FCC PART 15, SUBPART B and C
TEST REPORT

for

StellaCam WIRELESS CONTROLLER

MODEL: SWC-A

Prepared for

CosmoLogic SYSTEMS
11112 204TH AVE CT. EAST
BONNEY LAKE, WASHINGTON 98391

Prepared by:_____

KYLE FUJIMOTO

Approved by:_____

MICHAEL CHRISTENSEN

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

DATE: JULY 2, 2008

	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:	StellaCam Wireless Controller Model: SWC-A S/N: N/A
Product Description:	See Expository Statement
Modifications:	The EUT was modified in order to meet the specifications. Please see Appendix B for a list of the modifications.
Customer:	CosmoLogic Systems 11112 204th Ave Ct. East Bonney Lake, Washington 98391
Test Dates:	June 20, 23 and 24, 2008
Test Specifications:	EMI requirements CFR Title 47, Part 15 Subpart B; and Subpart C, Sections 15.205, 15.209 and 15.231(e)
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	Complies with the limits of CFR Title 47, Part 15, Subpart C, section 15.207.
2	Radiated RF Emissions, 10 kHz – 4400 MHz (Transmitter Portion)	Complies with the limits of CFR Title 47, Part 15, Subpart C, section 15.205, 15.209, and 15.231(e).
3	Radiated RF Emissions, 10 kHz – 4400 MHz (Digital Portion)	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B.
4	-20 dB Bandwidth	Complies with the limits of CFR Title 47, Part 15, Subpart C, section 15.231(c).

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the StellaCam Wireless Controller, Model: SWC-A. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.207, 15.209, and 15.231(e) for the transmitter portion.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

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

CosmoLogic Systems

J. Donald Lee Vice President

Compatible Electronics, Inc.

Kyle Fujimoto Test Engineer
Michael Christensen Lab Manager

2.4 Date Test Sample was Received

The test sample was received on June 20, 2008.

2.5 Disposition of the Test Sample

The sample has not been returned to CosmoLogic Systems as of July 2, 2008.

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

Stand Alone Mode: The StellaCam Wireless Controller, Model: SWC-A (EUT) was tested as a stand alone unit. The EUT was placed at the center of the non-conductive table. The EUT was transmitting on a continuous basis. The EUT's antenna is directly connected to the PCB via a screw.

RS232 and AC Mode: The StellaCam Wireless Controller, Model: SWC-A (EUT) was connected to an AC Adapter and laptop via its power and serial ports, respectively. The laptop was also connected to an AC Adapter and printer via its power and parallel ports, respectively. The EUT was transmitting and also updating the data on its display to the laptop via the hyperterminal program on a continuous basis.

The final radiated data was taken in both modes above. The final conducted data was taken in the RS232 and AC mode mentioned above. Please see Appendix E for the data sheets.

4.1.1 Cable Construction and Termination

Stand Alone Mode:

There were no external cables connected to the EUT.

RS232 Mode with AC Power:

Cable 1 This is a 2-meter braid and foil shielded cable connecting the printer to the laptop. The cable has a metallic Centronics type connector at the printer end and a D-25 pin metallic connector at the laptop end. The length of the cable was bundled to 1 meter. The shield of the cable was grounded to the chassis via the connectors.

Cable 2 This is a 2-meter unshielded cable connecting the AC Adapter to the laptop. The cable has a 1/8 inch power connector at the laptop end and is hard wired into the AC Adapter. The cable was bundled to a length of 1 meter.

Cable 3 This is a 2-meter unshielded cable connecting the AC Adapter to the EUT. The cable has a 1/8 inch power connector at the laptop end and is hard wired into the AC Adapter.

Cable 4 This is a 2-meter unshielded cable connecting the EUT to the laptop. The cable has an RJ-11 connector at the EUT end and a D-9 pin metallic connector at the laptop end. The cable was bundled to a length of 1 meter.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
StellaCam WIRELESS CONTROLLER (EUT)	CosmoLogic Systems	SWC-A	N/A	**WFVSWCA2806**
PRINTER	CITIZEN	LSP-10	1184398-7Z	**DLK66TLSP-10**
AC ADAPTER FOR LAPTOP	COMPAQ	ADP-60BB	298237-001	**N/A**
LAPTOP	COMPAQ	1456VQL1N	1V98CLS9A1J1	**DoC**
AC ADAPTER FOR EUT	SOUTHWESTERN BELL	KEC-41-10D-5	N/A	**N/A**

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
RF RADIATED EMISSIONS TEST EQUIPMENT					
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
EMI Receiver	Rohde & Schwarz	ESIB40	100172	November 27, 2006	Nov. 27, 2008
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08768	August 14, 2007	August 14, 2008
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	3701A22262	August 14, 2007	August 14, 2008
Quasi-Peak Adapter	Hewlett Packard	85650A	2811A01363	August 14, 2007	August 14, 2008
Biconical Antenna	Com Power	AB-900	15227	February 28, 2008	Feb. 28, 2009
Log Periodic Antenna	Com Power	AL-100	16241	July 9, 2007	July 9, 2008
Preamplifier	Com-Power	PA-103	1582	January 11, 2008	Jan. 11, 2009
Loop Antenna	Com-Power	AL-130	17089	September 24, 2007	Sept. 24, 2008
Double Ridge Horn Antenna	Com-Power	AH-118	10073	July 17, 2006	July 17, 2008
Microwave Preamplifier	Com-Power	PA-122	181921	March 3, 2008	March 3, 2009
Antenna Mast	Com-Power	AM-100	N/A	N/A	N/A
RF CONDUCTED EMISSIONS TEST EQUIPMENT					
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08768	August 14, 2007	August 14, 2008
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	3701A22262	August 14, 2007	August 14, 2008
Quasi-Peak Adapter	Hewlett Packard	85650A	2811A01363	August 14, 2007	August 14, 2008
Emissions Program	Compatible Electronics	2.3 (SR19)	N/A	N/A	N/A
LISN	Com Power	LI-215	12076	September 6, 2007	Sept. 6, 2008
LISN	Com Power	LI-215	12090	September 6, 2007	Sept. 6, 2008
Transient Limiter	Com Power	252A910	1	September 19, 2007	Sept. 19, 2008

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 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. 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 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:

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, Section 15.207 for conducted emissions.

7.2 Radiated Emissions (Spurious and Harmonics) Test

The EMI Receiver 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 above 1 GHz. The EMI Receiver was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer or EMI Receiver records the highest measured reading over all the sweeps.

The readings were averaged by a “duty cycle correction factor”, derived from 20 log (dwell time / one pulse train with blanking interval).

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

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 4.4 GHz	1 MHz	Horn Antenna

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

7.3 Radiated Emissions (Spurious and Harmonics) Test (Continued)

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

Test Results:

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

7.4 Bandwidth of the Fundamental

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

Test Results:

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

8. CONCLUSIONS

The StellaCam Wireless Controller, Model: SWC-A meets all of the **Class B** specification limits defined in CFR Title 47, Part 15, Subpart B for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.207, 15.209, and 15.231(e) for the transmitter portion.

