

*FCC PART 15, SUBPART C
TEST REPORT*

for

LINE CAST AUTO FM

MODEL: F8M120

Prepared for

BELKIN INTERNATIONAL, INC.
12045 EAST WATERFRONT DRIVE
PLAYA VISTA, CA 90094

Prepared by: _____

MATT HARRISON

Approved by: _____

JOSH HANSEN

COMPATIBLE ELECTRONICS INC.
20621 Pascal Way
LAKE FOREST, CA 92630
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DATE: MAY 9th 2010

	REPORT BODY	APPENDICES					TOTAL
		<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	
PAGES	16	2	2	2	6	17	45

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1	Plot Map And Layout of 3 Meter Radiated Site

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: Line Cast Auto FM
Model: F8M120

Product Description: See Expository Statement

Modifications: The EUT was not modified.

Manufacturer: BELKIN INTERNATIONAL, INC.
12045 East Waterfront Drive
Playa Vista, CA 90094

Test Date: May 6, 2011

Test Specifications: CFR Title 47, Part 15 Subpart C, Sections 15.205, 15.209 and 15.239

Test Procedure: ANSI C63.10: 2009

Test Deviations: The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Radiated RF Emissions, 10 kHz – 30 MHz & 30 - 1080 MHz	Complies with the limits of CFR Title 47, Part 15, Subpart C, section 15.205, 15.209, 15.239, and 15.239.
2	-20 dB Bandwidth of the Fundamental	Complies with the limits of CFR Title 47, Part 15, Subpart C, section 15.239.
3	Peak Radiated EMI	Complies with the limits of CFR Title 47, Part 15, Subpart C, section 15.239.
4	Restricted Bands and Band Edges	Complies with the limits of CFR Title 47, Part 15, Subpart C, section 15.205, and 15.239.

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Line Cast Auto FM Model: F8M120. The EMI measurements were performed according to the measurement procedure described in ANSI C63.10. 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 specification limits defined by CFR Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.239.



2. ADMINISTRATIVE DATA

2.1 Location of Testing

The EMI tests described herein were performed at the test facility of Compatible Electronics, 20621 Pascal Way, Lake Forest, California 92630.

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

Belkin International, inc.

Daniel Weseby Compliance Engineer

Compatible Electronics, Inc.

Matt Harrison	Test Technician
Joey Madlangbayan	Test Engineer
Josh Hansen	Lab Manager
Jeff Klinger	Director of Engineering

2.4 Date Test Sample was Received

The test sample was received on May 6, 2010.

2.5 Disposition of the Test Sample

The sample has not yet been returned to Belkin International, Inc. as of May 2011.

2.6 Abbreviations and Acronyms

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

RF	Radio Frequency
CLA	Cigar Lighter Adaptor
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 C63.10 2009	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 Line Cast Auto FM Model: F8M120 (EUT) was connected to an Apple iPod via a 3.5mm audio jack. 12v DC was supplied via the EUT's integral CLA (Cigarette Lighter Adaptor), which was connected to a CLA socket receptacle, which in turn was connected to a 12v battery. The EUT was receiving audio from the iPod and transmitting the audio in the FM band. The iPod and the music being played was provided by the customer, the song was Linkin Park "Don't Stay" at maximum amplitude. The EUT's transmit antenna was soldered to the Radio PCB of the EUT, which is contained behind the display.

The low, middle, and high channels were investigated in each mode of operation and the X, Y, and Z axis were investigated and the worst case orientation is represented.

The cables were moved to maximize the emissions. The final radiated and conducted data was taken in the above mode of operation. All initial investigations were performed with the EMI Receiver scanning the frequency range continuously.

4.1.1 Cable Construction and Termination

Cable 1

This is a 2.3-meter (EUT to iPod) 1.6m (EUT to CLA) unshielded Y-cable connecting the EUT to the CLA and iPod. It is hardwired into the EUT and the CLA. It has a 3-ring Phone Jack Connector at the iPod end. The cable was bundled to 1 meter from the EUT to the CLA.



5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT
5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIALNUMBER	FCC ID
LINE CAST AUTO FM (EUT)	BELKIN INTERNATIONAL, INC.	F8M120	N/A	K7SF8M120
iPod	Apple	A1238	8M736071Y5N	N/A
12v Battery	N/A	N/A	N/A	N/A

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
GENERAL TEST EQUIPMENT USED FOR ALL RF EMISSIONS TESTS					
Computer	Compatible Electronics	N/A	N/A	N/A	N/A
EMI Receiver	Rohde & Schwarz	ESIB40	100172	1/13/2011	1/13/2013
Monitor	ICS Advent	N/A	N/A	N/A	N/A
RF RADIATED EMISSIONS TEST EQUIPMENT					
CombiLog Antenna	Com-Power	AC-220	003	May. 6, 2010	May. 6, 2012
Loop Antenna	Com-Power	AL-130	17085	January. 26, 2011	January. 1, 2012
Antenna Mast	Sunol Sciences Corporation	TWR 95-4	020808-3	N/A	N/A
Turntable	Sunol Sciences Corporation	FM 2001	N/A	N/A	N/A
Mast and Turntable Controller	Sunol Sciences Corporation	SC104V	020808-1	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, iPod, and Cigarette Lighter Adapter receptacle were mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was placed in the center, and on the back edge of the table, in accordance with ANSI C63.10:2009. The test site receive antenna distance was measured from the closest periphery of the EUT setup. Each accessory was placed 10 cm to either side of the EUT. The battery was placed on the ground, using an 80 cm length of wire to connect to a cigarette lighter adapter receptacle, which was mounted on the table.

The EUT and accessories were investigated for worst case placement; the above yielded the worst case configuration.

The EUT was not grounded.

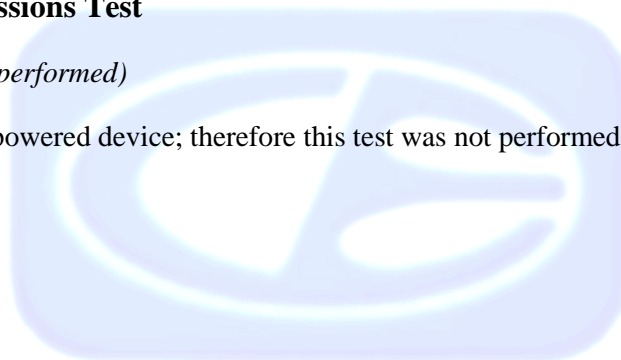
7. TEST PROCEDURES

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

7.1 RF Emissions**7.1.1 Conducted Emissions Test**

(This test was not performed)

The EUT is a DC powered device; therefore this test was not performed.



7.1.2 Radiated Emissions (Spurious and Harmonics) Test

The receiver was used as a measuring meter. The receiver was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the receiver records the highest measured reading over all the sweeps.

The frequencies above 1 GHz and the fundamental for the low, middle, and high channels were investigated with the built in average detector.

