

Underwriters Laboratories Inc. 1285 Walt Whitman Rd. Melville, NY 11747

www.ul.com/emc (631) 271-6200

Job Number: 740133
File Number: MC8319
Date: 17 Dec 07
Model: M812
FCC ID: VJS-M812

Electromagnetic Compatibility Test Report

For

Altec Lansing Technologies

Copyright © 2007 Underwriters Laboratories Inc.

Underwriters Laboratories Inc. authorizes the above-named company to reproduce this Report provided it is reproduced in its entirety.

Underwriters Laboratories Inc. 1285 Walt Whitman Rd. Melville, NY 11747 A not-for-profit organization dedicated to public safety and committed to quality service for over 100 years

Tel: (631) 271-6200 Fax: (631)439-6095

Job Number: 740133 File Number: MC8319 Page 2 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Test Report Details

Tests Performed By: Underwriters Laboratories Inc.

1285 Walt Whitman Rd. Melville, NY 11747

Tests Performed For: Altec Lansing Technologies

P. O. Box 277 Milford, PA 18337

Applicant Contact: STEVE BACHO
Phone: 570-296-1310

E-mail: STEVE.BACHO@ALTECLANSING.COM

Test Report Date: 17 Dec 07

Product Type: Wireless Speaker System

Product standards FCC Part 15, Subpart C, 15.247

Model Number: M812

Sample Serial Number: Prototype

EUT Category: Digital Transmitter

Testing Start Date: 19 July 07

Date Testing Complete: 16 Dec 07

Overall Results: Compliant

Underwriters Laboratories Inc. reports apply only to the specific samples tested under stated test conditions. All samples tested were in good operating condition throughout the entire test program. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. Underwriters Laboratories Inc. shall have no liability for any deductions, inferences or generalizations drawn by the client or others from Underwriters Laboratories Inc. issued reports. This report shall not be used to claim, constitute or imply product certification, approval, or endorsement by NVLAP, A2LA, or any agency of the US government.

This report may contain test results that are not covered by the NVLAP or A2LA accreditation. The scope of accreditation is limited to the specific tests that are listed on the NVLAP and/or A2LA websites referenced at the end of this report.

Job Number: 740133 File Number: MC8319 Page 3 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Report Directory

1.0	G E N E R A L - Product Description	4
1.1	Equipment Description	4
1.2	Equipment Marking Plate	4
1 1	Device Configuration During Test 3.1 Equipment Used During Test: 3.2 Input/Output Ports: 3.3 EUT Internal Operating Frequencies: 3.4 Power Interface:	5 5 6
1.4	Block Diagram:	7
1.5	EUT Configurations	7
1.6	EUT Operation Modes	8
2.0	Summary	9
2.1	Deviations from standard test methods	9
2.2	Device Modifications Necessary for Compliance	9
2.3	Reference Standards	10
2.4	Results Summary	10
3.0	Calibration of Equipment Used for Measurement	11
4.0	EMISSIONS TEST RESULTS	11
4.1	Test Conditions and Results – Mains Terminal – Conducted Emissions	12
4.2	Test Conditions and Results – Occupied Bandwidth	50
4.3	Test Conditions and Results – Bandedge Measurement	54
4.4	Test Conditions and Results – Peak Power	62
4.5	Test Conditions and Results – Power Spectral Density	64
4.6	Test Conditions and Results – Radiated Emissions (Receive Mode)	68
4.7	Test Conditions and Results – Radiated Emissions (Transmit Mode)	83
4.8	Test Conditions and Results – Restricted Bands	154
4.9	Test Conditions and Results – Effective Radiated Power (ERP)	155
Appen	ıdix A	158
Acc	reditations and Authorizations	158

Job Number: 740133 File Number: MC8319 Page 4 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Report Revision History

Revision Date	Description	Revised By	Revision Reviewed By
None	-	-	-

1.0 GENERAL-Product Description

1.1 Equipment Description

The M812 is a high performance speaker and transmitter base combination that allows you to connect and wirelessly listen to most iPods, FM radio stations and auxiliary audio sources.

1.2 Equipment Marking Plate

M812 ALTEC LANSING WIRELESS SPEAKER SYSTEM FOR IPod®







AVIS:

AUCUNE PIÈCE SE TROUVANT À L'INTÉRIEUR NE PEUT ÊTRE ENTRETENUE PAR L'UTILISATEUR.

CAUTION: NO USER SERVICEABLE PARTS INSIDE.

ATTENTION: NO CONTIENE PIEZAS REPARABLES POR EL USARIO.





CONFORMS TO ANSI/UL STD. 60065 CERTIFIED TO CAN/CSA STD. C22.2 No. 60065



100-240VAC ~ / 50-60Hz / 600mA



This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

ALTEC LANSING, MILFORD, PA 18337 USA MADE IN CHINA Job Number: 740133 File Number: MC8319 Page 5 of 159

FCC ID: VJS-M812 M812 Model Number:

Altec Lansing Technologies Client Name:

1.3 **Device Configuration During Test**

Equipment Used During Test: 1.3.1

Use	Product Type	Manufacturer	Model	Comments			
EUT	Speaker System	Altec Lansing Technologies	M812	Consists of a Transmitter Base and a Wireless Speaker			
AE MP3 Player Apple		Apple	iPod	None			
AE	AE Laptop IBM 2373T64 None						
Note: EUT - Equipment Under Test, AE - Auxiliary/Associated Equipment, or SIM - Simulator (Not Subjected to Test)							

1.3.2 **Input/Output Ports:**

Port #	Name	Type*	Cable Max. >3m (Y/N)	Cable Shielded (Y/N)	Comments
0	Enclosure	N/E	_	_	None
1	Mains	AC	N	N	None
2	Aux	I/O	N	N	None

Note: AC I/O TP N/E = Non-Electrical DC = DC Power Port = AC Power Port

= Signal Input or Output Port (Not Involved in Process Control) = Telecommunication Ports

Job Number: 740133 File Number: MC8319 Page 6 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

1.3.3 EUT Internal Operating Frequencies:

Frequency (MHz)	Description
2400-2483.5	Fundamental
	(3 RF Channels are used in this band)

1.3.4 Power Interface:

Mode # /Rated	Voltage (V)	Current (A)	Power (W)	Frequency (DC/AC-Hz)	Phases (#)	Comments
Rated	100-240Vac	0.6	-	50-60Hz	Single Phase	Transmitter Base & Wireless Speaker
1	120Vac	-	-	60Hz	Single Phase	Transmitter Base & Wireless Speaker

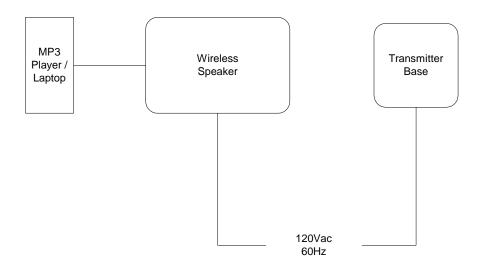
Job Number: 740133 File Number: MC8319 Page 7 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

1.4 Block Diagram:

The diagram below illustrates the configuration of the equipment above.



1.5 EUT Configurations

Mode #	Description
1	Wireless speaker and transmitter base independently powered from 120Vac/60Hz source. MP3 player or laptop connected to the base as an audio source. It was determined from preliminary measurements that connecting an audio source via Aux connection, as opposed to docked, produced the worse case conditions. It was in this configuration that all testing was performed.

Job Number: 740133 File Number: MC8319 Page 8 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

1.6 EUT Operation Modes

Mode #	Description
1	Transmitter Base operating on Channel 1 (2412MHz)
2	Transmitter Base operating on Channel 2 (2436MHz)
3	Transmitter Base operating on Channel 3 (2463MHz)
4	Wireless Speaker operating on Channel 1 (2412MHz)
5	Wireless Speaker operating on Channel 2 (2436MHz)
6	Wireless Speaker operating on Channel 3 (2463MHz)
7	Transmitter Base operating in Receive Mode
8	Wireless Speaker operating in Receive Mode

Job Number: 740133 File Number: MC8319 Page 9 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

2.0 Summary

The tests listed in the Summary of Testing section of this report have been performed and the results recorded by Underwriters Laboratories Inc. in accordance with the procedures stated in each test requirement and specification. The applicant determined the list of tests performed were applicable to the Equipment Under Test. As a result, the subject product has been verified to comply or not comply as noted in the Summary of Testing with each test specification. The test results relate only to the items tested.

2.1 Deviations from standard test methods

None

2.2 Device Modifications Necessary for Compliance

For Radiated Emissions:

• Added ferrite (Fair-Rite Part Number: 0443164151, or equivalent) to power cable of the wireless speaker. See photo for details.