APPENDIX A

LABORATORY RECOGNITIONS

LABORATORY RECOGNITIONS

Compatible Electronics has the following agency accreditations:

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

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

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

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

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

Federal Communications Commission

Industry Canada

Radio-Frequency Technologies (Competent Body)

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

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

1) Resistor R5 was changed to 4700 ohms.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST	StellaCam Wireless Controller Model: SWC-A S/N: N/A

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

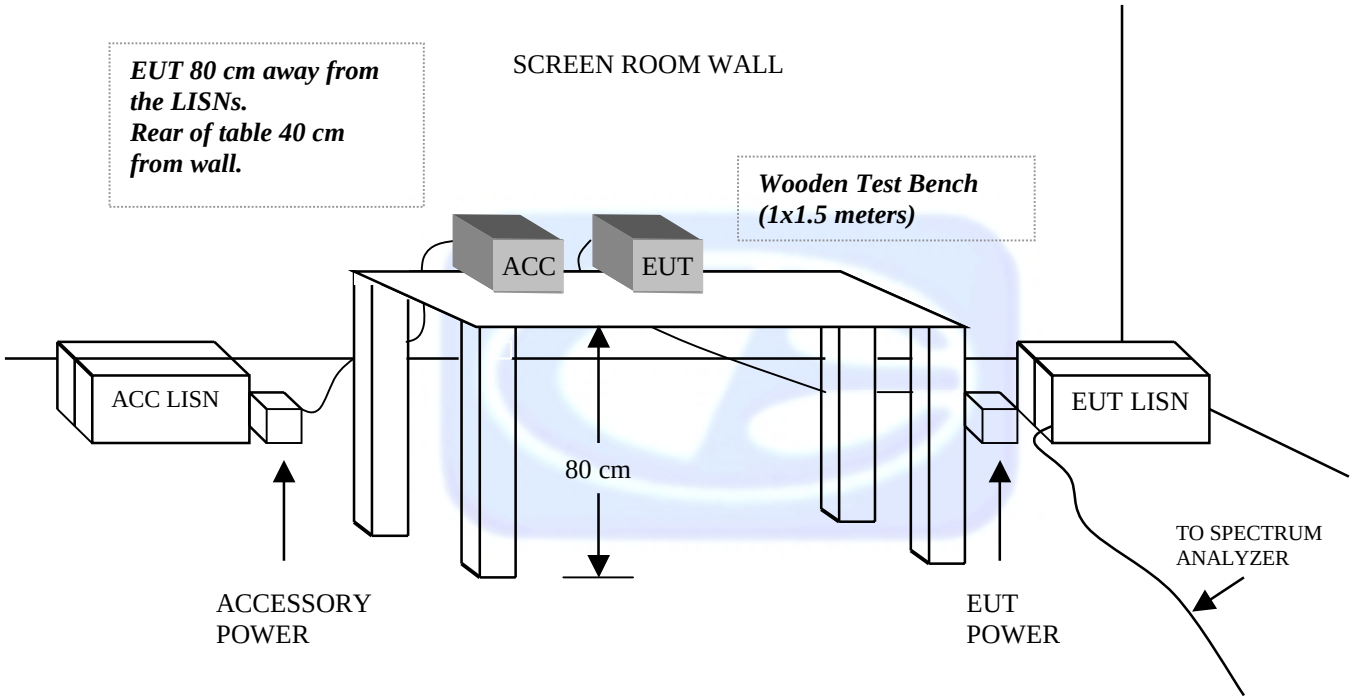
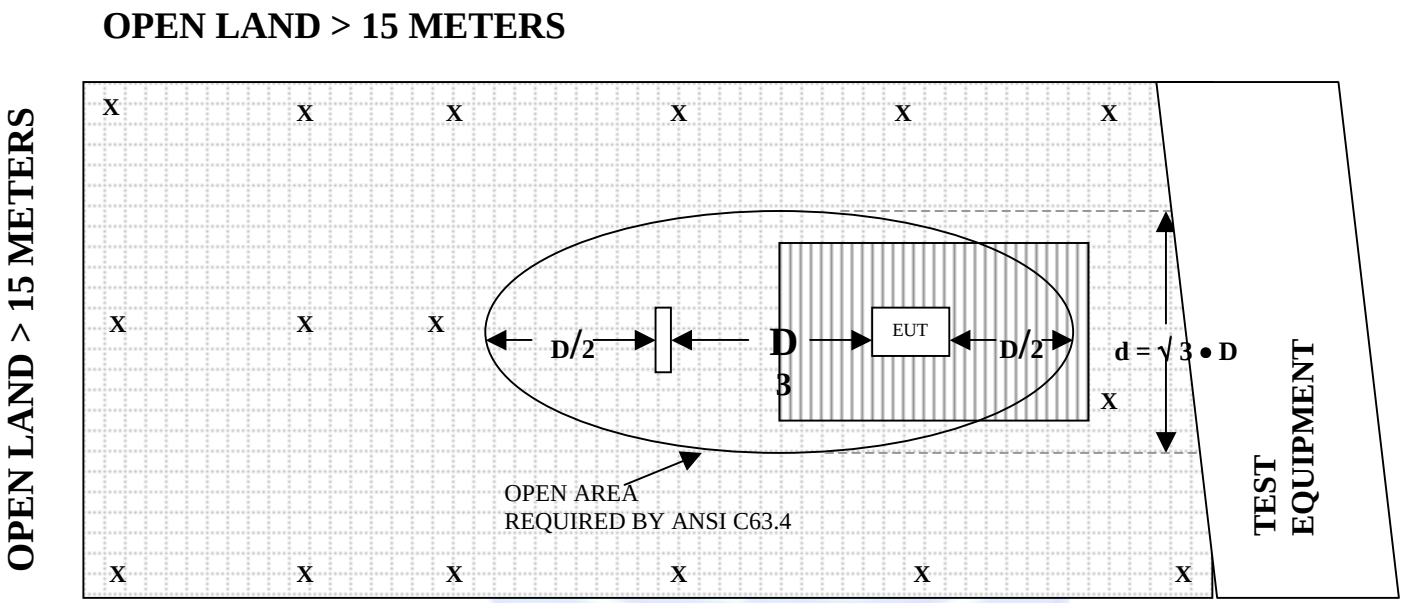


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE



OPEN LAND > 15 METERS

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

COM-POWER AB-900

BICONICAL ANTENNA

S/N: 15227

CALIBRATION DATE: FEBRUARY 28, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	12.3	100	10.6
35	9.4	120	13.6
40	9.0	140	11.8
45	9.9	160	12.3
50	11.3	180	15.7
60	9.4	200	16.8
70	7.4	250	14.5
80	6.2	275	18.7
90	6.8	300	21.4

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16241

CALIBRATION DATE: JULY 9, 2007

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	15.2	700	19.9
400	15.4	800	22.3
500	17.0	900	22.3
600	19.1	1000	24.2

COM-POWER PA-103

PREAMPLIFIER

S/N: 1582

CALIBRATION DATE: JANUARY 11, 2008

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	32.9	300	32.4
40	32.7	350	32.4
50	32.8	400	32.2
60	32.9	450	31.7
70	32.9	500	32.1
80	32.9	550	31.8
90	32.7	600	32.0
100	32.8	650	32.0
125	32.9	700	32.1
150	32.6	750	32.0
175	32.7	800	31.6
200	32.7	850	31.6
225	32.5	900	31.5
250	32.7	950	31.7
275	32.5	1000	31.3

COM-POWER PA-122

PREAMPLIFIER

S/N: 181921

CALIBRATION DATE: MARCH 3, 2008

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	36.32	10.0	35.47
1.5	35.40	10.5	35.05
2.0	34.77	11.0	34.16
2.5	35.07	11.5	33.75
3.0	34.86	12.0	34.65
3.5	34.48	12.5	34.41
4.0	34.30	13.0	35.36
4.5	33.96	13.5	35.30
5.0	34.06	14.0	35.87
5.5	34.54	14.5	36.44
6.0	35.90	15.0	36.24
6.5	36.85	15.5	35.92
7.0	36.55	16.0	35.53
7.5	35.31	16.5	35.29
8.0	33.57	17.0	34.96
8.5	33.36	17.5	34.02
9.0	35.01	18.0	33.39
9.5	35.97	18.5	32.70

COM-POWER AH-118

DOUBLE RIDGE HORN ANTENNA

S/N: 10073

CALIBRATION DATE: JULY 17, 2006

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	25.331	10.0	42.391
1.5	27.507	10.5	39.194
2.0	31.581	11.0	38.504
2.5	30.906	11.5	40.724
3.0	30.276	12.0	41.079
3.5	30.396	12.5	41.014
4.0	30.881	13.0	41.201
4.5	32.77	13.5	42.335
5.0	34.067	14.0	43.248
5.5	33.914	14.5	45.639
6.0	34.028	15.0	43.197
6.5	35.779	15.5	41.751
7.0	38.347	16.0	42.462
7.5	39.096	16.5	41.908
8.0	39.377	17.0	40.277
8.5	38.646	17.5	48.117
9.0	37.438	18.0	54.113
9.5	38.403		

COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

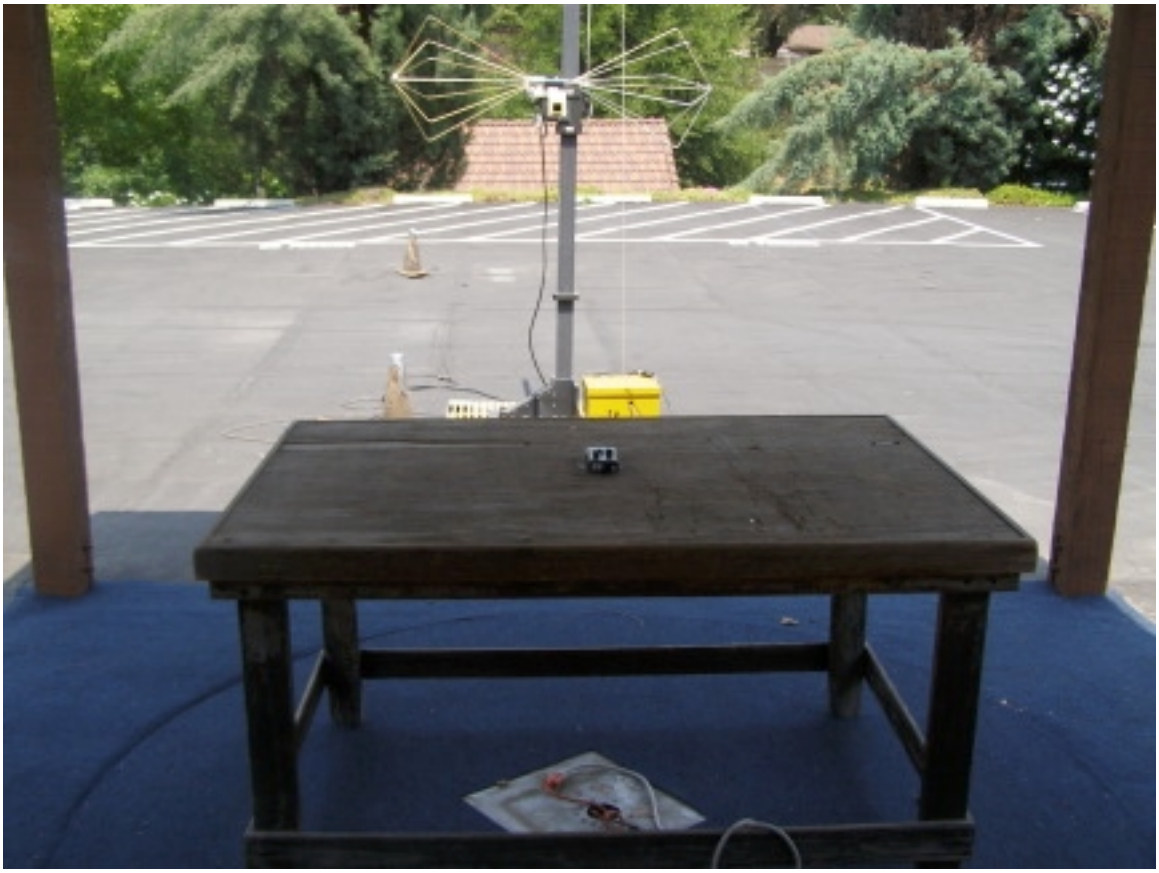
CALIBRATION DATE: SEPTEMBER 24, 2007

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-41.27	10.23
0.01	-41.96	9.54
0.02	-41.73	9.77
0.05	-42.0	9.5
0.07	-41.5	10.0
0.1	-41.43	10.07
0.2	-43.9	7.9
0.3	-41.43	10.07
0.5	-41.40	10.1
0.7	-41.13	10.37
1	-40.83	10.67
2	-40.30	11.20
3	-40.60	10.90
4	-41.00	10.50
5	-40.20	11.30
10	-40.40	11.10
15	-41.67	9.83
20	-41.10	10.40
25	-42.80	8.70
30	-42.80	8.70

FRONT VIEW

CosmoLogic SYSTEMS
StellaCam WIRELESS CONTROLLER
MODEL: SWC-A
FCC SUBPART B AND C – RADIATED EMISSIONS – STAND ALONE MODE

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

CosmoLogic SYSTEMS
StellaCam WIRELESS CONTROLLER
MODEL: SWC-A
FCC SUBPART B AND C – RADIATED EMISSIONS – STAND ALONE MODE

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

CosmoLogic SYSTEMS
StellaCam WIRELESS CONTROLLER
MODEL: SWC-A
FCC SUBPART B AND C – RADIATED EMISSIONS – RS232 AND AC MODE

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

CosmoLogic SYSTEMS
StellaCam WIRELESS CONTROLLER
MODEL: SWC-A
FCC SUBPART B AND C – RADIATED EMISSIONS – RS232 AND AC MODE

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

CosmoLogic SYSTEMS
StellaCam WIRELESS CONTROLLER
MODEL: SWC-A
FCC SUBPART B AND C – CONDUCTED EMISSIONS – EUT TO LISN

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

CosmoLogic SYSTEMS
StellaCam WIRELESS CONTROLLER
MODEL: SWC-A
FCC SUBPART B AND C – CONDUCTED EMISSIONS – EUT TO LISN

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.231 (e)

CosmoLogic Systems
StellaCam Wireless Controller
Model: SWC-A

Date: 06/20/08
Labs: A and B
Tested By: Kyle Fujimoto

X-Axis - Stand Alone Mode
Duty Cycle = 32.81%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	62.14	V	92.8	-30.66	Peak	1.25	180	Using
433.92	52.4601	V	72.8	-20.34	Avg	1.25	180	4700_Ohm_Resistor
867.82	34.77	V	72.8	-38.03	Peak	1.65	150	
867.82	25.0901	V	52.8	-27.71	Avg	1.65	150	
1301.76	37.78	V	74	-36.22	Peak	1.19	135	
1301.76	28.1001	V	54	-25.9	Avg	1.19	135	
1735.68	41.55	V	74	-32.45	Peak	1.61	135	
1735.68	31.8701	V	54	-22.13	Avg	1.61	135	
2169.6	46.75	V	72.8	-26.05	Peak	1	135	
2169.6	37.0701	V	52.8	-15.73	Avg	1	135	
2603.52	38.41	V	72.8	-34.39	Peak	1.72	135	
2603.52	28.7301	V	52.8	-24.07	Avg	1.72	135	
3037.44	41.53	V	72.8	-31.27	Peak	1.34	135	
3037.44	31.8501	V	52.8	-20.95	Avg	1.34	135	
3471.36	39.91	V	72.8	-32.89	Peak	1.34	125	
3471.36	30.2301	V	52.8	-22.57	Avg	1.34	125	
3905.28	43.04	V	74	-30.96	Peak	1.97	135	
3905.28	33.3601	V	54	-20.64	Avg	1.97	135	
4333.92	42.26	V	74	-31.74	Peak	1.97	125	
4333.92	32.5801	V	54	-21.42	Avg	1.97	125	

FCC 15.231 (e)

CosmoLogic Systems
StellaCam Wireless Controller
Model: SWC-A

Date: 06/20/08
Labs: A and B
Tested By: Kyle Fujimoto

Y-Axis - Stand Alone Mode
Duty Cycle = 32.81%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	80.04	V	92.8	-12.76	Peak	1.25	150	Using
433.92	70.3601	V	72.8	-2.4399	Avg	1.25	150	4700_Ohm_Resistor
867.82	40.01	V	72.8	-32.79	Peak	1.35	180	
867.82	30.3301	V	52.8	-22.47	Avg	1.35	180	
1301.76	42.51	V	74	-31.49	Peak	1.59	135	
1301.76	32.8301	V	54	-21.17	Avg	1.59	135	
1735.68	46.03	V	74	-27.97	Peak	2.11	135	
1735.68	36.3501	V	54	-17.65	Avg	2.11	135	
2169.6	49.38	V	72.8	-23.42	Peak	2.12	135	
2169.6	39.7001	V	52.8	-13.1	Avg	2.12	135	
2603.52	39.37	V	72.8	-33.43	Peak	2.12	225	
2603.52	29.6901	V	52.8	-23.11	Avg	2.12	225	
3037.44	43.49	V	72.8	-29.31	Peak	2.12	135	
3037.44	33.8101	V	52.8	-18.99	Avg	2.12	135	
3471.36	41.91	V	72.8	-30.89	Peak	1.31	135	
3471.36	32.2301	V	52.8	-20.57	Avg	1.31	135	
3905.28	43.78	V	74	-30.22	Peak	1.34	135	
3905.28	34.1001	V	54	-19.9	Avg	1.34	135	
4333.92	43.22	V	74	-30.78	Peak	1.35	150	
4333.92	33.5401	V	54	-20.46	Avg	1.35	150	