The measurement bandwidths and transducers used for the radiated emissions (Spurious) tests were:

No radiated emissions were found below 30MHz

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 1 GHz	120 kHz	CombiLog Antenna
1 GHz to 1.08 GHz	1 MHz	CombiLog Antenna

The Semi-Anechoic test site of Compatible Electronics, Inc, Lab P (Lake Forest), was used for all tests. This test sites are set up according to ANSI C63.10. 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. Final data was collected in the worst case configuration of the EUT (low mid and high channels). 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 loop antenna was also rotated in the horizontal and vertical axis in order to ensure accurate results.

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

The emissions from the EUT were investigated with the EUT while operated on each of three channels, 88.1MHz, 98.1MHz and 107.9MHz. The EUT was receiving a 0 dB encoded file from the audio source. This file represents maximum audio input level. 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 15.239. There were no emissions found below 30MHz

7.1.4 Peak radiated EMI

The EUT was tested at a 3-meter test distance to obtain the final test data. The EUT was maximized to determine worst case. The EUT was receiving a 0 dB encoded file from the audio source. This file represents maximum audio input level. The resolution bandwidth was 100 kHz and video bandwidth 300 kHz. The final qualification data sheets are located in Appendix E. This data also shows compliance at the band edges.

Test Results:

The EUT complies with CFR Title 47 Part 15, Subpart C, Section 15.239.

7.2 Bandwidth of the Fundamental

The -20 dB bandwidth was checked using the EMI Receiver and a near field probe to see that the emissions were wholly within the 200 kHz band centered on the operating frequency. The RBW was set to 10 kHz and the VBW was set to 30 kHz. The low mid and high channels were investigated. Plots of the -20 dB bandwidth are located in Appendix E.

Test Results:

The EUT complies with the requirements of CFR Title 47, Part 15, Subpart C, section 15.239 (a) for the -20 dB bandwidth of the fundamental. The EUT has a -20 dB bandwidth that is wholly within the 200 kHz band centered on the operating frequency.

7.3 Restricted Bands and Band Edges

The band edges were checked using the EMI Receiver to see that the emissions was wholly within the permitted operating frequency range. The RBW was set to 100 kHz and the VBW was set to 300 kHz. The low and high band edges were investigated with the transmitter tuned to the lowest and highest channels respectively. Data of the band edges are located in Appendix E.

Test Results:

The EUT band edges comply with the requirements of CFR Title 47, Part 15, Subpart C, section 15.209 and 15.239 (c). The EUT emissions are wholly within the permitted operating frequency range.

8. CONCLUSIONS

The Line Cast Auto FM Model: F8M120 meets all of the 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, 15.209, and 15.239 for the transmitter portion.



APPENDIX A

LABORATORY RECOGNITIONS

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400

LABORATORY RECOGNITIONS

Compatible Electronics has the following agency accreditations:

National Voluntary Laboratory Accreditation Program - Lab Code: 200527-0

Voluntary Control Council for Interference - Registration Numbers: R-2848, C-3142, T-1450

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:

Industry Canada
Site Number: 2154C-1

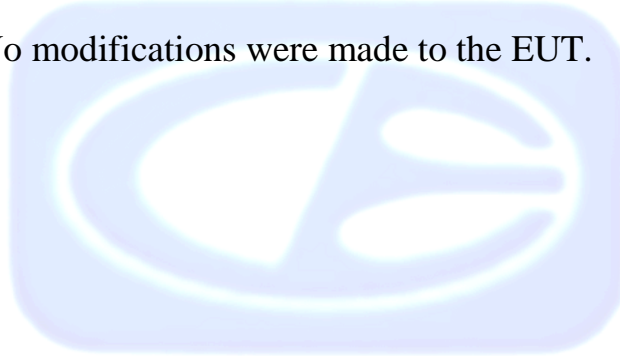


APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

No modifications were made to the EUT.





APPENDIX C

***ADDITIONAL MODELS COVERED
UNDER THIS REPORT***

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

Line Cast Auto FM
Model: F8M120
S/N: None

Additional Model Numbers:

NO ADDITIONAL MODELS



APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: PLOT MAP AND LAYOUT OF RADIATED TEST SITE

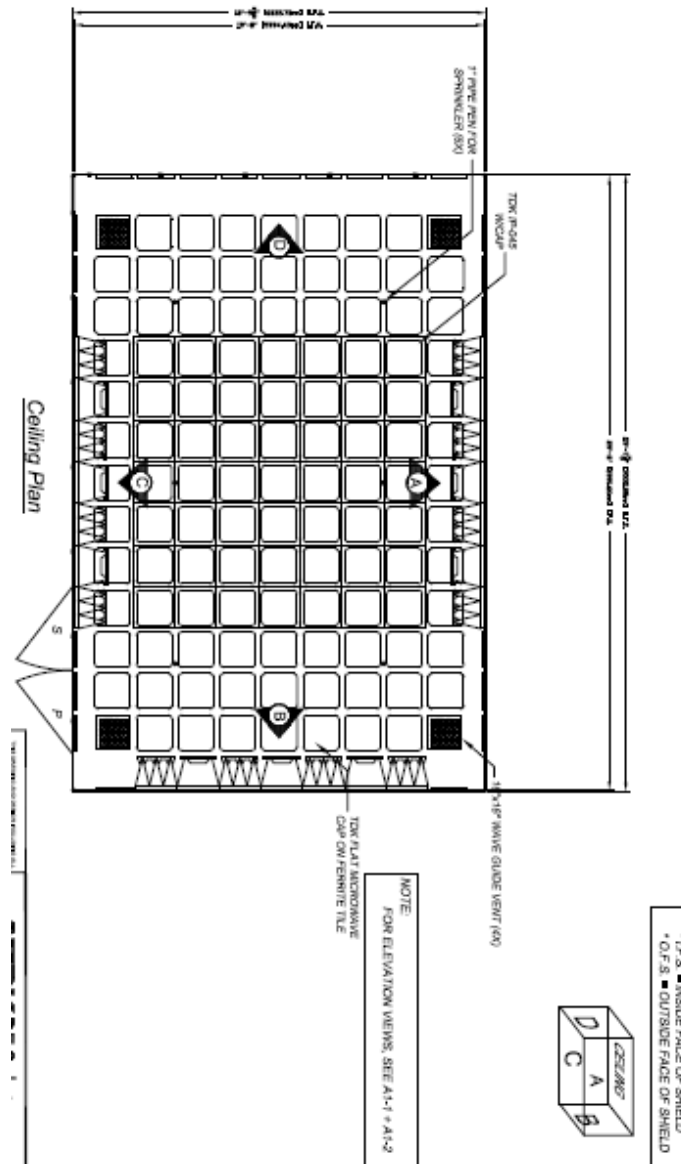


Figure ITDK FAC-3 test chamber

COM-POWER AC-220**COMBILOG ANTENNA**

S/N: 003

CALIBRATION DATE: MAY 6, 2010

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
20.0	22.1	180.0	9.8
25.0	21.3	200.0	10.4
30.0	20.6	250.0	13.1
35.0	20.4	275.0	13.2
40.0	19.3	300.0	14.3
45.0	17.8	400.0	16.0
50.0	16.5	500.0	18.3
60.0	15.1	600.0	19.2
70.0	7.4	700.0	20.5
80.0	8.0	800.0	21.5
90.0	9.3	900.0	23.4
100.0	9.8	1000.0	23.4
120.0	10.6	1200.0	23.3
125.0	11.5	1400.0	23.8
140.0	10.3	1600.0	24.5
150.0	12.6	1800.0	26.9
160.0	10.2	2000.0	28.0
175.0	9.7		

