |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | No Spurious Emissions |
| | | | | | | | | Found Between 10 kHz |
| | | | | | | | | and 9300 MHz |
| | | | | | | | | |
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