FCC 15.231 (e)

CosmoLogic Systems
StellaCam Wireless Controller
Model: SWC-A

Date: 06/20/08
Labs: A and B
Tested By: Kyle Fujimoto

Z-Axis - Stand Alone Mode
Duty Cycle = 32.81%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	71.74	V	92.8	-21.06	Peak	1.5	135	Using
433.92	62.0601	V	72.8	-10.74	Avg	1.5	135	4700_Ohm_Resistor
867.82	41.67	V	72.8	-31.13	Peak	1.25	150	
867.82	31.9901	V	52.8	-20.81	Avg	1.25	150	
1301.76	43.27	V	74	-30.73	Peak	1.77	125	
1301.76	33.5901	V	54	-20.41	Avg	1.77	125	
1735.68	45.98	V	74	-28.02	Peak	1.81	135	
1735.68	36.3001	V	54	-17.7	Avg	1.81	135	
2169.6	48.24	V	72.8	-24.56	Peak	1.79	135	
2169.6	38.5601	V	52.8	-14.24	Avg	1.79	135	
2603.52	39.07	V	72.8	-33.73	Peak	1.79	125	
2603.52	29.3901	V	52.8	-23.41	Avg	1.79	125	
3037.44	42.98	V	72.8	-29.82	Peak	1.15	135	
3037.44	33.3001	V	52.8	-19.5	Avg	1.15	135	
3471.36	42.41	V	72.8	-30.39	Peak	1.73	125	
3471.36	32.7301	V	52.8	-20.07	Avg	1.73	125	
3905.28	43.92	V	74	-30.08	Peak	2.06	135	
3905.28	34.2401	V	54	-19.76	Avg	2.06	135	
4333.92	41.91	V	74	-32.09	Peak	1.64	135	
4333.92	32.2301	V	54	-21.77	Avg	1.64	135	

FCC 15.231 (e)

CosmoLogic Systems
StellaCam Wireless Controller
Model: SWC-A

Date: 06/20/08
Labs: A and B
Tested By: Kyle Fujimoto

X-Axis - Stand Alone Mode
Duty Cycle = 32.81%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	81.99	H	92.8	-10.81	Peak	1	90	Using
433.92	72.3101	H	72.8	-0.4899	Avg	1	90	4700_Ohm_Resistor
867.82	47.37	H	72.8	-25.43	Peak	1	135	
867.82	37.6901	H	52.8	-15.11	Avg	1	135	
1301.76	41.07	H	74	-32.93	Peak	1	135	
1301.76	31.3901	H	54	-22.61	Avg	1	135	
1735.68	47.13	H	74	-26.87	Peak	2.18	135	
1735.68	37.4501	H	54	-16.55	Avg	2.18	135	
2169.6	51.68	H	72.8	-21.12	Peak	1	135	
2169.6	42.0001	H	52.8	-10.8	Avg	1	135	
2603.52	39.97	H	72.8	-32.83	Peak	2.04	180	
2603.52	30.2901	H	52.8	-22.51	Avg	2.04	180	
3037.44	42.49	H	72.8	-30.31	Peak	1.66	135	
3037.44	32.8101	H	52.8	-19.99	Avg	1.66	135	
3471.36	41.91	H	72.8	-30.89	Peak	1.48	150	
3471.36	32.2301	H	52.8	-20.57	Avg	1.48	150	
3905.28	45.37	H	74	-28.63	Peak	1.49	150	
3905.28	35.6901	H	54	-18.31	Avg	1.49	150	
4333.92	41.02	H	74	-32.98	Peak	1.49	150	
4333.92	31.3401	H	54	-22.66	Avg	1.49	150	

FCC 15.231 (e)

CosmoLogic Systems
StellaCam Wireless Controller
Model: SWC-A

Date: 06/20/08
Labs: A and B
Tested By: Kyle Fujimoto

Y-Axis - Stand Alone Mode
Duty Cycle = 32.81%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	67.24	H	92.8	-25.56	Peak	1.25	135	Using
433.92	57.5601	H	72.8	-15.24	Avg	1.25	135	4700_Ohm_Resistor
867.82	34.87	H	72.8	-37.93	Peak	1	135	
867.82	25.1901	H	52.8	-27.61	Avg	1	135	
1301.76	38.65	H	74	-35.35	Peak	1.21	135	
1301.76	28.9701	H	54	-25.03	Avg	1.21	135	
1735.68	43.47	H	74	-30.53	Peak	1.95	180	
1735.68	33.7901	H	54	-20.21	Avg	1.95	180	
2169.6	52.71	H	72.8	-20.09	Peak	1.38	135	
2169.6	43.0301	H	52.8	-9.7699	Avg	1.38	135	
2603.52	36.23	H	72.8	-36.57	Peak	1.11	150	
2603.52	26.5501	H	52.8	-26.25	Avg	1.11	150	
3037.44	43.33	H	72.8	-29.47	Peak	1.43	135	
3037.44	33.6501	H	52.8	-19.15	Avg	1.43	135	
3471.36	40.25	H	72.8	-32.55	Peak	1.25	135	
3471.36	30.5701	H	52.8	-22.23	Avg	1.25	135	
3905.28	44.29	H	74	-29.71	Peak	1	225	
3905.28	34.6101	H	54	-19.39	Avg	1	225	
4333.92	44.81	H	74	-29.19	Peak	1.83	135	
4333.92	35.1301	H	54	-18.87	Avg	1.83	135	

FCC 15.231 (e)

CosmoLogic Systems
StellaCam Wireless Controller
Model: SWC-A

Date: 06/20/08
Labs: A and B
Tested By: Kyle Fujimoto

Z-Axis - Stand Alone Mode
Duty Cycle = 32.81%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	81.24	H	92.8	-11.56	Peak	1.5	180	Using
433.92	71.5601	H	72.8	-1.2399	Avg	1.5	180	4700_Ohm_Resistor
867.82	39.3	H	72.8	-33.5	Peak	1	150	
867.82	29.6201	H	52.8	-23.18	Avg	1	150	
1301.76	38.91	H	74	-35.09	Peak	1.76	180	
1301.76	29.2301	H	54	-24.77	Avg	1.76	180	
1735.68	42.41	H	74	-31.59	Peak	1.031	135	
1735.68	32.7301	H	54	-21.27	Avg	1.031	135	
2169.6	44.41	H	72.8	-28.39	Peak	1.41	225	
2169.6	34.7301	H	52.8	-18.07	Avg	1.41	225	
2603.52	40.29	H	72.8	-32.51	Peak	1.38	150	
2603.52	30.6101	H	52.8	-22.19	Avg	1.38	150	
3037.44	43.09	H	72.8	-29.71	Peak	1.93	135	
3037.44	33.4101	H	52.8	-19.39	Avg	1.93	135	
3471.36	42.51	H	72.8	-30.29	Peak	1.24	135	
3471.36	32.8301	H	52.8	-19.97	Avg	1.24	135	
3905.28	45.31	H	74	-28.69	Peak	2.03	135	
3905.28	35.6301	H	54	-18.37	Avg	2.03	135	
4333.92	42.67	H	74	-31.33	Peak	1.71	225	
4333.92	32.9901	H	54	-21.01	Avg	1.71	225	

FCC 15.231 (e)