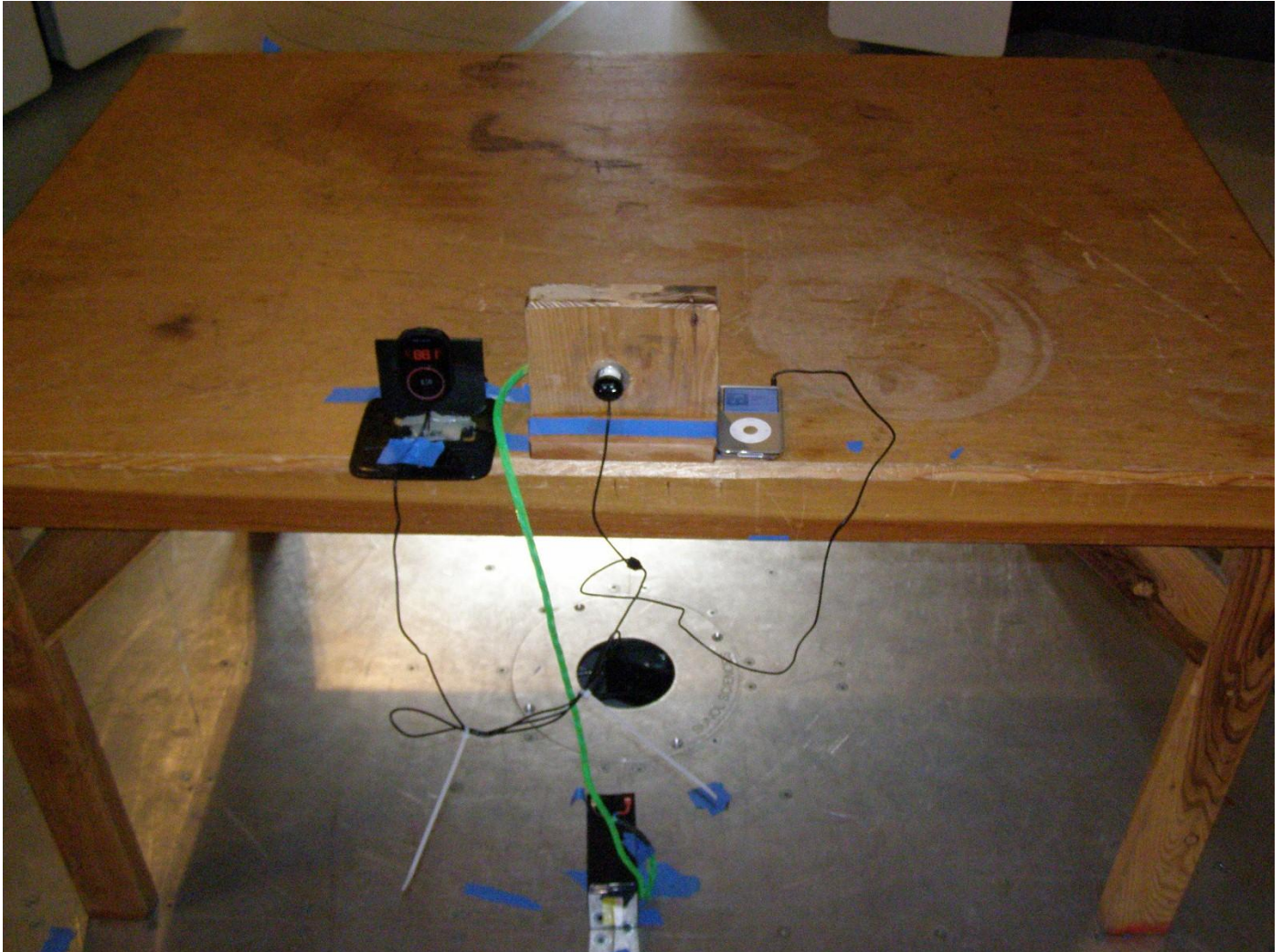
COM-POWER AL-130

LOOP ANTENNA

S/N: 17085

CALIBRATION DATE: 1/26/2011

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)	FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-41.14	10.36	0.8	-40.91	10.59
0.01	-40.98	10.52	0.9	-40.80	10.70
0.02	-40.87	10.63	1	-40.81	10.69
0.03	-40.13	11.37	2	-40.51	10.99
0.04	-40.42	11.08	3	-40.54	10.96
0.05	-41.06	10.44	4	-40.44	11.06
0.06	-41.07	10.43	5	-40.32	11.18
0.07	-41.12	10.38	6	-40.69	10.81
0.08	-41.03	10.47	7	-40.37	11.13
0.09	-41.04	10.46	8	-39.99	11.51
0.1	-41.26	10.24	9	-40.00	11.50
0.2	-41.23	10.27	10	-40.08	11.42
0.3	-41.26	10.24	15	-42.36	9.14
0.4	-41.14	10.36	20	-38.75	12.75
0.5	-41.24	10.26	25	-40.70	10.80
0.6	-41.22	10.28	30	-41.09	10.41
0.7	-41.12	10.38			



BACK VIEW

BELKIN INTERNATIONAL, INC.
LINE CAST AUTO FM
MODEL: F8M120
FCC SUBPART B AND C – RADIATED SPURIOUS EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

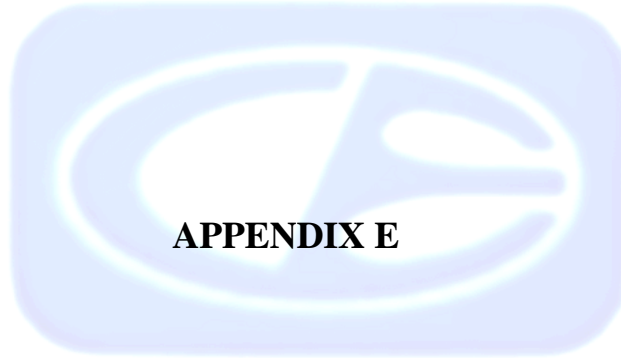


FRONT VIEW

BELKIN INTERNATIONAL, INC.
LINE CAST AUTO FM
MODEL: F8M120

FCC SUBPART B AND C – RADIATED SPURIOUS EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**