Job Number: 740133 File Number: MC8319 Page 10 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

2.3 Reference Standards

Standard Number	Standard Name	Standard Date
FCC Part 15, Subpart C, 15.247	Code of Federal Regulations, Part 15, Radio Frequency Devices	2007
Publication Number 558074	FCC OET KBD Publication – New Guidance on Measurements for Digital Transmission Systems in Section 15.247	2007

2.4 Results Summary

This product is considered Class B

Requirement – Test	Result (Compliant / Non- Compliant)*
15.207 Conducted Emissions - Mains	Compliant
15.247 ERP	Compliant
15.247 Output Power	Compliant
15.247 Power Spectral Density	Compliant
15.215 Bandedge Measurements	Compliant
15.247 Occupied Bandwidth	Compliant
15.209 Radiated Emissions	Compliant
15.205 Restricted Band Radiated Emissions	Compliant
1.1307 Maximum Permissible Exposure	Compliant

Test Engineer: Reviewer:

Mike Antola (Ext.23053) Senior Project Engineer International EMC Services

Conformity Assessment Services-

Bob DeLisi (Ext.22452) Senior Staff Engineer International EMC Services Conformity Assessment Services

Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

Job Number: 740133 File Number: MC8319 Page 11 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

3.0 Calibration of Equipment Used for Measurement

All test equipment and test accessories are calibrated on a regular basis. The maximum time between calibrations is one year or the manufacturers' recommendation, whichever is less.

All test equipment calibrations are traceable to the National Institute of Standards and Technology (NIST); therefore, all test data recorded in this report is traceable to NIST.

4.0 EMISSIONS TEST RESULTS

The emissions tests were performed according to following regulations:				
Unit	red States			
Code of Federal Regulations Title 47	Part 15, Radio Frequency Devices			

Unless specified otherwise in the individual Methods, the tests shall be conducted under the following ambient conditions. Confirmation of these conditions shall be verified at the time the test is conducted.

Ambient	22.5 ± 2.5	Relative	AE . 1E	Barometric	950 ± 150
Temperature, °C	22.5 ± 2.5	Humidity, %	45 ± 15	Pressure, mBar	950 ± 150

Job Number: 740133 File Number: MC8319 Page 12 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

4.1 Test Conditions and Results – Mains Terminal – Conducted Emissions

Test Description	through	Measurements were made on a ground plane. All power was connected to the system through Artificial Mains Network (AMN). Conducted voltage measurements on mains lines were made at the output of the AMN.								
Basic Stand	ard		FCC F	Part 15, Subp	part C, 15.207					
UL LPG				80-EM-S0	0026					
			Frequency range on ealine	ch side of	Measurement Point					
Fully configu		mple scanned over ncy range	150kHz to 30M	1Hz	Mains					
			Limits							
_			Limit (dBµV)						
Frequency (MHz)	Qua	asi-Peak		Average					
0.15-0.	5	60	6 to 56	56 to 46						
0.5-5			56		46					
5-30			60		50					
Supplementary information: None										

Table 1 Conducted Emissions EUT Configuration Settings

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	1	1-6
Supplementary information: None		

Table 2 Conducted Emissions Test Equipment

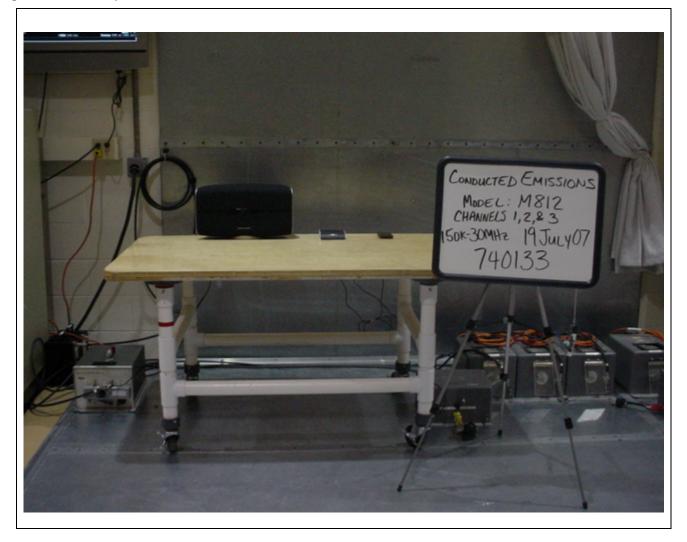
Test Equipment Used										
Description Manufacturer Model Identifier										
Conducted Emissions – GP 1										
Spectrum										
Analyzer	Agilent	E7402A	ME5B-123							
LISN	Solar	9252-50-R-24-BNC	ME5A-636							
LISN	EMCO	3825/2R	ME5-790							
Switch Driver	HP	11713A	44397							
RF Switch Box	UL	4	44404							
Measurement										
Software	UL	Version 9.3	44736							
Temp/Humidity/										
Pressure Meter	Cole Parmer	99760-00	43734							

Job Number: 740133 File Number: MC8319 Page 13 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Figure 1 Test Setup for Conducted Emissions

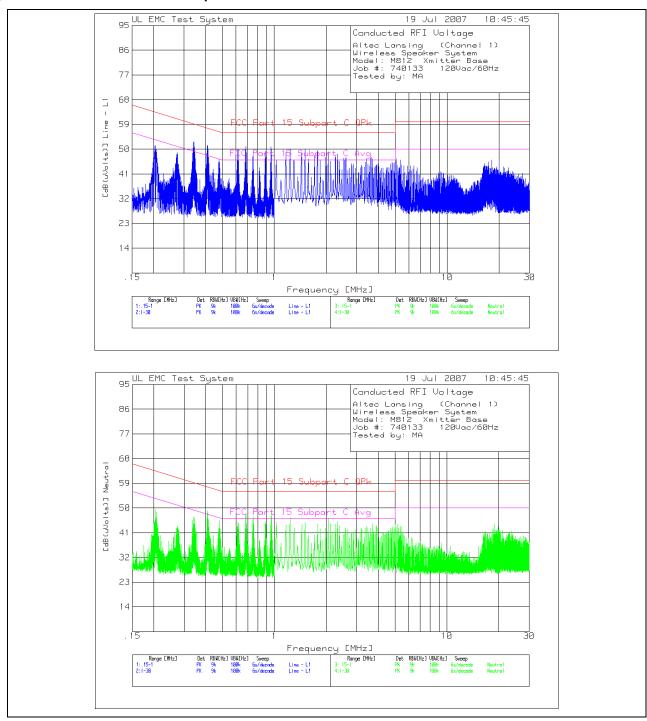


Job Number: 740133 File Number: MC8319 Page 14 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Figure 2 Conducted Emissions Graph



Job Number: 740133 File Number: MC8319 Page 15 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Table 3 Conducted Emissions Data Points

Altec Lansing (Channel 1) Wireless Speaker System Model: M812 Xmitter Base Job #: 740133 120Vac/60Hz