CosmoLogic Systems
StellaCam Wireless Controller
Model: SWC-A

Date: 06/20/08
Labs: A and B
Tested By: Kyle Fujimoto

X-Axis - RS232 Mode with AC Power
Duty Cycle = 32.81%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	73.18	V	92.8	-19.62	Peak	1	180	Using
433.92	63.5001	V	72.8	-9.2999	Avg	1	180	4700_Ohm_Resistor
867.82	37.27	V	72.8	-35.53	Peak	1	225	
867.82	27.5901	V	52.8	-25.21	Avg	1	225	
1301.76	41.14	V	74	-32.86	Peak	1.31	125	
1301.76	31.4601	V	54	-22.54	Avg	1.31	125	
1735.68	47.61	V	74	-26.39	Peak	1.35	150	
1735.68	37.9301	V	54	-16.07	Avg	1.35	150	
2169.6	50.01	V	72.8	-22.79	Peak	1.84	125	
2169.6	40.3301	V	52.8	-12.47	Avg	1.84	125	
2603.52	39.41	V	72.8	-33.39	Peak	1.23	135	
2603.52	29.7301	V	52.8	-23.07	Avg	1.23	135	
3037.44	42.27	V	72.8	-30.53	Peak	1.75	135	
3037.44	32.5901	V	52.8	-20.21	Avg	1.75	135	
3471.36	40.86	V	72.8	-31.94	Peak	1.75	125	
3471.36	31.1801	V	52.8	-21.62	Avg	1.75	125	
3905.28	43.81	V	74	-30.19	Peak	1.48	90	
3905.28	34.1301	V	54	-19.87	Avg	1.48	90	
4333.92	41.34	V	74	-32.66	Peak	1.49	150	
4333.92	31.6601	V	54	-22.34	Avg	1.49	150	

FCC 15.231 (e)

CosmoLogic Systems
StellaCam Wireless Controller
Model: SWC-A

Date: 06/20/08
Labs: A and B
Tested By: Kyle Fujimoto

Y-Axis - RS232 Mode with AC Power
Duty Cycle = 32.81%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	78.84	V	92.8	-13.96	Peak	1	180	Using
433.92	69.1601	V	72.8	-3.6399	Avg	1	180	4700_Ohm_Resistor
867.82	37.27	V	72.8	-35.53	Peak	1	225	
867.82	27.5901	V	52.8	-25.21	Avg	1	225	
1301.76	41.11	V	74	-32.89	Peak	1.25	135	
1301.76	31.4301	V	54	-22.57	Avg	1.25	135	
1735.68	46.62	V	74	-27.38	Peak	2.01	90	
1735.68	36.9401	V	54	-17.06	Avg	2.01	90	
2169.6	50.13	V	72.8	-22.67	Peak	1.69	135	
2169.6	40.4501	V	52.8	-12.35	Avg	1.69	135	
2603.52	40.44	V	72.8	-32.36	Peak	1.44	125	
2603.52	30.7601	V	52.8	-22.04	Avg	1.44	125	
3037.44	42.06	V	72.8	-30.74	Peak	1.15	135	
3037.44	32.3801	V	52.8	-20.42	Avg	1.15	135	
3471.36	41.88	V	72.8	-30.92	Peak	1.85	125	
3471.36	32.2001	V	52.8	-20.6	Avg	1.85	125	
3905.28	44.41	V	74	-29.59	Peak	1.27	135	
3905.28	34.7301	V	54	-19.27	Avg	1.27	135	
4333.92	41.49	V	74	-32.51	Peak	1.27	150	
4333.92	31.8101	V	54	-22.19	Avg	1.27	150	

FCC 15.231 (e)

CosmoLogic Systems
StellaCam Wireless Controller
Model: SWC-A

Date: 06/20/08
Labs: A and B
Tested By: Kyle Fujimoto

Z-Axis - RS232 Mode with AC Power
Duty Cycle = 32.81%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	73.94	V	92.8	-18.86	Peak	1	180	Using
433.92	64.2601	V	72.8	-8.5399	Avg	1	180	4700_Ohm_Resistor
867.82	37.27	V	72.8	-35.53	Peak	1	225	
867.82	27.5901	V	52.8	-25.21	Avg	1	225	
1301.76	43.26	V	74	-30.74	Peak	2.42	135	
1301.76	33.5801	V	54	-20.42	Avg	2.42	135	
1735.68	47.83	V	74	-26.17	Peak	1.22	135	
1735.68	38.1501	V	54	-15.85	Avg	1.22	135	
2169.6	52.33	V	72.8	-20.47	Peak	1.69	180	
2169.6	42.6501	V	52.8	-10.15	Avg	1.69	180	
2603.52	41.38	V	72.8	-31.42	Peak	1.69	150	
2603.52	31.7001	V	52.8	-21.1	Avg	1.69	150	
3037.44	41.93	V	72.8	-30.87	Peak	2.01	225	
3037.44	32.2501	V	52.8	-20.55	Avg	2.01	225	
3471.36	41.07	V	72.8	-31.73	Peak	1.58	135	
3471.36	31.3901	V	52.8	-21.41	Avg	1.58	135	
3905.28	45.28	V	74	-28.72	Peak	1.84	135	
3905.28	35.6001	V	54	-18.4	Avg	1.84	135	
4333.92	42.47	V	74	-31.53	Peak	1.51	135	
4333.92	32.7901	V	54	-21.21	Avg	1.51	135	

FCC 15.231 (e)

CosmoLogic Systems
StellaCam Wireless Controller
Model: SWC-A

Date: 06/20/08
Labs: A and B
Tested By: Kyle Fujimoto

X-Axis - RS232 Mode with AC Power
Duty Cycle = 32.81%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	79.44	H	92.8	-13.36	Peak	1.25	150	Using
433.92	69.7601	H	72.8	-3.0399	Avg	1.25	150	4700_Ohm_Resistor
867.82	37.67	H	72.8	-35.13	Peak	1.25	180	
867.82	27.9901	H	52.8	-24.81	Avg	1.25	180	
1301.76	41.89	H	74	-32.11	Peak	2.08	135	
1301.76	32.2101	H	54	-21.79	Avg	2.08	135	
1735.68	48.34	H	74	-25.66	Peak	2.03	135	
1735.68	38.6601	H	54	-15.34	Avg	2.03	135	
2169.6	51.03	H	72.8	-21.77	Peak	1.98	125	
2169.6	41.3501	H	52.8	-11.45	Avg	1.98	125	
2603.52	40.26	H	72.8	-32.54	Peak	1.98	125	
2603.52	30.5801	H	52.8	-22.22	Avg	1.98	125	
3037.44	43.57	H	72.8	-29.23	Peak	1.55	125	
3037.44	33.8901	H	52.8	-18.91	Avg	1.55	125	
3471.36	44.07	H	72.8	-28.73	Peak	1	180	
3471.36	34.3901	H	52.8	-18.41	Avg	1	180	
3905.28	44.63	H	74	-29.37	Peak	1.48	225	
3905.28	34.9501	H	54	-19.05	Avg	1.48	225	
4333.92	44.08	H	74	-29.92	Peak	1.48	125	
4333.92	34.4001	H	54	-19.6	Avg	1.48	125	

FCC 15.231 (e)