DATA SHEETS



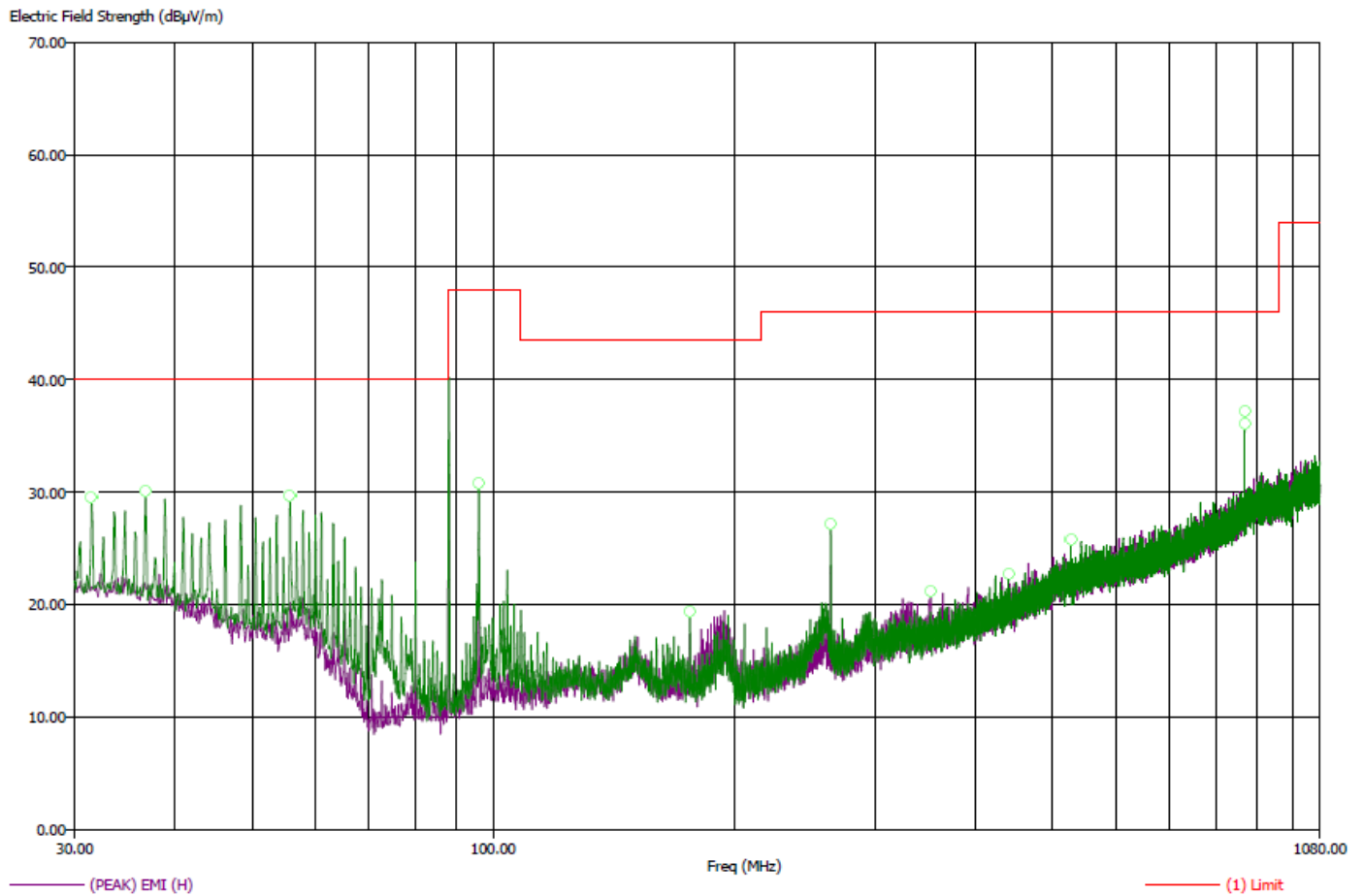
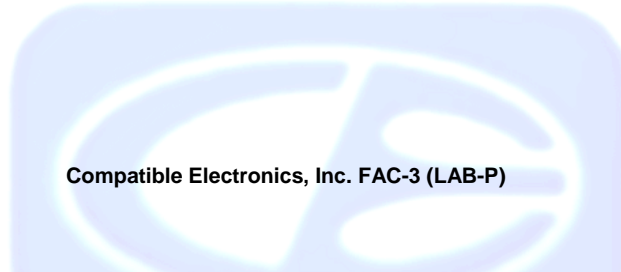
RADIATED EMISSIONS

SPURIOUS AND HARMONICS

DATA SHEETS

Title: FCC 15.239
File: Radiated Pre-scan 30-1080Mhz 88-1.set
Operator: Matt Harrison
EUT Type: Line Cast Auto FM (F8M120)
EUT Condition: Song played: Linkin Park "Don't Stay" 0dB encode rate
Comments: EUT Orientation: Y Axis
EUT Fundamental: 88.1 MHz (LOW)
Temp: 75F
Hum: 64%

5/6/2011 12:25:39 PM
Sequence: Preliminary Scan



Note: No radiated emissions found below 30MHz

Title: FCC 15.239
File: Radiated Final 30-1080Mhz 88-1.set
Operator: Matt Harrison
EUT Type: Line Cast Auto FM (F8M120)
EUT Condition: Song played: Linkin Park "Don't Stay" 0dB encode rate
Comments: EUT Orientation: Y Axis
EUT Fundamental: 88.1 MHz (LOW)
Temp: 75F
Hum: 64%