Tested by: MA

	Test Frequency [MHz]	[dB(uV)]	Factor [dB]	Transducer Factor [dE [dB]	3(uVolts)]	2	3	4	5	6
	======= e - L1 .15			========	:======	=======	=======			======	=======
	.95887	40.59 pk		0	50.89	56	46	_	_	_	_
_	. 23001	10.55 PK	10.5	Margin [dB]		-5.11	4.89	_	_	_	_
2	.88911	38.97 pk	10.3	0	49.27	56	46	_	_	_	_
		_		Margin [dB]		-6.73	3.27	_	_	_	_
3	.82254	32.94 pk	10.4	0	43.34	56	46	_	_	_	_
				Margin [dB]		-12.66	-2.66	-	_	-	_
4	.75278	37.12 pk	10.4	0	47.52	56	46	-	-	-	_
_				Margin [dB]		-8.48	1.52	-	-	-	_
5	.68366	40.58 pk	10.4	0	50.98	56	46	-	-	-	-
_	C1 C 4 F	20 401-	10.4	Margin [dB]		-5.02	4.98	-	-	-	_
6	.61645	39.49 pk	10.4	0 Margin [dB]	49.89	56 -6.11	46 3.89	_	_	_	-
7	.47906	35.92 pk	10.5	Margin (db)	46.42	56.4	46.4	_	_	_	_
,	. 17500	33.92 PK	10.5	Margin [dB]		-9.98	.02	_	_	_	_
8	.41185	40.73 pk	10.6	0	51.33	57.6	47.6	_	-	_	_
		_		Margin [dB]		-6.27	3.73	-	-	_	_
9	.34252	42.05 pk	10.7	0	52.75	59.1	49.1	-	_	-	-
				Margin [dB]		-6.35	3.65	-	-	-	-
10	.27403	37.8 pk	10.9	0	48.7	61	51	-	_	-	=
				Margin [dB]		-12.3	-2.3	-	_	-	-
11	.20555	39.92 pk	11.4	0	51.32	63.4	53.4	-	-	-	=
				Margin [dB]		-12.08	-2.08	-	_	_	_
Lin	e - I.1 1 -	30MHz									
	1.23148	39.62 pk		0	49.92	56	46	_	_	_	_
				Margin [dB]		-6.08	3.92	_	_	_	_
13	1.50636	39.53 pk	10.3	0	49.83	56	46	-	_	-	_
				Margin [dB]		-6.17	3.83	-	-	-	=
14	1.77401	39.28 pk	10.3	0	49.58	56	46	-	-	-	_
				Margin [dB]		-6.42	3.58	-	_	-	_
15	2.32377	37.75 pk	10.4	0	48.15	56	46	-	-	-	_
1.0	0 50065	26 55	10.4	Margin [dB]		-7.85	2.15	-	-	-	_
16	2.59865	36.55 pk	10.4	0 Margin [dB]	46.95	56 -9.05	46 .95	_	_	_	_
17	3.62584	36.62 pk	10.4	Margin [dB]	47.02	-9.03 56	46	_	_	_	_
	3.02301	30.02 pi	10.1	Margin [dB]		-8.98	1.02	_	_	_	_
18	4.79771	34.82 pk	10.5	0	45.32	56	46	-	-	_	_
		_		Margin [dB]		-10.68	68	-	-	-	=
	tral .15 -										
19	.9559	37.54 pk	10.3	0	47.84	56	46	-	_	-	-
0.0	00054	24 601-	10.2	Margin [dB]		-8.16	1.84	-	_	-	_
20	.88954	34.68 pk	10.3	0 Margin [dB]	44.98	56 -11.02	46 -1.02	_	_	_	_
21	.75278	36.3 pk	10.4	0 Margin (db)	46.7	56	46	_	_	_	_
21	. 75270	30.3 pk	10.1	Margin [dB]		-9.3	.7	_	_	_	_
22	.68557	37.7 pk	10.4	0	48.1	56	46	_	_	_	_
				Margin [dB]		-7.9	2.1	-	-	-	_
23	.61592	34.36 pk	10.4	0	44.76	56	46	-	-	-	_
				Margin [dB]		-11.24	-1.24	-	-	-	_
24	.47906	34.96 pk	10.5	0	45.46	56.4	46.4	-	-	-	=
				Margin [dB]		-10.94	94	-	_	-	_

Λ	ob Numbei lodel Numl Client Name	oer:	M81	133 I2 ec Lansir	FCC	D:	nber: VJS-M ogies	MC831 812	9		Page	16 of 1	59
25	.41015	38.48	pk	10.6			49.08	57.6	47.6 1.48	-	_	-	-
26	.34146	36.04	nk	10.7	Margin 0	[aB]	46.74	-8.52 59.2	49.2	_	_	_	_
	.51210	30.01	F-12	20.7	Margin	[dB]		-12.46	-2.46	_	_	_	_
27	.27467	32.48	pk	10.9			43.38	61	51	-	_	_	-
					Margin	[dB]		-17.62	-7.62	-	-	_	-
28	.20449	37.91	pk	11.4	0		49.31	63.4	53.4	-	_	-	-
					Margin	[dB]		-14.09	-4.09	-	-	-	-
Neu	tral 1 - 30	MHz											
29	1.02894	34.37	pk	10.3	0		44.67	56	46	-	_	_	-
					Margin	[dB]		-11.33	-1.33	-	-	_	-
30	1.23148	36.06	pk	10.3	0		46.36	56	46	-	_	_	-
					Margin			-9.64	.36	-	_	_	-
31	1.50636	34.49	pk	10.3	0		44.79	56	46	-	-	_	-
					Margin	[dB]		-11.21	-1.21	-	_	_	-
32	2.04889	35.84	pk	10.4	0		46.24	56	46	-	_	_	-
					Margin	[dB]		-9.76	.24	-	_	_	-
33	3.69095	33.81	pk	10.4	0		44.21	56	46	-	_	_	-
		00.65			Margin			-11.79	-1.79	-	_	_	-
34	5.00025	33.41	pk	10.5	0		43.91	60	50	-	_	-	-
					Margin	[aB]		-16.09	-6.09	_	_	_	_

LIMIT 1: FCC Part 15 Subpart C QPk LIMIT 2: FCC Part 15 Subpart C Avg

LIMIT 3: NONE

LIMIT 4: NONE
LIMIT 5: NONE

LIMIT 6: NONE

pk - Peak detector qp - Quasi-Peak detector

av - Average detector

avlg - denotes average log detection ave - denotes average detection

tm - Trace Math Result

Job Number: 740133 File Number: MC8319 Page 17 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Altec Lansing (Channel 1)
Wireless Speaker System
Model: M812 Wireless Speaker
Job #: 740133 120Vac/60Hz

Tested by: MA

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dI [dB]	Level 3(uVolts		2	3	4	5	6
Line - L1	.15 - 1MHz	:======== :								
.4161	38.11 qp	10.6	0	48.71	57.5	47.5	_	-	-	-
			Margin [dB]:	:	-8.79	1.21	-	-	_	-
.45323	34.83 qp	10.5	0	45.33	56.8	46.8	-	-	_	_
			Margin [dB]:	:	-11.47	-1.47	-	-	_	_
.44423	40.42 qp	10.5	0	50.92	57	47	-	-	_	_
			Margin [dB]:	:	-6.08	3.92	-	-	_	_

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

pk - Peak detector

qp - Quasi-Peak detector

av - Average detector

avlg - denotes average log detection

ave - denotes average detection

LIMIT 1: FCC Part 15 Subpart C QPk LIMIT 2: FCC Part 15 Subpart C Avg

LIMIT 3: NONE LIMIT 4: NONE LIMIT 5: NONE LIMIT 6: NONE Job Number: 740133 File Number: MC8319 Page 18 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Altec Lansing (Channel 1) Wireless Speaker System Model: M812 Xmitter Base Job #: 740133 120Vac/60Hz Tested by: MA

Test Frequency [MHz]	Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Level Factor [dB(uVolts [dB])]	2	3	4	5	6
	.15 - 1MHz								
.95887	26.35 ave	10.3	0 36.65	56	46	_	_	-	_
			Margin [dB]:	-19.35	-9.35	-	_	-	_
.88911	25.38 ave	10.3	0 35.68	56	46	-	_	-	_
			Margin [dB]:	-20.32	-10.32	-	-	-	-
.82254	16.34 ave	10.4	0 26.74	56	46	-	_	-	-
			Margin [dB]:	-29.26	-19.26	-	_	-	=
.75278	23.2 ave	10.4	0 33.6	56	46	-	_	-	_
60266	06.7	10 4	Margin [dB]:	-22.4	-12.4	-	_	-	=
.68366	26.7 ave	10.4	0 37.1	56 10 0	46	-	_	-	_
.61645	25.62 ave	10.4	Margin [dB]: 0 36.02	-18.9 56	-8.9 46	_	_	_	_
.01045	25.02 ave	10.4	Margin [dB]:	-19.98	-9.98	_	_	_	_
.47906	22.75 ave	10.5	0 33.25	56.4	46.4	_	_	_	_
. 17500	22.75 ave	10.5	Margin [dB]:	-23.15	-13.15	_	_	_	_
.41185	27.26 ave	10.6	0 37.86	57.6	47.6	_	_	_	_
			Margin [dB]:	-19.74	-9.74	_	_	-	_
.34252	27.3 ave	10.7	0 38	59.1	49.1	_	_	-	_
			Margin [dB]:	-21.1	-11.1	-	_	-	_
.27403	21.07 ave	10.9	0 31.97	61	51	-	_	-	_
			Margin [dB]:	-29.03	-19.03	-	_	-	-
.20555	25.53 ave	11.4	0 36.93	63.4	53.4	-	-	-	-
			Margin [dB]:	-26.47	-16.47	-	_	-	_
Line - L1									
1.23148	25.77 ave	10.3	0 36.07	56	46	-	-	-	-
1 50626	04 02	10.2	Margin [dB]:	-19.93	-9.93	-	_	-	_
1.50636	24.83 ave	10.3	0 35.13 Margin [dB]:	56 -20.87	46 -10.87	_	-	_	_
1.77401	24.22 ave	10.3	0 34.52	56	46	_	_	_	_
1.77101	21.22 avc	10.5	Margin [dB]:	-21.48	-11.48	_	_	_	_
2.32377	25.14 ave	10.4	0 35.54	56	46	_	_	_	_
			Margin [dB]:	-20.46	-10.46	_	_	_	_
2.59865	24.35 ave	10.4	0 34.75	56	46	_	_	-	_
			Margin [dB]:	-21.25	-11.25	-	_	-	-
3.62584	24.39 ave	10.4	0 34.79	56	46	-	_	-	_
			Margin [dB]:	-21.21	-11.21	-	-	-	-
4.79771	22.67 ave	10.5	0 33.17	56	46	-	-	-	-
			Margin [dB]:	-22.83	-12.83	-	_	-	_
Neutral .1		10.0	0 00 00	5.6	4.6				
.9559	17.59 ave	10.3	0 27.89	56	46	-	_	-	_
00054	15 22	10.2	Margin [dB]:	-28.11	-18.11	-	_	-	=
.88954	15.33 ave	10.3	0 25.63 Margin [dB]:	56	46 -20.37	-	_	-	_
.75278	16.01 ave	10.4	0 26.41	-30.37 56	-20.37 46	_	_	_	_
.73270	10.01 ave	10.4	Margin [dB]:	-29.59	-19.59	_	_	_	_
.68557	17.73 ave	10.4	0 28.13	56	46	_	_	_	_
			Margin [dB]:	-27.87	-17.87	_	_	_	_
.61592	15.95 ave	10.4	0 26.35	56	46	_	_	_	_
			Margin [dB]:	-29.65	-19.65	-	_	-	_
.47906	15.05 ave	10.5	0 25.55	56.4	46.4	-	_	-	_
			Margin [dB]:	-30.85	-20.85	-	_	-	-
.41015	18.38 ave	10.6	0 28.98	57.6	47.6	-	=	-	-
			Margin [dB]:	-28.62	-18.62	-	-	-	=
.34146	17.98 ave	10.7	0 28.68	59.2	49.2	-	_	-	-
			Margin [dB]:	-30.52	-20.52	-	_	-	_