CosmoLogic Systems
StellaCam Wireless Controller
Model: SWC-A

Date: 06/20/08
Labs: A and B
Tested By: Kyle Fujimoto

Y-Axis - RS232 Mode with AC Power
Duty Cycle = 32.81%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	70.26	H	92.8	-22.54	Peak	1.25	150	Using
433.92	60.5801	H	72.8	-12.22	Avg	1.25	150	4700_Ohm_Resistor
867.82	37.67	H	72.8	-35.13	Peak	1.25	180	
867.82	27.9901	H	52.8	-24.81	Avg	1.25	180	
1301.76	42.76	H	74	-31.24	Peak	1.24	180	
1301.76	33.0801	H	54	-20.92	Avg	1.24	180	
1735.68	48.81	H	74	-25.19	Peak	1.24	135	
1735.68	39.1301	H	54	-14.87	Avg	1.24	135	
2169.6	53.77	H	72.8	-19.03	Peak	1.31	180	
2169.6	44.0901	H	52.8	-8.7099	Avg	1.31	180	
2603.52	39.32	H	72.8	-33.48	Peak	1.31	225	
2603.52	29.6401	H	52.8	-23.16	Avg	1.31	225	
3037.44	42.86	H	72.8	-29.94	Peak	1.76	135	
3037.44	33.1801	H	52.8	-19.62	Avg	1.76	135	
3471.36	41.71	H	72.8	-31.09	Peak	1.76	125	
3471.36	32.0301	H	52.8	-20.77	Avg	1.76	125	
3905.28	45.48	H	74	-28.52	Peak	1.14	125	
3905.28	35.8001	H	54	-18.2	Avg	1.14	125	
4333.92	42.66	H	74	-31.34	Peak	1.14	150	
4333.92	32.9801	H	54	-21.02	Avg	1.14	150	

FCC 15.231 (e)

CosmoLogic Systems
StellaCam Wireless Controller
Model: SWC-A

Date: 06/20/08
Labs: A and B
Tested By: Kyle Fujimoto

Z-Axis - RS232 Mode with AC Power
Duty Cycle = 32.81%

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	79.14	H	92.8	-13.66	Peak	1.25	150	Using
433.92	69.4601	H	72.8	-3.3399	Avg	1.25	150	4700_Ohm_Resistor
867.82	37.67	H	72.8	-35.13	Peak	1.25	180	
867.82	27.9901	H	52.8	-24.81	Avg	1.25	180	
1301.76	39.14	H	74	-34.86	Peak	1	135	
1301.76	29.4601	H	54	-24.54	Avg	1	135	
1735.68	42.21	H	74	-31.79	Peak	1	135	
1735.68	32.5301	H	54	-21.47	Avg	1	135	
2169.6	47.12	H	72.8	-25.68	Peak	1.69	150	
2169.6	37.4401	H	52.8	-15.36	Avg	1.69	150	
2603.52	39.78	H	72.8	-33.02	Peak	1.74	135	
2603.52	30.1001	H	52.8	-22.7	Avg	1.74	135	
3037.44	42.37	H	72.8	-30.43	Peak	1.69	150	
3037.44	32.6901	H	52.8	-20.11	Avg	1.69	150	
3471.36	41.87	H	72.8	-30.93	Peak	1.74	135	
3471.36	32.1901	H	52.8	-20.61	Avg	1.74	135	
3905.28	44.03	H	74	-29.97	Peak	2.02	135	
3905.28	34.3501	H	54	-19.65	Avg	2.02	135	
4333.92	42.88	H	74	-31.12	Peak	1.65	135	
4333.92	33.2001	H	54	-20.8	Avg	1.65	135	

FCC 15.231 (e) and FCC Class B

CosmoLogic Systems
StellaCam Wireless Controller
Model: SWC-A

Date: 06/20/08
Labs: A and B
Tested By: Kyle Fujimoto

Transmit Mode (Stand Alone Mode and RS232 Mode with AC Power)
Duty Cycle = 32.81%
Digital Portion and Non-Harmonic Emissions from the Tx
1000 MHz to 4400 MHz - Vertical and Horizontal Polarization

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Emissions Detected
								from the Digital Portion
								from 1000 MHz to 4400 MHz
								No Emissions Detected
								from the Non_Harmonic
								Emissions from the Tx
								from 1000 MHz to 4400 MHz

Test Location : Compatible Electronics
Customer : CosmoLogic Systems
Manufacturer : CosmoLogic Systems
Eut name : StellaCam Wireless Controller
Model : SWC-A
Serial # : N/A
Specification : FCC B

Page : 1/1
Date : 6/24/2008
Time : 14:30:54
Lab : A
Test Distance : 3 Meters

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

Test Mode : Radiated Emissions Test - Transmit Mode
Test Range: 10kHz to 1GHz - RS232 and AC Mode
Tested Engineer: James Ross

Pol	Freq MHz	Rdng dBuV	Cable loss dB	Ant factor dB	Amp gain dB	Cor'd rdg = R dBuV	Limit = L dBuV/m	Delta R-L dB
V	44.312	58.70	1.40	9.78	32.75	37.14	40.00	-2.86
V	44.312Qp	57.76	1.40	9.78	32.75	36.20	40.00	-3.80
V	210.104	45.90	3.03	16.29	32.62	32.60	43.50	-10.90
V	33.228	57.80	1.27	10.38	32.83	36.62	40.00	-3.38
V	55.359	59.10	1.57	10.24	32.86	38.05	40.00	-1.95
V	55.350Qp	58.16	1.57	10.24	32.86	37.11	40.00	-2.89
V	87.546	63.20	1.95	6.66	32.75	39.07	40.00	-0.93
V	87.547Qp	61.45	1.95	6.66	32.75	37.32	40.00	-2.68
V	88.558	63.50	1.97	6.72	32.73	39.46	43.50	-4.04
V	110.660	55.40	2.19	12.27	32.85	37.01	43.50	-6.49
V	243.439	47.90	3.42	14.77	32.65	33.45	46.00	-12.55
H	114.600	54.30	2.22	12.84	32.86	36.50	43.50	-7.00
H	143.235	57.60	2.45	11.89	32.68	39.26	43.50	-4.24
V	243.468	47.20	3.42	14.77	32.65	32.75	46.00	-13.25
H	157.558	51.30	2.63	12.24	32.63	33.54	43.50	-9.96
V	119.728	73.20	2.26	13.56	32.88	56.14	43.50	12.64
H	171.865	49.10	2.85	14.36	32.69	33.63	43.50	-9.87
H	186.169	45.00	2.90	16.05	32.70	31.25	43.50	-12.25
V	300.057	50.20	3.70	15.20	32.40	36.70	46.00	-9.30
V	400.023	54.10	4.60	15.40	32.20	41.90	46.00	-4.10
V	499.983	53.10	5.40	17.00	32.10	43.40	46.00	-2.60
V	499.987Qp	52.08	5.40	17.00	32.10	42.38	46.00	-3.62
V	517.812	49.40	5.51	17.40	31.99	40.32	46.00	-5.68
H	300.074	54.40	3.70	15.20	32.40	40.90	46.00	-5.10
H	400.007	52.40	4.60	15.40	32.20	40.20	46.00	-5.80
H	517.850	48.90	5.51	17.40	31.99	39.82	46.00	-6.18

Test Location : Compatible Electronics Page : 1/1
Customer : CosmoLogic Systems Date : 6/24/2008
Manufacturer : CosmoLogic Systems Time : 11:27:23
Eut name : StellaCam Wireless Controller Lab : A
Model : SWC-A Test Distance : 3 Meters
Serial # :
Specification : FCC B
Distance correction factor (20 * log(test/spec) : 0.00
Test Mode : Radiated Emissions Test-Standalone_Mode
Test Range: 10kHz to 1GHz