5/6/2011 12:56:14 PM

Sequence: Final Measurements

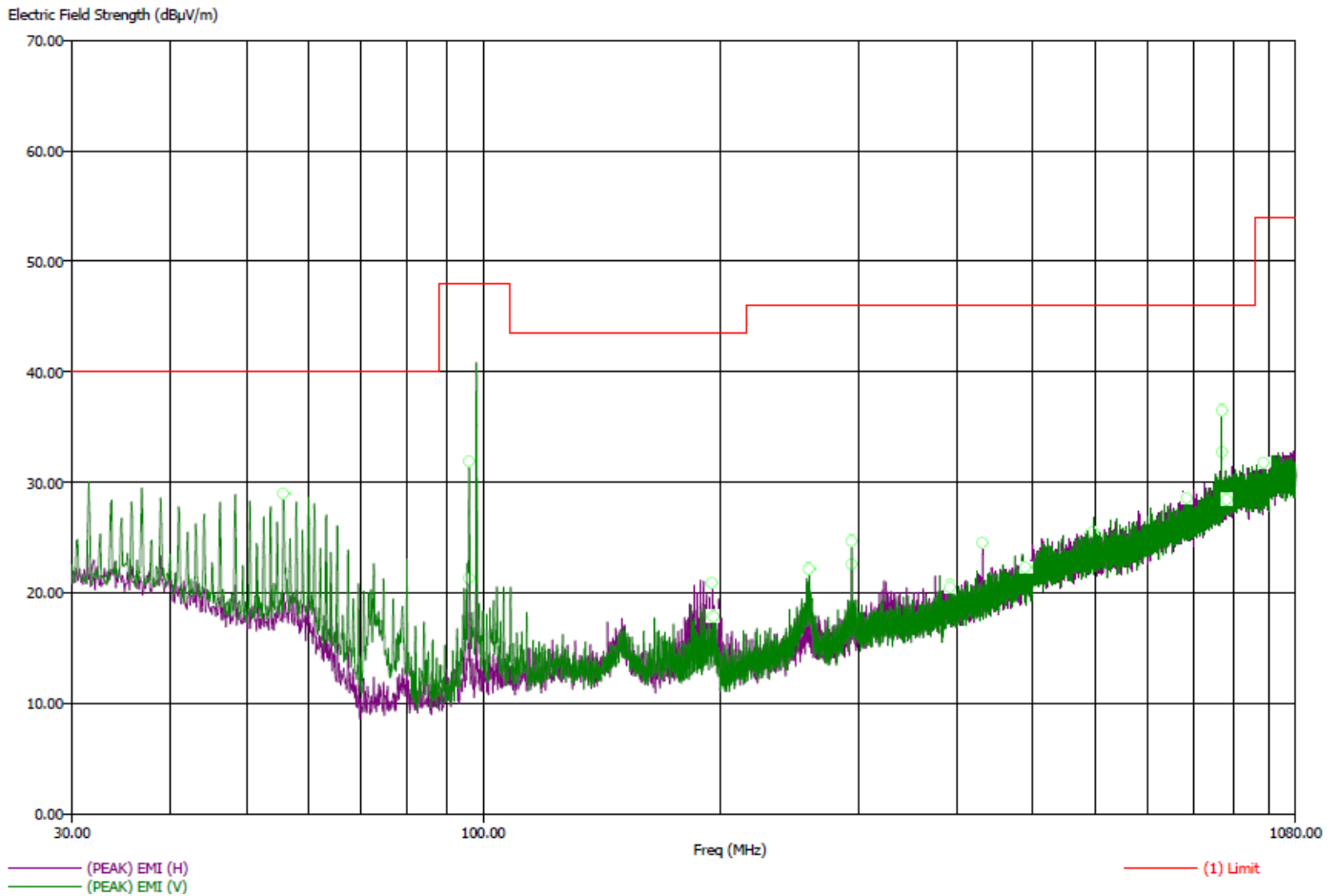
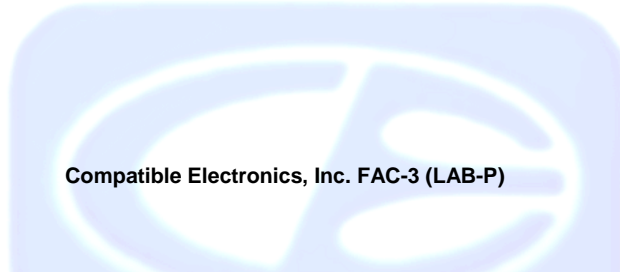

Compatible Electronics, Inc. FAC-3 (LAB-P)

Freq (MHz)	(QP) Margin (dB)	(QP) EMI (dB μ V/m)	(PEAK) EMI (dB μ V/m)	Limit (dB μ V/m)	Pol	Ttbl Agl (deg)	Twr Ht (cm)
31.50	-11.09	28.91	31.21	40.00	V	174.00	126.64
36.80	-11.41	28.59	30.45	40.00	V	168.00	106.82
55.80	-11.50	28.50	30.25	40.00	V	317.75	122.88
96.00	-12.08	31.42	33.68	43.50	V	37.50	304.00
176.20	-24.14	19.36	21.73	43.50	V	190.75	104.23
264.30	-18.95	27.05	29.21	46.00	V	143.25	166.41
352.50	-31.32	14.68	19.48	46.00	H	178.75	153.17
440.70	-22.83	23.17	26.96	46.00	H	223.75	100.05
527.30	-26.68	19.32	24.72	46.00	V	164.00	237.23
869.40	-10.87	35.13	38.00	46.00	H	360.00	256.64
869.40	-10.90	35.10	37.55	46.00	V	22.00	330.35

Note: No radiated emissions found below 30MHz

Title: FCC 15.239
 File: Radiated Pre-scan 30-1080Mhz 98-1.set
 Operator: Matt Harrison
 EUT Type: Line Cast Auto FM (F8M120)
 EUT Condition: Song played: Linkin Park "Don't Stay" 0dB encode rate
 Comments: EUT Orientation: Y Axis
 EUT Fundamental: 98.1 MHz (MID)
 Temp: 75F
 Hum: 64%

5/6/2011 2:06:28 PM
 Sequence: Preliminary Scan



Note: No radiated emissions found below 30MHz

Title: FCC 15.239
 File: Radiated Final 30-1080Mhz 98-1.set
 Operator: Matt Harrison
 EUT Type: Line Cast Auto FM (F8M120)
 EUT Condition: Song played: Linkin Park "Don't Stay" 0dB encode rate
 Comments: EUT Orientation: Y Axis
 EUT Fundamental: 98.1 MHz (MID)
 Temp: 75F
 Hum: 64%

5/6/2011 2:47:00 PM
 Sequence: Final Measurements

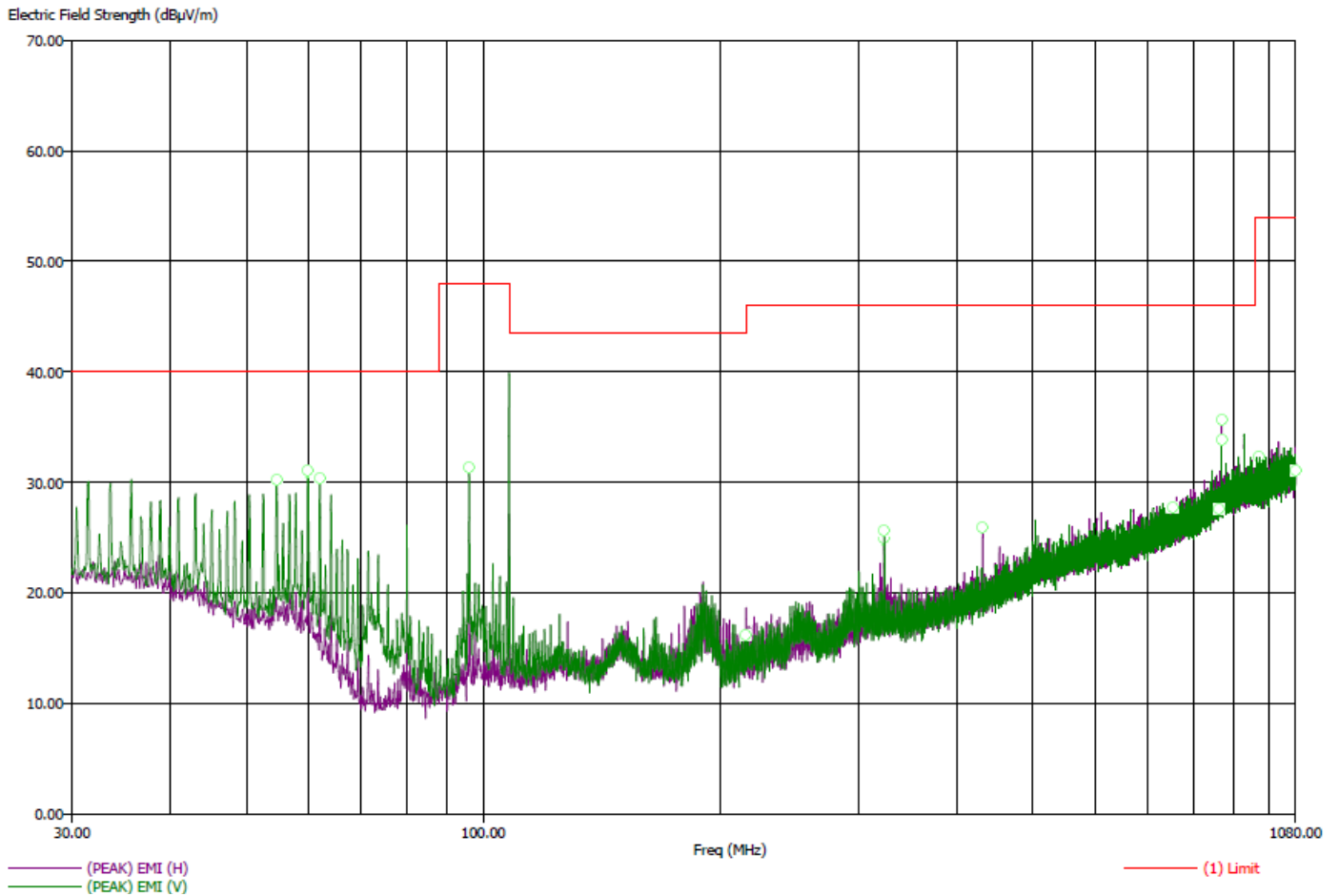
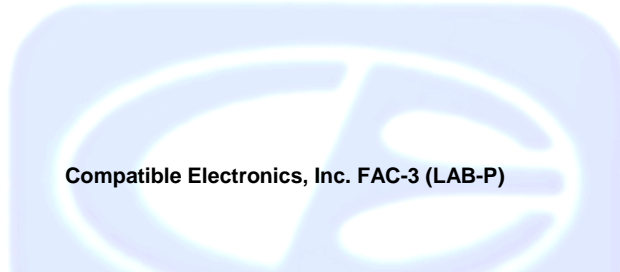
Compatible Electronics, Inc. FAC-3 (LAB-P)