Job Number: Model Number: Client Name:					CID: VJS-M812				19	of 159
Client N	ane.	Allec L	ansing reci	inologie	38					
.27467	14.35 ave	10.9	0	25.25	61	51	_	-	_	-
			Margin [dB]	:	-35.75	-25.75	_	_	-	_
.20449	16.98 ave	11.4	0	28.38	63.4	53.4	_	_	-	-
			Margin [dB]	:	-35.02	-25.02	-	_	-	-
Neutral 1	- 30MHz									
1.0299	15.44 ave	10.3	0	25.74	56	46	_	_	-	-
			Margin [dB]	:	-30.26	-20.26	-	_	-	-
1.23148	16.78 ave	10.3	0	27.08	56	46	-	_	-	-
			Margin [dB]	:	-28.92	-18.92	-	_	-	-
1.50636	15.93 ave	10.3	0	26.23	56	46	-	-	-	-
			Margin [dB]	:	-29.77	-19.77	-	_	-	-
2.04889	15.56 ave	10.4	0	25.96	56	46	-	_	-	-
			Margin [dB]	:	-30.04	-20.04	-	_	-	-
3.69095	16.1 ave	10.4	0	26.5	56	46	-	-	-	-
			Margin [dB]	:	-29.5	-19.5	-	-	-	-
5.00025	12.14 ave	10.5	0	22.64	60	50	-	-	-	-
			Margin [dB]	:	-37.36	-27.36	-	-	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

pk - Peak detector

qp - Quasi-Peak detector av - Average detector

avlg - denotes average log detection

ave - denotes average detection

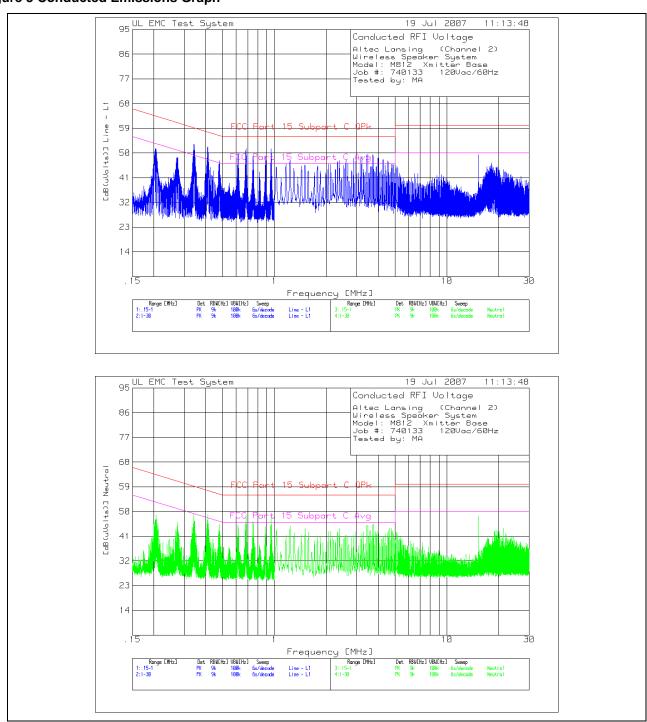
LIMIT 1: FCC Part 15 Subpart C QPk LIMIT 2: FCC Part 15 Subpart C Avg

LIMIT 3: NONE LIMIT 4: NONE LIMIT 5: NONE LIMIT 6: NONE Job Number: 740133 File Number: MC8319 Page 20 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Figure 3 Conducted Emissions Graph



Job Number: 740133 File Number: MC8319 Page 21 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Table 4 Conducted Emissions Data Points

Altec Lansing (Channel 2) Wireless Speaker System Model: M812 Xmitter Base Job #: 740133 120Vac/60Hz

Tested by: MA

	Test Frequency [MHz]	[dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [d	lB(uVolts)]	2	3	4	5	6
	e - L1 .15										
	.9576	41.24 pk	10.3	0	51.54	56	46		_	_	_
_	. 2370	TI.ZT PK	10.5	Margin [dE		-4.46	5.54				
2	.88975	38.6 pk	10.3	0	48.9	56	46	_	_	_	_
2	.00975	30.0 pk	10.3	Margin [dE		-7.1	2.9		_	_	_
3	.82084	32.64 pk	10.4	0	43.04	56	46			_	_
J	.02001	32.01 px	10.1	Margin [dE		-12.96	-2.96	_	_	_	_
4	.75257	38.24 pk	10.4	0	48.64	56	46	_	_	_	_
-	. 75257	30.21 pm	10.1	Margin [dE		-7.36	2.64	_	_	_	_
5	.68366	41.08 pk	10.4	0	51.48	56	46	_	_	_	_
3	.00500	11.00 pm	10.1	Margin [dE		-4.52	5.48	_	_	_	_
6	.61497	39.3 pk	10.4	0	49.7	56	46	_	_	_	_
Ū	.01177	33.3 p.:	20.1	Margin [dE		-6.3	3.7	_	_	_	_
7	.47927	36.75 pk	10.5	0	47.25	56.4	46.4	-	_	_	_
				Margin [dE		-9.15	.85	_	_	_	_
8	.41058	41.55 pk	10.6	0	52.15	57.6	47.6	_	_	_	_
Ü	. 11000	11.55 P.1	20.0	Margin [dE		-5.45	4.55	_	_	_	_
9	.34167	42.41 pk	10.7	0	53.11	59.2	49.2	-	_	_	_
				Margin [dE	_	-6.09	3.91	_	_	_	_
10	.27382	37.52 pk	10.9	0	48.42	61	51	_	_	_	_
		-		Margin [dE	3]	-12.58	-2.58	_	_	_	_
11	.20428	40.35 pk	11.4	0	51.75	63.4	53.4	_	_	_	_
		-		Margin [dE	3]	-11.65	-1.65	-	_	_	_
				J -							
Lin	e - L1 1 -	30MHz									
12	1.23148	37.12 pk	10.3	0	47.42	56	46	-	_	_	_
		_		Margin [dB	3]	-8.58	1.42	-	-	_	_
13	1.49913	35.22 pk	10.3	0	45.52	56	46	-	-	_	_
				Margin [dE	3]	-10.48	48	-	_	_	_
14	1.78124	34.87 pk	10.3	0	45.17	56	46	-	_	_	_
				Margin [dE	3]	-10.83	83	-	_	-	-
15	2.04889	35.65 pk	10.4	0	46.05	56	46	-	-	-	-
				Margin [dE	3]	-9.95	.05	-	-	-	-
16	2.38888	36.84 pk	10.4	0	47.24	56	46	-	-	-	-
				Margin [dE		-8.76	1.24	-	-	-	-
17	2.87354	37.6 pk	10.4	0	48	56	46	-	_	_	_
				Margin [d		-8	2	-	_	_	-
18	3.48117	39.21 pk	10.4	0	49.61	56	46	=	-	-	-
				Margin [d		-6.39	3.61	-	_	_	-
19	3.96583	37.8 pk	10.4	0	48.2	56	46	=	-	-	-
				Margin [dE		-7.8	2.2	-	-	_	-
20	4.51559	36.63 pk	10.5	0	47.13	56	46	-	-	_	-
				Margin [dB		-8.87	1.13	-	_	_	_
21	4.78324	35.65 pk	10.5	0	46.15	56	46	-	_	_	_
0.0	15 01405	20 44 1		Margin [dB		-9.85	.15	-	-	_	_
22	15.21427	38.44 pk	11	0	49.44	60 10 FC	50	-	-	-	=
0.2	10 06436	25 60 -1	10.0	Margin [dE		-10.56	56	-	_	-	_
23	18.06436	35.62 pk	10.8	0 Manain [d]	46.42	60 12 E0	50	_	-	-	_
2.4	10 70011	22 07 1-	10.0	Margin [dE		-13.58	-3.58	_	_	_	_
24	19.72811	33.97 pk	10.9	0 Manain [d]	44.87	60 15 12	50 E 13	_	-	-	_
				Margin [dE) 1	-15.13	-5.13	_	-	_	_