Tested By: Michael_Christensen

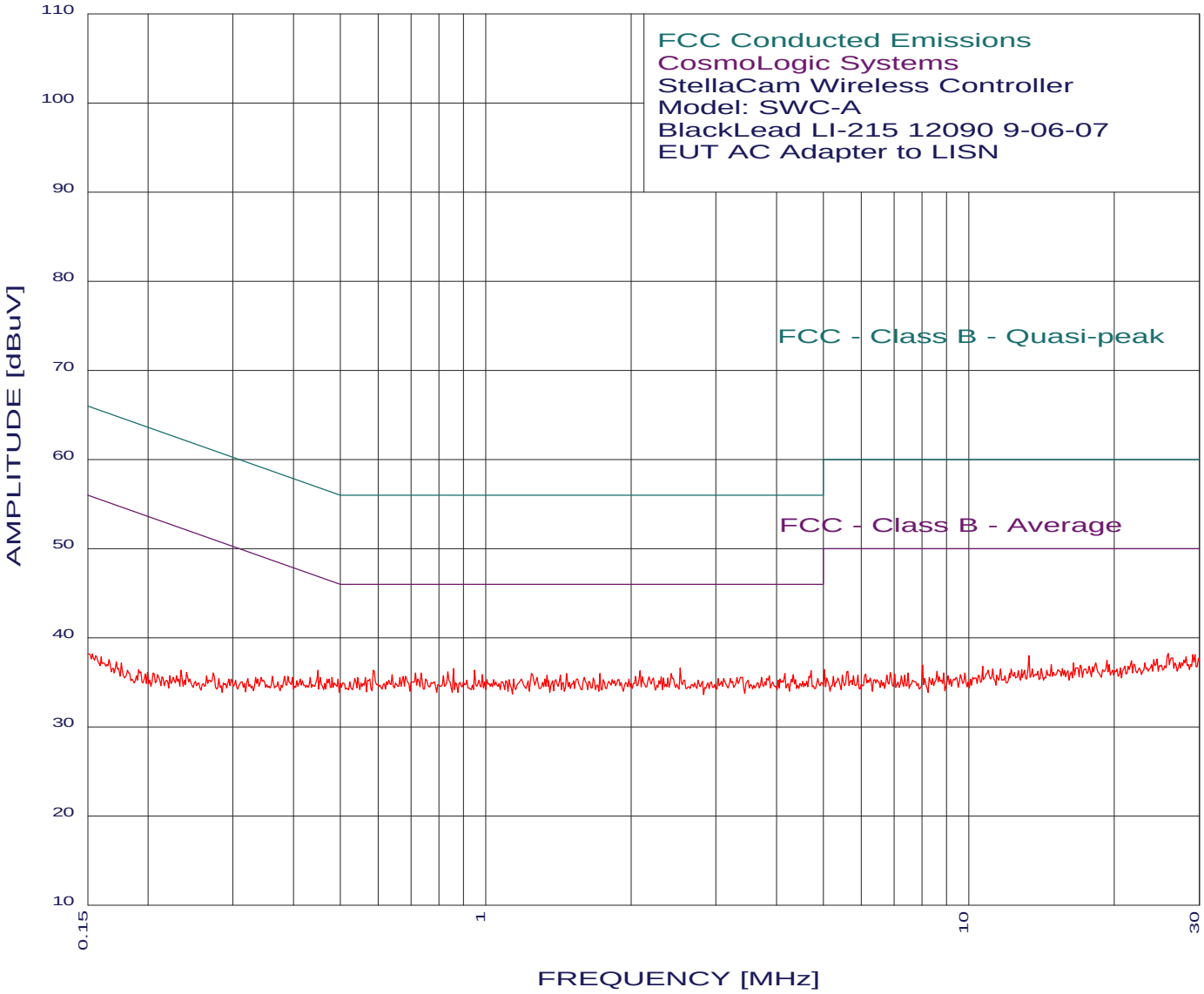
Pol	Freq	Rdng	Cable loss	Ant factor	Amp gain	Cor'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV	dBuV/m	dB

No Spurious emissions found

CONDUCTED EMISSIONS

DATA SHEETS

EMISSION LEVEL [dBuV] PEAK 6/23/2008 8:18:41
Graph forPeak



COMPATIBLE ELECTRONICS

COMPATIBLE ELECTRONICS

6/23/2008 8:18:41

CosmoLogic, Systems, Inc.
StellaCam Wireless Controller
Model: SWC-A - EUT AC Adapter to LISN
FCC Class B - Black Lead
TEST ENGINEER : Kyle Fujimoto

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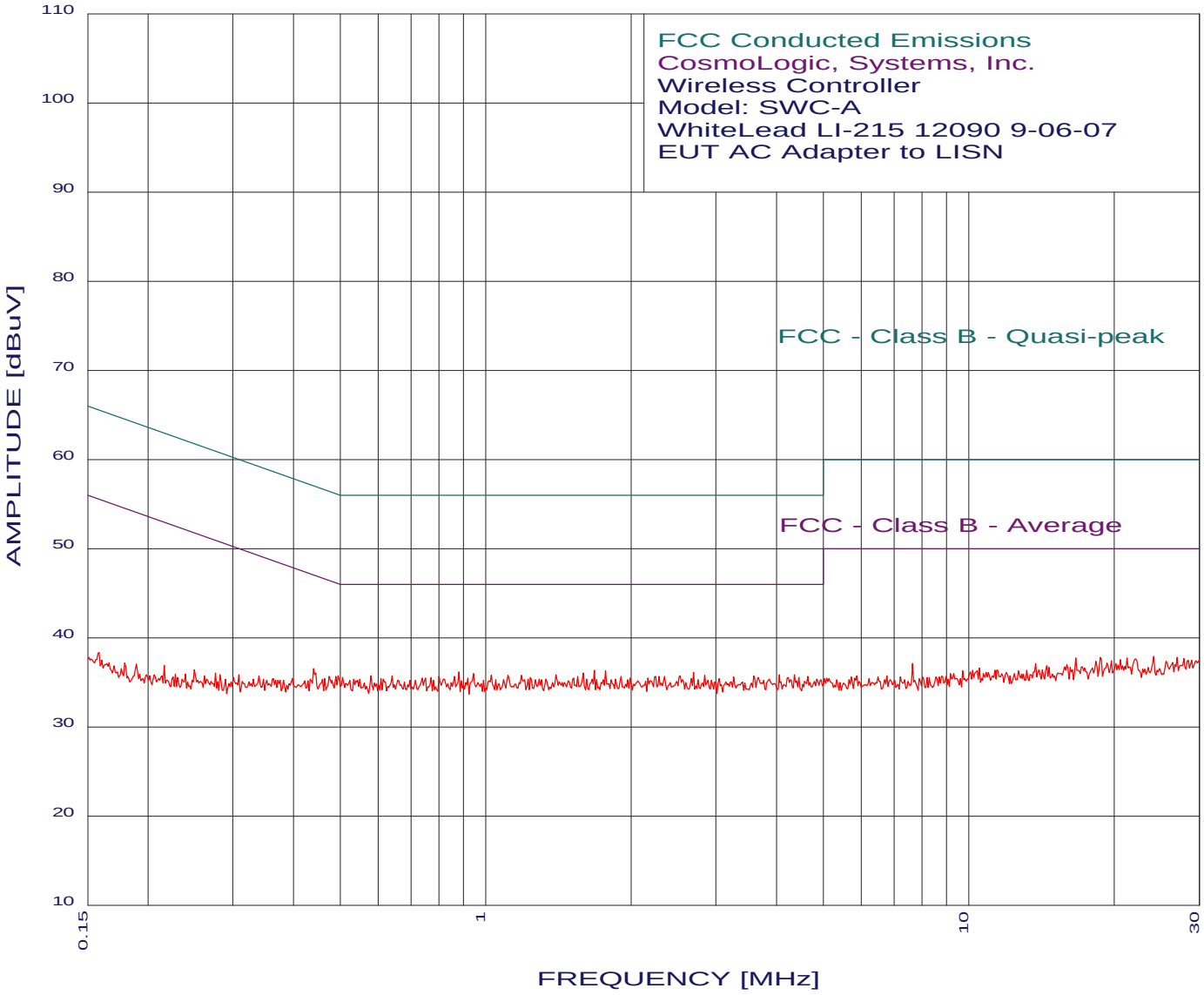
48 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	2.527	36.59	46.00	-9.41
2	0.858	36.54	46.00	-9.46
3	0.948	36.35	46.00	-9.65
4	0.586	36.33	46.00	-9.67
5	2.089	36.27	46.00	-9.73
6	4.722	36.27	46.00	-9.73
7	0.835	36.14	46.00	-9.86
8	0.735	36.04	46.00	-9.96
9	0.716	36.04	46.00	-9.96
10	2.423	35.99	46.00	-10.01
11	1.726	35.96	46.00	-10.04
12	1.472	35.96	46.00	-10.04
13	1.243	35.95	46.00	-10.05
14	4.159	35.95	46.00	-10.05
15	4.339	35.86	46.00	-10.14
16	0.984	35.85	46.00	-10.15
17	0.641	35.84	46.00	-10.16
18	1.426	35.76	46.00	-10.24
19	1.338	35.76	46.00	-10.24
20	0.818	35.74	46.00	-10.26
21	3.862	35.74	46.00	-10.26
22	2.044	35.67	46.00	-10.33
23	0.683	35.64	46.00	-10.36
24	0.676	35.64	46.00	-10.36
25	2.310	35.58	46.00	-10.42
26	2.179	35.58	46.00	-10.42
27	2.111	35.57	46.00	-10.43
28	1.603	35.56	46.00	-10.44
29	0.564	35.53	46.00	-10.47
30	0.544	35.53	46.00	-10.47
31	3.401	35.52	46.00	-10.48
32	2.384	35.48	46.00	-10.52
33	1.671	35.46	46.00	-10.54
34	0.449	36.33	46.89	-10.56
35	0.535	35.43	46.00	-10.57
36	3.107	35.41	46.00	-10.59
37	1.981	35.37	46.00	-10.63
38	1.552	35.36	46.00	-10.64
39	1.184	35.35	46.00	-10.65
40	1.142	35.35	46.00	-10.65
41	0.751	35.34	46.00	-10.66
42	0.577	35.33	46.00	-10.67
43	1.889	35.27	46.00	-10.73
44	1.118	35.25	46.00	-10.75
45	1.038	35.25	46.00	-10.75
46	0.914	35.25	46.00	-10.75
47	0.481	35.53	46.32	-10.79
48	1.374	35.16	46.00	-10.84