Freq (MHz)	(QP) Margin (dB)	(QP) EMI (dBµV/m)	(PEAK) EMI (dBµV/m)	Limit (dBµV/m)	Pol	Ttbl Agl (deg)	Twr Ht (cm)
55.80	-11.35	28.65	30.64	40.00	V	19.00	99.76
96.00	-22.39	21.11	23.98	43.50	H	-0.75	391.94
96.00	-11.75	31.75	36.51	43.50	V	264.75	309.64
195.80	-25.37	18.13	24.80	43.50	H	192.50	169.94
195.90	-29.81	13.69	20.27	43.50	V	125.75	123.00
260.00	-26.71	19.29	24.20	46.00	V	317.75	104.05
294.40	-22.44	23.56	26.25	46.00	H	250.25	105.70
294.40	-21.99	24.01	26.24	46.00	V	188.25	106.52
392.50	-25.69	20.31	24.30	46.00	H	196.25	104.05
392.50	-30.64	15.36	20.68	46.00	V	360.00	394.88
432.00	-29.43	16.57	21.55	46.00	H	136.25	390.47
490.30	-27.80	18.20	23.16	46.00	V	-0.25	289.35
595.50	-25.56	20.44	26.22	46.00	H	116.50	252.05
686.70	-24.46	21.54	27.51	46.00	H	122.00	368.11
784.90	-22.60	23.40	28.09	46.00	V	24.00	200.52
869.40	-12.70	33.30	37.23	46.00	H	76.25	121.47
869.50	-13.97	32.03	36.65	46.00	V	242.25	237.35
882.90	-20.41	25.59	31.15	46.00	V	283.00	192.76
981.50	-27.63	26.37	31.93	54.00	V	60.25	259.82

Note: No radiated emissions found below 30MHz

Title: FCC 15.239
File: Radiated Pre-scan 30-1080Mhz 107-9.set
Operator: Matt Harrison
EUT Type: Line Cast Auto FM (F8M120)
EUT Condition: Song played: Linkin Park "Don't Stay" 0dB encode rate
Comments: EUT Orientation: Y Axis
EUT Fundamental: 107.9 MHz (HI)
Temp: 75F
Hum: 64%

5/6/2011 5:04:47 PM
Sequence: Preliminary Scan



Note: No radiated emissions found below 30MHz

Title: FCC 15.239
 File: Radiated Final 30-1080Mhz 107.9.set
 Operator: Matt Harrison
 EUT Type: Line Cast Auto FM (F8M120)
 EUT Condition: Song played: Linkin Park "Don't Stay" 0dB encode rate
 Comments: EUT Orientation: Y Axis
 EUT Fundamental: 107.9 MHz (HI)
 Temp: 75F
 Hum: 64%

5/6/2011 5:33:10 PM
 Sequence: Final Measurements

Compatible Electronics, Inc. FAC-3 (LAB-P)

Freq (MHz)	(QP) Margin (dB)	(QP) EMI (dBµV/m)	(PEAK) EMI (dBµV/m)	Limit (dBµV/m)	Pol	Ttbl Agl (deg)	Twr Ht (cm)
54.60	-10.88	29.12	30.73	40.00	V	155.00	107.58
59.90	-9.80	30.20	31.99	40.00	V	151.25	103.58
62.00	-10.69	29.31	30.67	40.00	V	181.25	106.11
96.00	-13.22	30.28	33.30	43.50	V	360.00	303.52
215.80	-30.79	12.71	18.51	43.50	V	182.25	132.05
323.70	-22.35	23.65	27.16	46.00	H	184.75	104.23
324.00	-31.77	14.23	19.26	46.00	V	360.00	196.52
432.10	-28.72	17.28	22.72	46.00	H	201.25	129.17
539.40	-26.40	19.60	25.19	46.00	H	182.75	173.94
647.40	-24.96	21.04	26.31	46.00	H	298.00	150.88
755.40	-23.08	22.92	28.25	46.00	V	234.00	199.76
863.20	-20.88	25.12	30.44	46.00	V	55.75	300.23
869.50	-14.68	31.32	34.93	46.00	H	178.25	353.76
869.50	-14.05	31.95	35.78	46.00	V	193.00	124.00
971.80	-27.69	26.31	31.51	54.00	H	1.75	144.00
1079.00	-26.14	27.86	32.98	54.00	V	294.25	342.23

Note: No radiated emissions found below 30MHz



-20 dB BANDWIDTH

DATA SHEETS

Title: FCC 15.239 Occupied Bandwidth
Operator: Matt Harrison
EUT Type: Line Cast Auto FM (F8M120)
EUT Condition: Song played: Linkin Park "Don't Stay" 0dB encode
Comments: Y axis
Temp: 75f
Hum: 64%