740133 Job Number: File Number: MC8319 Page 22 of 159 M812 FCC ID: VJS-M812 Model Number: Client Name: Altec Lansing Technologies Neutral .15 - 1MHz -----0 48.3 56 46 Margin [dB] -7.7 2.3 0 44.5 56 46 25 .95823 38 pk 10.3 26 .8889 34.2 pk 10.3 Margin [dB] -11.5 -1.5 46.34 56 56 46 -9.66 .34 27 .75109 35.94 pk 10.4 0 Margin [dB] 46 28 .68387 38.38 pk 10.4 0 48.78 56 Margin [dB] -7.22 2.78 29 .61454 34.76 pk 10.4 0 45.16 56 46 -10.84 -.84 Margin [dB] 45.44 56.4 30 .47906 34.94 pk 10.5 0 -10.96 Margin [dB] - . 96 48.83 57.6 31 .41121 38.23 pk 10.6 0 47.6 Margin [dB] -8.77 1.23 0 49.04 59.2 32 .34125 38.34 pk 10.7 49.2 -.16 Margin [dB] -10.16 0 48.74 63.4 33 .20576 37.34 pk 11.4 53.4 Margin [dB] -14.66 -4.66 Neutral 1 - 30MHz -----0 34 1.02894 32.84 pk 43.14 56 10.3 46 Margin [dB] -12.86 -2.86 56 35 1.23148 34.42 pk 10.3 0 44.72 46 -1.28 Margin [dB] -11.28 36 1.77401 30.89 pk 10.3 0 46 -14.81 -4.81 Margin [dB] 43.78 56 37 2.38888 33.38 pk 10.4 0 46 -12.22 Margin [dB] -2.22 38 3.21352 31.74 pk 10.4 0 42.14 56 46 Margin [dB] -13.86 -3.86 56 39 4.58069 32.62 pk 10.4 0 43.02 46 Margin [dB] -12.98 -2.98 41.98 56 40 4.92068 31.48 pk 46 10.5 0 Margin [dB] -14.02 -4.02 41 15.2215 37.34 pk 60 10.9 0 48.24 50 Margin [dB] -11.76 -1.76 42 18.889 31.95 pk 10.8 0 42.75 60 50 -7.25 Margin [dB] -17.25 43 21.37017 32.57 pk 43.87 60 50 0 Margin [dB] -16.13 -6.13

LIMIT 1: FCC Part 15 Subpart C QPk

LIMIT 2: FCC Part 15 Subpart C Avg

LIMIT 3: NONE LIMIT 4: NONE LIMIT 5: NONE

LIMIT 5: NONE LIMIT 6: NONE

pk - Peak detector

qp - Quasi-Peak detector

av - Average detector

avlg - denotes average log detection

ave - denotes average detection

tm - Trace Math Result

Job Number: 740133 File Number: MC8319 Page 23 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Altec Lansing (Channel 2) Wireless Speaker System Model: M812 Xmitter Base Job #: 740133 120Vac/60Hz Tested by: MA

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]		Level : 3(uVolts		2	3	4	5	6
Line - L1	.15 - 1MHz									
.95775	38.04 qp	10.3	0	48.34	56	46	-	-	-	=
			Margin [dB]:	:	-7.66	2.34	_	_	_	-
.68438	38.16 qp	10.4	0	48.56	56	46	_	_	_	-
			Margin [dB]:	:	-7.44	2.56	_	-	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

pk - Peak detector

qp - Quasi-Peak detector

av - Average detector

avlg - denotes average log detection

ave - denotes average detection

LIMIT 1: FCC Part 15 Subpart C QPk LIMIT 2: FCC Part 15 Subpart C Avg

LIMIT 3: NONE LIMIT 4: NONE LIMIT 5: NONE LIMIT 6: NONE Job Number: 740133 File Number: MC8319 Page 24 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Altec Lansing (Channel 2) Wireless Speaker System Model: M812 Xmitter Base Job #: 740133 120Vac/60Hz Tested by: MA

Test Frequency [MHz]	[dB(uV)]	Gain/Loss Factor [dB]	Transducer Level Factor [dB(uVol [dB]	lts)]	2	3	4	5	6
			:=========	=======	=======		=======	======	=======
Line - L1									
.9576	26.48 ave	10.3	0 36.7		46	_	-	_	-
			Margin [dB]:	-19.22	-9.22	_	-	_	-
.88975	24.6 ave	10.3	0 34.9		46	_	-	_	-
			Margin [dB]:	-21.1	-11.1	-	_	_	-
.82084	15.17 ave	e 10.4	0 25.5	57 56	46	-	_	_	=
			Margin [dB]:	-30.43	-20.43	-	_	_	-
.75257	24.04 ave	e 10.4	0 34.4	14 56	46	-	_	_	-
			Margin [dB]:	-21.56	-11.56	-	_	_	-
.68366	26.32 ave	e 10.4	0 36.7		46	-	_	_	-
			Margin [dB]:	-19.28	-9.28	-	_	_	-
.61497	25.15 ave	e 10.4	0 35.5	55 56	46	-	_	_	=
			Margin [dB]:	-20.45	-10.45	-	_	_	=
.47927	23.13 ave	e 10.5	0 33.6	53 56.4	46.4	-	_	_	=
			Margin [dB]:	-22.77	-12.77	-	_	_	=
.41058	27.01 ave	e 10.6	0 37.6	51 57.6	47.6	-	-	_	_
			Margin [dB]:	-19.99	-9.99	-	-	_	_
.34167	27.11 ave	e 10.7	0 37.8	31 59.2	49.2	-	-	-	-
			Margin [dB]:	-21.39	-11.39	-	-	-	-
.27382	21.32 ave	e 10.9	0 32.2	22 61	51	-	-	_	_
			Margin [dB]:	-28.78	-18.78	-	-	-	-
.20428	25.52 ave	e 11.4	0 36.9	92 63.4	53.4	-	-	-	-
			Margin [dB]:	-26.48	-16.48	-	-	_	_
Line - L1	1 - 30MHz								
1.23148	25.79 ave	e 10.3	0 36.0	9 56	46	-	-	_	_
			Margin [dB]:	-19.91	-9.91	-	-	_	_
1.49913	24.84 ave	e 10.3	0 35.1	L4 56	46	-	-	_	_
			Margin [dB]:	-20.86	-10.86	-	_	_	=
1.78124	24 ave	10.3	0 34.3	3 56	46	-	_	_	_
			Margin [dB]:	-21.7	-11.7	-	_	_	_
2.04889	24.77 ave	e 10.4	0 35.1		46	-	_	_	-
			Margin [dB]:	-20.83	-10.83	_	-	_	-
2.38888	23.28 ave	e 10.4	0 33.6		46	_	-	_	-
			Margin [dB]:	-22.32	-12.32	-	-	_	-
2.87354	22.57 ave	e 10.4	0 32.9		46	_	-	_	-
			Margin [dB]:	-23.03	-13.03	_	-	_	-
3.48117	23.41 ave	e 10.4	0 33.8		46	_	-	_	-
			Margin [dB]:	-22.19	-12.19	-	_	_	-
3.96583	22.74 ave	≥ 10.4	0 33.1		46	-	_	_	_
4 51550	00.60	10 5	Margin [dB]:	-22.86	-12.86	_	_	_	=
4.51559	22.68 ave	10.5	0 33.1		46	_	_	_	=
4 70204	02 15	10 5	Margin [dB]:	-22.82	-12.82	_	_	_	=
4.78324	23.15 ave	e 10.5	0 33.6		46	-	_	_	=
15 01/07	28.35 ave	. 11	Margin [dB]: 0 39.3	-22.35	-12.35 50	_	_	_	-
15.21427	20.35 ave	e 11	0 39.3 Margin [dB]:	35 60 -20.65	-10.65	_	_	_	_
18.06436	15.23 ave	e 10.8	0 26.0		50	_	_	_	_
10.00430	13.23 ave	10.0	Margin [dB]:	-33.97	-23.97				
19.72811	10.76 ave	e 10.9	0 21.6		50	_	_	_	_
T3.120TT	10.70 ave		Margin [dB]:	-38.34	-28.34	_	_	_	_
Neutral .1	5 - 1MHz		nargin [ub].	30.34	20.51		-		
.95823	17.5 ave	10.3	0 27.8	3 56	46	_	_	_	_
	_,,5 ave	10.5	Margin [dB]:	-28.2	-18.2	_	_	_	_
.8889	15.13 ave	e 10.3	0 25.4		46	_	_	_	_
			Margin [dB]:	-30.57	-20.57	_	_	_	=
			<u> </u>						