EMISSION LEVEL [dBuV] PEAK 6/23/2008 8:26:12

Graph forPeak



COMPATIBLE ELECTRONICS

COMPATIBLE ELECTRONICS

6/23/2008 8:26:12

CosmoLogic, Systems, Inc.
Wireless Controller
Model: SWC-A - EUT AC Adapter to LISN
FCC Class B - White Lead
TEST ENGINEER : Kyle Fujimoto

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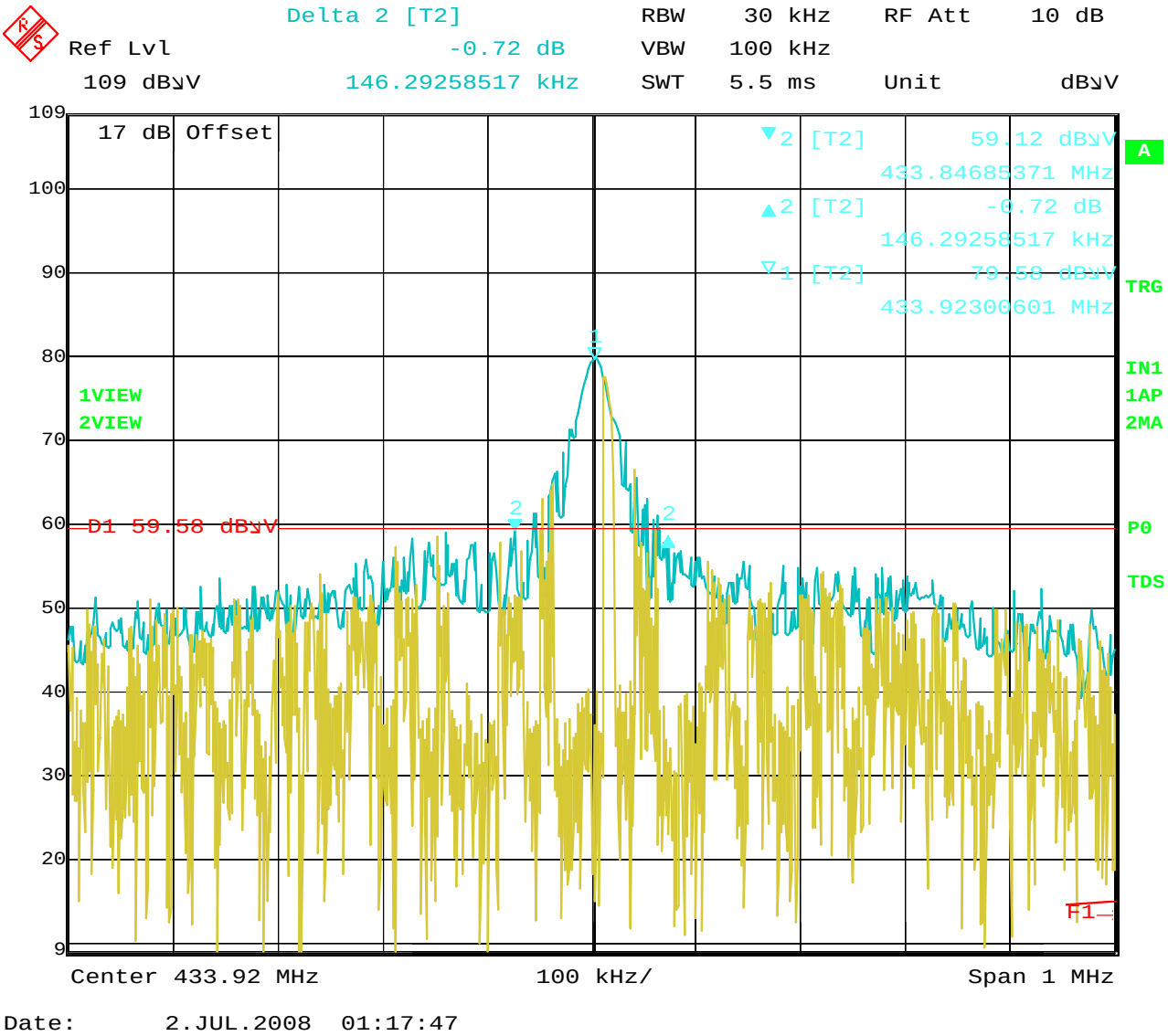
48 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	1.680	36.36	46.00	-9.64
2	1.772	36.27	46.00	-9.73
3	0.881	36.15	46.00	-9.85
4	2.693	36.10	46.00	-9.90
5	1.594	36.06	46.00	-9.94
6	0.944	35.95	46.00	-10.05
7	1.397	35.86	46.00	-10.14
8	4.361	35.86	46.00	-10.14
9	4.050	35.85	46.00	-10.15
10	2.840	35.80	46.00	-10.20
11	1.184	35.75	46.00	-10.25
12	1.112	35.75	46.00	-10.25
13	1.027	35.75	46.00	-10.25
14	0.641	35.74	46.00	-10.26
15	0.580	35.73	46.00	-10.27
16	3.585	35.73	46.00	-10.27
17	2.527	35.69	46.00	-10.31
18	2.346	35.68	46.00	-10.32
19	2.286	35.68	46.00	-10.32
20	2.250	35.68	46.00	-10.32
21	1.908	35.67	46.00	-10.33
22	4.648	35.67	46.00	-10.33
23	1.552	35.66	46.00	-10.34
24	0.862	35.64	46.00	-10.36
25	0.801	35.64	46.00	-10.36
26	0.494	35.73	46.09	-10.36
27	3.260	35.62	46.00	-10.38
28	4.456	35.56	46.00	-10.44
29	1.236	35.55	46.00	-10.45
30	4.227	35.55	46.00	-10.45
31	0.771	35.54	46.00	-10.46
32	3.663	35.53	46.00	-10.47
33	0.505	35.53	46.00	-10.47
34	1.992	35.47	46.00	-10.53
35	0.440	36.53	47.06	-10.53
36	0.919	35.45	46.00	-10.55
37	0.751	35.44	46.00	-10.56
38	0.608	35.43	46.00	-10.57
39	3.043	35.41	46.00	-10.59
40	1.859	35.37	46.00	-10.63
41	1.620	35.36	46.00	-10.64
42	1.331	35.36	46.00	-10.64
43	1.290	35.36	46.00	-10.64
44	1.223	35.35	46.00	-10.65
45	3.862	35.34	46.00	-10.66
46	0.614	35.33	46.00	-10.67
47	0.550	35.33	46.00	-10.67
48	1.699	35.26	46.00	-10.74

-20 dB BANDWIDTH

DATA SHEET



Date: 2.JUL.2008 01:17:47

Bandwidth 20 dB of the Fundamental