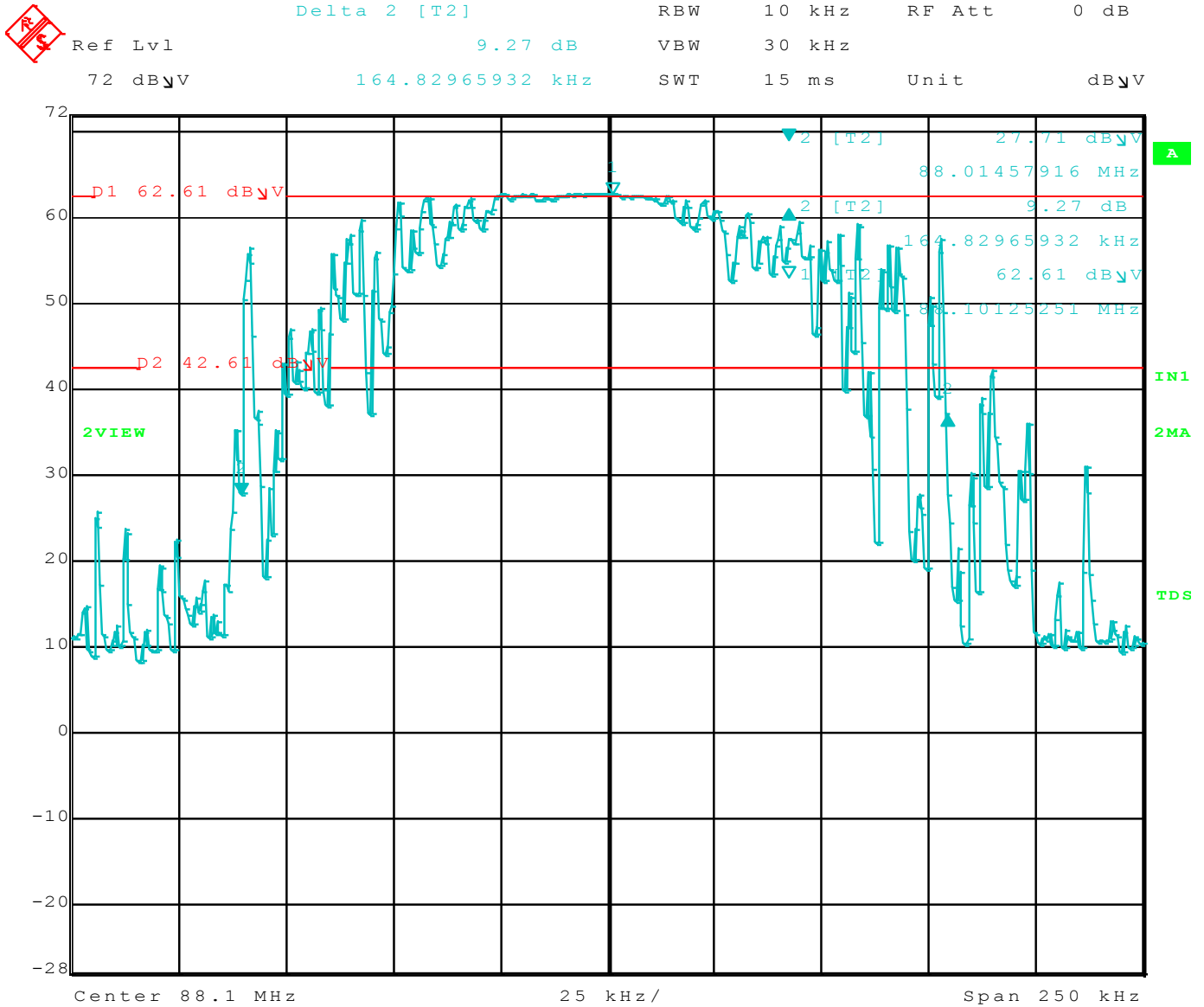
5/6/2011
Final Measurements



Compatible Electronics, Inc. FAC- 3 (LAB P)

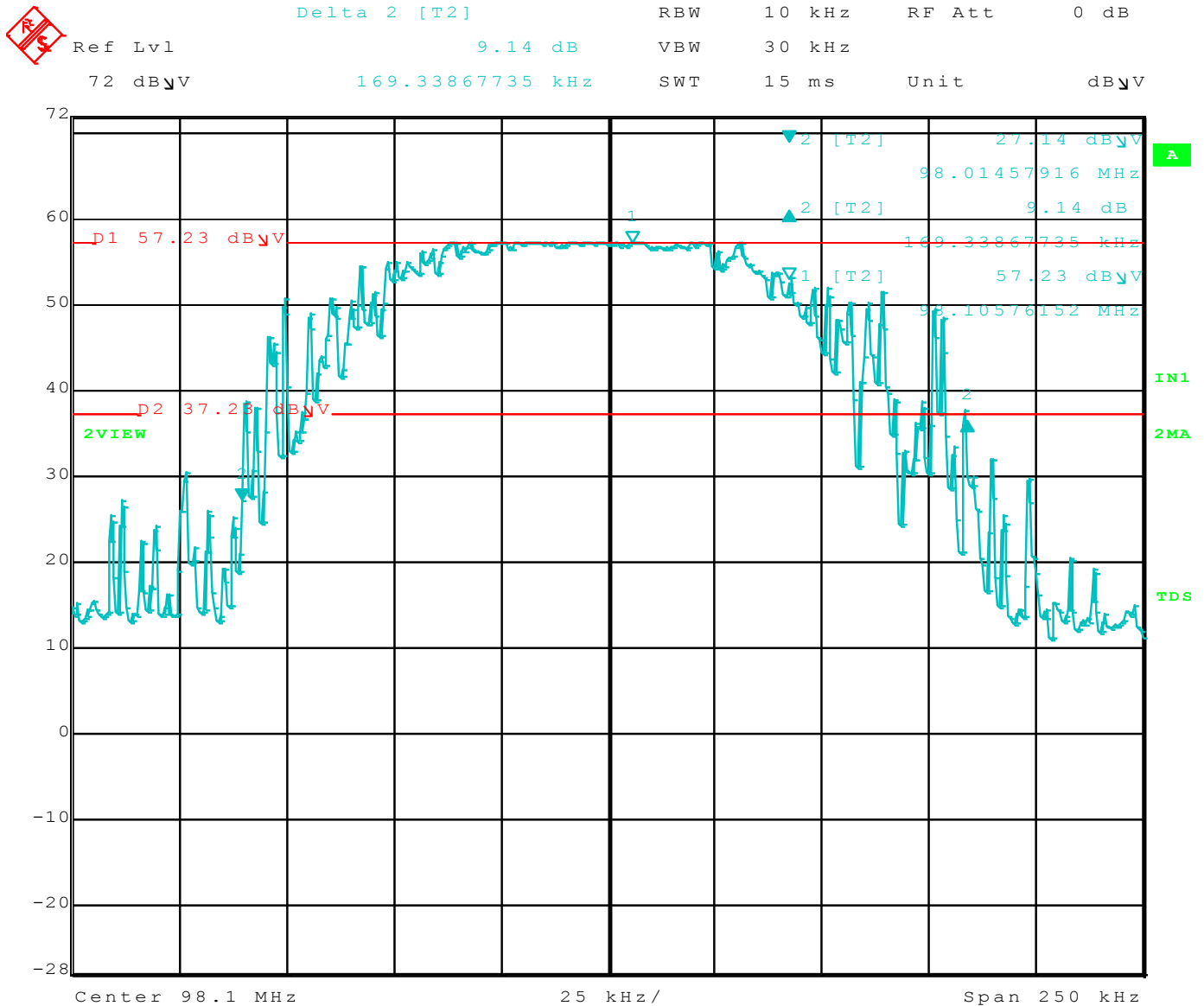
Freq (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Margin (kHz)
88.1	164.82	200	-35.18
98.1	169.33	200	-30.67
107.9	195.89	200	-4.11