Job Number: Model Number:	740133 M812	File Number	IS-M812		Page	25 of 159
Client Name:	Altec Lansing	Lechnologie	es			
.75109 16.24 a	ave 10.4 0 Margin	26.64	56 46 -29.36 -19.36	- -	- -	
.68387 17.66 a	_	28.06	56 46 -27.94 -17.94	- -	_ _	
.61454 15.7 av	_	26.1	56 46 -29.9 -19.9	- -:	- -	
.47906 15.32 a		25.82	56.4 46.4 -30.58 -20.58	-	_ _	
.41121 18.47 a	ave 10.6 0 Margin	29.07 [dB]:	57.6 47.6 -28.53 -18.53	- -	- -	
.34125 17.62 a	ove 10.7 0 Margin	28.32 [dB]:	59.2 49.2 -30.88 -20.88	- -	-	
.20576 17.02 a	ive 11.4 0 Margin	28.42 [dB]:	63.4 53.4 -34.98 -24.98	- -	- -	
Neutral 1 - 30MHz						
1.0299 15.68 8	ave 10.3 0 Margin	25.98 [dB]:	56 46 -30.02 -20.02	-	_	
1.23148 16.72 8	ave 10.3 0 Margin	27.02 [dB]:	56 46 -28.98 -18.98	-	<u>-</u> -	
1.77401 14.79 a	ave 10.3 0 Margin	25.09 [dB]:	56 46 -30.91 -20.91	-	- -	
2.38888 15.61 8	ave 10.4 0 Margin	26.01 [dB]:	56 46 -29.99 -19.99	-	-	
3.21352 14.84 8	ave 10.4 0 Margin	25.24 [dB]:	56 46 -30.76 -20.76	- -	-	
4.58069 15.35 a	ove 10.4 0 Margin	25.75 [dB]:	56 46 -30.25 -20.25	- -	-	
4.92068 12.94 a	ive 10.5 0 Margin	23.44 [dB]:	56 46 -32.56 -22.56	- -	-	
15.2215 34.73 a	ave 10.9 0 Margin	45.63 [dB]:	60 50 -14.37 -4.37	- -	- -	
18.889 6.17 av	re 10.8 0 Margin	16.97 [dB]:	60 50 -43.03 -33.03	- -	- -	
21.37017 5.26 as	ve 11.3 0 Margin	16.56 [dB]:	60 50 -43.44 -33.44	-	-	

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

pk - Peak detector

qp - Quasi-Peak detector av - Average detector

avlg - denotes average log detection ave - denotes average detection

LIMIT 1: FCC Part 15 Subpart C QPk

LIMIT 2: FCC Part 15 Subpart C Avg

LIMIT 3: NONE

LIMIT 4: NONE

LIMIT 5: NONE

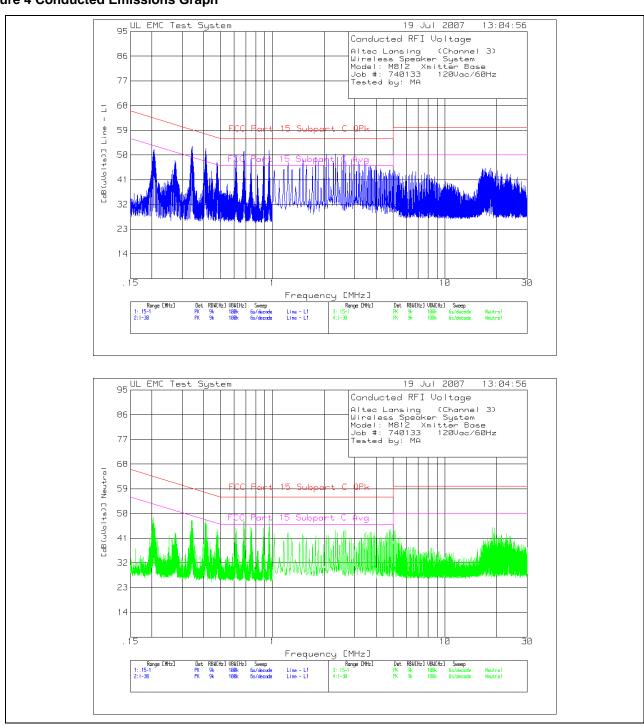
LIMIT 6: NONE

Job Number: 740133 File Number: MC8319 Page 26 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Figure 4 Conducted Emissions Graph



Job Number: 740133 File Number: MC8319 Page 27 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Table 5 Conducted Emissions Data Points

Altec Lansing (Channel 3) Wireless Speaker System Model: M812 Xmitter Base Job #: 740133 120Vac/60Hz

Tested by: MA

	Test Frequency [MHz]	[dB(uV)]	Gain/Loss Factor [dB]	Transducer Le Factor [dB(u [dB]	uVolts)]		2	3	4	5	6
	e - L1 .15										
	.95802	41.47 pk	10.3	0 5	51.77 5	56	46	-	-	-	_
				Margin [dB]		4.23	5.77	-	-	-	-
2	.88932	39.06 pk	10.3			6	46	-	-	-	-
	00040			Margin [dB]		-6.64	3.36	_	_	-	-
3	.82042	32.48 pk	10.4			56	46	_	_	-	-
4	75100	27 E4 mls	10 4	Margin [dB]		-13.12	-3.12	_	_	_	_
4	.75109	37.54 pk	10.4			56 -8.06	46 1.94	_	_	_	_
5	.68409	40.91 pk	10.4	Margin [dB]		56	46	_	_	_	_
3	.00105	10.51 pm	10.1	Margin [dB]		4.69	5.31	_	_	_	_
6	.61475	39.59 pk	10.4	-		56	46	_	_	_	_
		_		Margin [dB]	-	-6.01	3.99	_	_	-	-
7	.47715	36.7 pk	10.5	0 4	47.2 5	6.4	46.4	_	_	_	-
				Margin [dB]	-	9.2	.8	-	_	_	-
8	.41058	41.75 pk	10.6		52.35 5	57.6	47.6	_	_	-	-
				Margin [dB]		-5.25	4.75	_	_	-	-
9	.34252	42.51 pk	10.7			59.1	49.1	_	_	-	-
1.0	07024	27 10	10.0	Margin [dB]		-5.89	4.11	_	_	_	-
10	.27234	37.12 pk	10.9			12 00	51	_	_	_	_
11	.20576	40 55 ple	11.4	Margin [dB]		-12.98 53.4	-2.98 53.4	_	_	_	_
тт	.20576	40.55 pk	11.4	Margin [dB]		-11.45	-1.45	_	_	_	_
				margin (ab)		11.15	1.15				
Lin	e - L1 1 -	30MHz									
12	1.23148	37.01 pk	10.3	0 4	47.31 5	56	46	_	_	_	_
		_		Margin [dB]	=	-8.69	1.31	_	_	-	-
13	1.0217	34.16 pk	10.3	0 4	14.46 5	6	46	-	_	_	-
				Margin [dB]		-11.54	-1.54	_	_	-	-
14	1.50636	37.88 pk	10.3			56	46	-	-	-	-
1 -	1 50104	20 00 1	10.0	Margin [dB]		-7.82	2.18	-	-	-	-
15	1.78124	38.89 pk	10.3			56	46	-	_	-	_
16	2 04000	40 01 mls	10 4	Margin [dB]		-6.81	3.19	_	_	_	_
16	2.04889	40.01 pk	10.4	0 5 Margin [dB]		56 -5.59	46 4.41	_	_	_	_
17	2.25143	36.8 pk	10.4			56	46	_	_	_	_
-,	2.20213	30.0 p.1	20.1	Margin [dB]		-8.8	1.2	_		_	_
18	2.32377	40.04 pk	10.4	-		56	46	_	_	_	_
		_		Margin [dB]	-	-5.56	4.44	-	_	_	_
19	2.59142	39.84 pk	10.4	0 5	50.24 5	56	46	-	-	-	-
				Margin [dB]	-	-5.76	4.24	-	-	-	-
20	2.8663	38.03 pk	10.4	0 4		6	46	_	-	-	-
				Margin [dB]		-7.57	2.43	_	_	-	-
21	4.24071	34.35 pk	10.5			56	46	_	_	-	-
2.2	2 41606	27 161-	10 4	Margin [dB]		-11.15	-1.15	_	_	_	_
22	3.41606	37.16 pk	10.4			56 -8.44	46 1.56	_	_	_	_
23	3.96583	35.6 pk	10.4	Margin [dB]		-0.44 56	46	_	_	_	_
د ک	5.70303	33.0 px	10.1	Margin [dB]		-10	0	_	_	_	_
24	4.79047	34.02 pk	10.5	-		56	46	_	_	_	_
		. 2		Margin [dB]		-11.48	-1.48	-	_	_	_
25	16.55251	34.26 pk	10.9	-	45.16 6	50	50	-		-	-
				Margin [dB]	=	-14.84	-4.84	-	-	-	-