Low Channel -20 dB Bandwidth Plot



Title: F8M120US SN2
 Comment A: 88.1MHz 20dB Bandwidth
 Date: 6.MAY.2011 12:13:22

Mid Channel -20 dB Bandwidth Plot

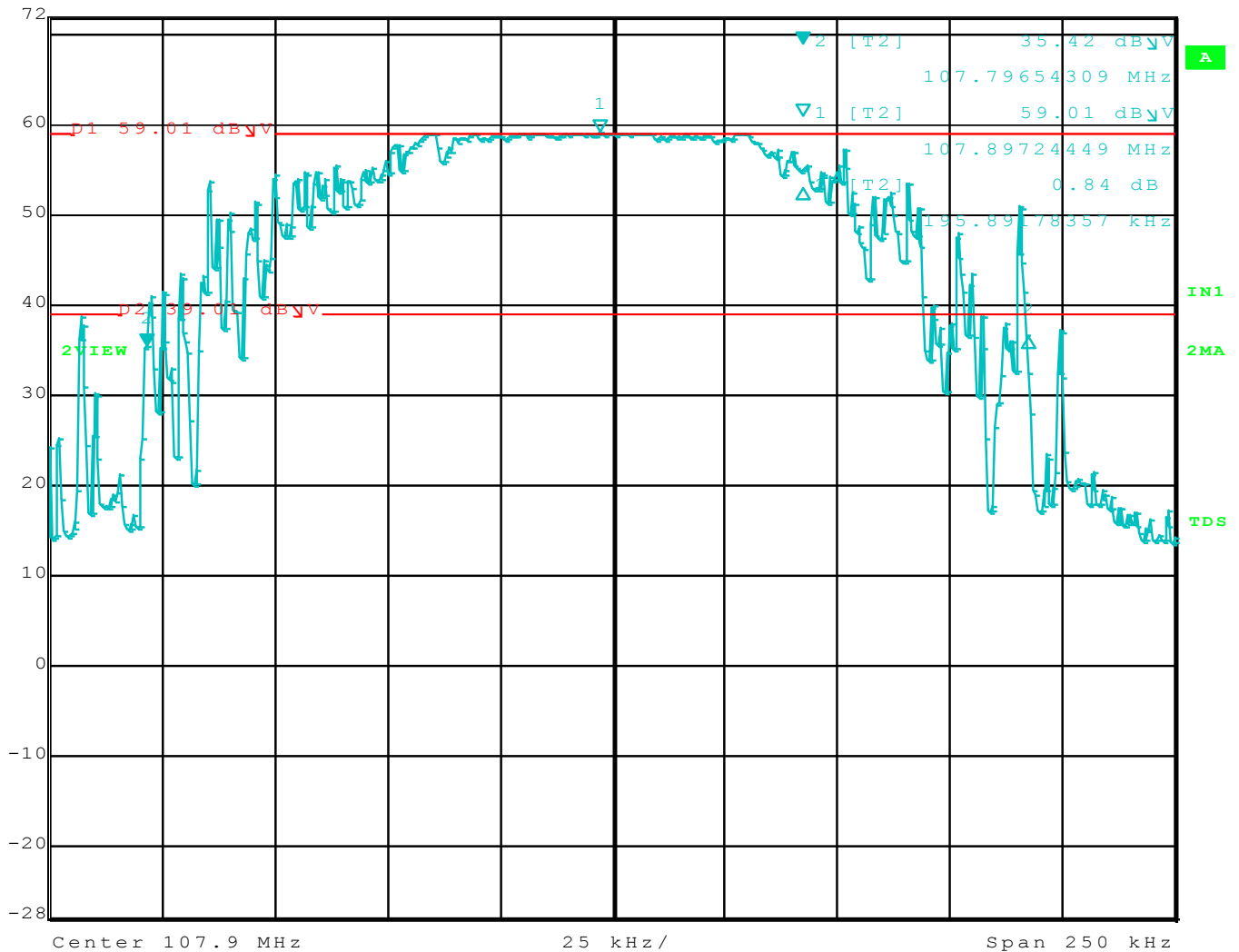


Title: F8M120US SN2
 Comment A: 98.1MHz 20dB Bandwidth
 Date: 6.MAY.2011 12:07:48

High Channel -20 dB Bandwidth Plot



Marker 2 [T2] RBW 10 kHz RF Att 0 dB
 Ref Lvl 35.42 dB μ V VBW 30 kHz
 72 dB μ V 107.79654309 MHz SWT 15 ms Unit dB μ V



Title: F8M120US SN2
 Comment A: 107.9MHz 20dB Bandwidth
 Date: 6.MAY.2011 11:56:40

PEAK TRANSMIT EMI

DATA SHEETS

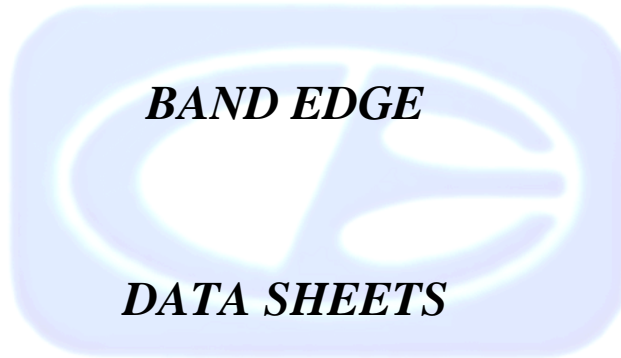
Title: FCC 15.239 Peak Transmit EMI
Operator: Matt Harrison
EUT Type: Line Cast Auto FM (F8M120)
EUT Condition: Song played: Linkin Park "Don't Stay" 0dB encode
Comments: Y axis
Temp: 75f
Hum: 64%

5/6/2011

Final Measurements


Compatible Electronics, Inc. FAC- 3 (LAB P)

Freq (MHz)	Peak EMI (dBµV/m)	AVG EMI (dBµV/m)	Limit (dBµV/m)	Margin (dB)
88.1	41.71	N/A	47.95	-6.42
98.1	42.82	N/A	47.95	-5.13
107.5	41.41	N/A	47.95	-6.54



Title: FCC 15.239 Restricted Band and Band Edges 5/6/2011
Operator: Matt Harrison Final Measurements
EUT Type: Line Cast Auto FM (F8M120)
EUT Condition: Song played: Linkin Park "Don't Stay" 0dB encode
Comments: Y axis,
Low band edge: Fundamental 88.1
High band edge: Fundamental 107.9
Temp: 75f
Hum: 64%



Freq (MHz)	Peak EMI (dB μ V/m)	QP EMI (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
88.0	41.44	36.90	40.00	-3.10
108.0	41.41	N/A	43.50	-2.09

Note: The EUT was tuned to the lowest and highest channels for this test.