Job Number: Model Number: Client Name:		740133 File Number: M812 FCC ID: VJS- Altec Lansing Technologies			VJS-M		9		Page	28 of 1	59		
Neu	tral .15 -	1MHz											
26	.20428	37.31		11.4	0		48.71	63.4	53.4	_	_	-	_
					Margin	[dB]		-14.69	-4.69	_	_	_	-
27	.27319	32.27	pk	10.9	0		43.17	61	51	-	_	-	-
					Margin	[dB]		-17.83	-7.83	-	_	-	-
28	.33849	36.63	pk	10.7	0		47.33	59.2	49.2	_	_	-	-
					Margin	[dB]		-11.87	-1.87	-	_	_	-
29	.41121	37.23	pk	10.6	0 .		47.83	57.6	47.6	-	_	_	-
					Margin	[dB]		-9.77	.23	_	-	-	-
30	.48012	33.65	pk	10.5	0 .		44.15	56.3	46.3	-	_	_	-
					Margin	[dB]		-12.15	-2.15	-	_	_	_
31	.61603	34.18	pk	10.4	0 .	[15]	44.58	56	46	-	_	_	_
20	60570	26.00	1-	10 4	Margin	[aB]	47 00	-11.42	-1.42	-	_	-	-
32	.68578	36.88	рк	10.4	0	[45]	47.28	56	46	_	_	-	_
2.2	.75193	24.06	1-	10 1	Margin 0	[aB]	45.26	-8.72	1.28	_	_	_	-
33	. /5193	34.86	рк	10.4		[מה]	45.20	56	46	_	_	_	-
34	.88742	34.36	mle	10.3	Margin 0	[aB]	44.66	-10.74 56	74 46	_	_	_	_
34	.88/42	34.30	рк	10.3	u Marqin	[מה]	44.00	-11.34	-1.34	_	_	_	_
35	.95781	37.55	nle	10.3	0	[ab]	47.85	-11.34 56	-1.34 46	_	_	_	_
33	.93761	37.33	Þκ	10.3	Margin	[45]	47.03	-8.15	1.85	_	_	_	_
					margin	[CLD]		-0.13	1.05				
Neu	tral 1 - 3	OMHz											
36	1.0217	32.25		10.3	0		42.55	56	46	_	_	_	_
					Margin	[dB]		-13.45	-3.45	-		-	-
37	1.23148	32.58	pk	10.3	0		42.88	56	46	-		-	-
					Margin	[dB]		-13.12	-3.12	-	_	-	_
38	1.49913	32.12	pk	10.3	0		42.42	56	46	-	_	-	-
					Margin	[dB]		-13.58	-3.58	-	_	-	-
39	2.04889	31.74	pk	10.4	0		42.14	56	46	-	-	_	-
					Margin	[dB]		-13.86	-3.86	-	-	-	-
40	2.59865	33.51	pk	10.4	0		43.91	56	46	-	-	-	-
					Margin	[dB]		-12.09	-2.09	-	-	-	-
41	3.4884	32.65	pk	10.4	0		43.05	56	46	-	_	_	-
					Margin	[dB]		-12.95	-2.95	-	_	-	-
42	4.78324	33.52	pk	10.4	0		43.92	56	46	-	_	_	-
					Margin	[dB]		-12.08	-2.08	-	_	_	-
43	18.88177	34.08	pk	10.8	0 .		44.88	60	50	-	_	_	-
					Margin	[dB]		-15.12	-5.12	_	_	-	-

LIMIT 1: FCC Part 15 Subpart C QPk

LIMIT 2: FCC Part 15 Subpart C Avg

LIMIT 3: NONE LIMIT 4: NONE LIMIT 5: NONE LIMIT 6: NONE

pk - Peak detector

qp - Quasi-Peak detector av - Average detector

avlg - denotes average log detection

ave - denotes average detection tm - Trace Math Result

Job Number: 740133 File Number: MC8319 Page 29 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Altec Lansing (Channel 3) Wireless Speaker System Model: M812 Xmitter Base Job #: 740133 120Vac/60Hz Tested by: MA

	Reading [dB(uV)]	Gain/Loss Factor [dB]		Level (uVolts		2	3	4	5	6
I.ine - I.1	.15 - 1MHz									
.9574	38.52 ap		0	48.82	56	46	_	_	_	_
			Margin [dB]:		-7.18	2.82	-	-	_	-
.68411	38.67 qp	10.4	0	49.07	56	46	-	-	_	-
			Margin [dB]:		-6.93	3.07	-	-	_	-
.41006	39.07 qp	10.6	0	49.67	57.6	47.6	-	-	_	-
			Margin [dB]:		-7.93	2.07	-	_	_	_
.34189	40.02 qp	10.7	0	50.72	59.2	49.2	-	_	_	_
			Margin [dB]:		-8.48	1.52	_	_	_	-
Line - L1	1 - 30MHz									
2.05143	37.56 qp	10.4	0	47.96	56	46	-	_	_	-
			Margin [dB]:		-8.04	1.96	_	_	_	-
2.32452	37.56 qp	10.4	0	47.96	56	46	_	_	-	-
			Margin [dB]:		-8.04	1.96	_	_	-	-
2.5989	37.36 qp	10.4	0	47.76	56	46	-	_	_	-
			Margin [dB]:		-8.24	1.76	-	-		

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

pk - Peak detector

qp - Quasi-Peak detector

av - Average detector

avlg - denotes average log detection

ave - denotes average detection

LIMIT 1: FCC Part 15 Subpart C QPk

LIMIT 2: FCC Part 15 Subpart C Avg

LIMIT 3: NONE

LIMIT 4: NONE

LIMIT 5: NONE

LIMIT 6: NONE

Job Number: 740133 File Number: MC8319 Page 30 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Altec Lansing (Channel 3) Wireless Speaker System Model: M812 Xmitter Base Job #: 740133 120Vac/60Hz Tested by: MA

Mary	Test Frequency		ain/Loss Factor	Transducer Level Factor [dB(uVolt		2	3	4	5	6
Series S			=======	:=========	.======	=======	:=====:		======	=======
New New			10 3	0 36.91	7 56	46	_	_	_	_
88932	.93002	20.07 ave	10.5				_	_	_	_
	.88932	24.87 ave	10.3				_	-	-	_
Nargin [dB]				Margin [dB]:	-20.83	-10.83	-	-	-	=
New Part New Part	.82042	15.12 ave	10.4	0 25.52	2 56	46	-	-	-	-
Margin [dB]				-				-	-	_
Second	.75109	24.06 ave	10.4					=	-	=
Margin [dB]	69400	26 01 2770	10 /					_	_	_
Second Color	.00409	20.91 ave	10.4					_	_	_
Margin [dB]:	61475	25.6 ave	10.4	-				_	_	_
.47715 23.15 ave 10.5 0 33.65 56.4 46.4	.01175	25.0 ave	10.1				_	_	_	_
.41058	.47715	23.15 ave	10.5	-			_	_	_	_
Margin [dB]				Margin [dB]:	-22.75	-12.75	-	-	-	-
.34252	.41058	27.46 ave	10.6	0 38.06	57.6	47.6	-	-	-	_
Nargin [dB]				-		-9.54	-	-	=	=
.27234	.34252	27.43 ave	10.7					_	-	-
	0001	04 05		-				_	-	
.20576	.27234	21.07 ave	10.9					_	-	_
Margin [dB]	20576	25 77 277	11 /	-				_	_	-
Line - Ll 1 - 30MHz 1.23148	.20570	25.77 ave	11.4					_	_	_
1.23148	Line - L1	1 - 30MHz		margin [db].	-20.23	-10.23				
1.0299			10.3	0 36.09	9 56	46	_	_	_	
Margin [dB]:							_	_	_	_
1.50636	1.0299	23.37 ave	10.3	0 33.6	7 56	46	-	-	-	-
Margin [dB]:				Margin [dB]:	-22.33	-12.33	-	-	-	_
1.78124	1.50636	24.92 ave	10.3	0 35.22	2 56		-	-	-	-
Margin [dB]:								_	-	_
2.04889	1.78124	24.5 ave	10.3				-	-	-	
2.25143	2 04000	25 00	10 4				-	_	_	_
2.25143	2.04889	25.09 ave	10.4					_	_	_
2.32377	2 25143	22 97 ave	10 4					_	_	_
2.32377	2.23113	22.57 ave	10.1				_	_	_	_
Margin [dB]:	2.32377	25.49 ave	10.4	-			_	_	_	_
Margin [dB]: -20.64 -10.64				Margin [dB]:		-10.11	-	_	-	_
2.8663	2.59142	24.96 ave	10.4	0 35.36	5 56	46	-	_	_	-
Margin [dB]: -23.24 -13.24						-10.64	-	-	-	-
4.24071	2.8663	22.36 ave	10.4				-	_	-	=
Margin [dB]: -22.8 -12.8								_	-	_
3.41606	4.24071	22.7 ave	10.5					-	-	=
Margin [dB]: -20.46 -10.46	2 41606	25 14 2770	10 4				_	_	-	_
3.96583	3.41606	25.14 ave	10.4				_	_	_	_
Margin [dB]: -22.63 -12.63	3 96583	22 97 ave	10 4				_	_	_	_
4.79047 23.64 ave 10.5 0 34.14 56 46 16.55251 18.13 ave 10.9 0 29.03 60 50	3.70303	22.57 ave	10.1				_	_	_	_
Margin [dB]: -21.86 -11.86	4.79047	23.64 ave	10.5				_	_	_	_
Margin [dB]: -30.97 -20.97 Neutral .15 - 1MHz .20428 17.05 ave 11.4 0 28.45 63.4 53.4				Margin [dB]:	-21.86	-11.86	-	_	-	-
Neutral .15 - 1MHz .20428	16.55251	18.13 ave	10.9				-	-	-	_
.20428 17.05 ave 11.4 0 28.45 63.4 53.4				Margin [dB]:	-30.97	-20.97	-	-	-	-
				_						
Margin [αΒ]: -34.95 -24.95	.20428	17.05 ave	11.4					-	-	_
				margin [dB]:	-34.95	-24.95	-	_	=	_

Job Number: Model Number: Client Name:		740133 M812		FCC	Number	S-M812	28319		Page	31 of	159
Client Na	ıme:	Altec La	ansing I	l echi	nologie	S					
.27319	14.29 ave	10.9	0 Margin	יומהן	25.19	61 -35.81	51 -25.81	-	-	- -	-
.33849	17.66 ave	10.7	0 Margin		28.36	59.2 -30.84	49.2	_	_	-	-
.41121	18.48 ave	10.6	Margin Margin		29.08	57.6 -28.52	47.6 -18.52	- - -	=	-	-
.48012	15.15 ave	10.5	Margin Margin		25.65	56.3 -30.65	46.3 -20.65	- -	_	-	- - -
.61603	15.64 ave	10.4	0 Margin		26.04	56 -29.96	46 -19.96	- -	_	_	_ _ _
.68578	17.6 ave	10.4	0 Margin		28	56 -28	46 -18	- -	_ _ _	-	_ _ _
.75193	16.12 ave	10.4	0 Margin		26.52	56 -29.48	46 -19.48	_	_	_	_ _ _
.88742	15.08 ave	10.3	0 Margin	_	25.38	56 -30.62	46 -20.62	_	_	_	_
.95781	17.41 ave	10.3	0 Margin		27.71	56 -28.29	46 -18.29	-	-	_	_
Neutral 1 -				[ab].							
1.0299	15.28 ave	10.3	0 Margin	[dB]:	25.58	56 -30.42	46 -20.42	- -	_	-	-
1.23148	16.88 ave	10.3	0 Margin	[dB]:	27.18	56 -28.82	46 -18.82	_	_	-	_
1.49913	16 ave	10.3	0 Margin	[dB]:	26.3	56 -29.7	46 -19.7	_ _	- -	-	-
2.04889	15.77 ave	10.4	0 Margin	[dB]:	26.17	56 -29.83	46 -19.83	_ _	-	-	-
2.59865	16.14 ave	10.4	0 Margin	[dB]:	26.54	56 -29.46	46 -19.46	-	-	-	-
3.4884	15.43 ave	10.4	0 Margin	[dB]:	25.83	56 -30.17	46 -20.17	_ _	-	-	-
4.78324	15.27 ave	10.4	0 Margin	[dB]:	25.67	56 -30.33	46 -20.33	- -	- -	- -	-
18.88177	7.54 ave	10.8	0 Margin		18.34	60 -41.66	50 -31.66	- -	-	- -	- -

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

pk - Peak detector

qp - Quasi-Peak detector av - Average detector

avlg - denotes average log detection ave - denotes average detection

LIMIT 1: FCC Part 15 Subpart C QPk

LIMIT 2: FCC Part 15 Subpart C Avg

LIMIT 3: NONE

LIMIT 4: NONE

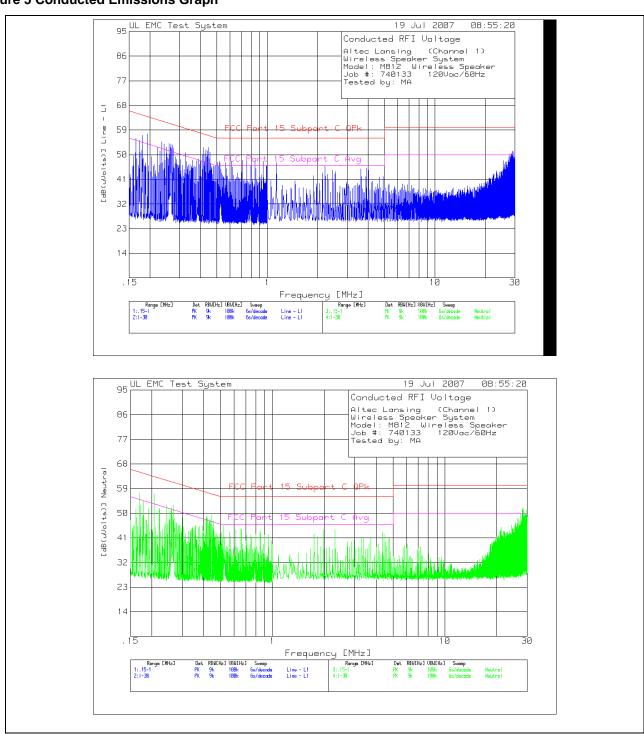
LIMIT 5: NONE LIMIT 6: NONE

Job Number: 740133 File Number: MC8319 Page 32 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Figure 5 Conducted Emissions Graph



Job Number: 740133 File Number: MC8319 Page 33 of 159

M812 FCC ID: VJS-M812 Model Number:

Altec Lansing Technologies Client Name:

Table 6 Conducted Emissions Data Points

Altec Lansing (Channel 1) Wireless Speaker System

Model: M812 Wireless Speaker Job #: 740133 120Vac/60Hz

Tested by: MA Test

Test No. Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Level Factor [dB(uVolts [dB]		2	3	4	5	6
=========		========	=======================================	======	=======				=======
Line - L1 .15									
1 .19241	46.09 pk	11.5	0 57.59	63.9	53.9	-	-	-	-
0 15005	45 25 1	11 0	Margin [dB]	-6.31	3.69	-	-	_	_
2 .17905	45.37 pk	11.7	0 57.07	64.5	54.5	-	-	_	_
2 16200	4.41-	11 0	Margin [dB]	-7.43	2.57	_	_	_	_
3 .16399	44 pk	11.9	0 55.9 Margin [dB]	65.3 -9.4	55.3 .6	_	_	_	_
4 .22209	41.59 pk	11.2	0 52.79	62.7	52.7	_	_	_	_
1 .22209	11.55 pk	11.2	Margin [dB]	-9.91	.09	_	_	_	_
5 .23502	43.67 pk	11.1	0 54.77	62.3	52.3	_	_	_	_
3 .23302	13.07 PH		Margin [dB]	-7.53	2.47	_	_	_	_
6 .25919	43.04 pk	11	0 54.04	61.5	51.5	_	_	_	_
	1		Margin [dB]	-7.46	2.54	_	_	_	_
7 .27319	42.64 pk	10.9	0 53.54	61	51	_	_	_	_
	_		Margin [dB]	-7.46	2.54	_	_	_	_
8 .32471	40.12 pk	10.7	0 50.82	59.6	49.6	-	-	_	_
			Margin [dB]	-8.78	1.22	-	-	-	-
9 .35863	37.3 pk	10.6	0 47.9	58.8	48.8	_	_	_	_
			Margin [dB]	-10.9	9	-	_	_	-
10 .38641	37.92 pk	10.6	0 48.52	58.1	48.1	-	-	-	-
			Margin [dB]	-9.58	.42	-	-	-	-
11 .4163	42.02 pk	10.6	0 52.62	57.5	47.5	-	-	-	-
			Margin [dB]	-4.88	5.12	-	_	_	-
12 .45425	40.46 pk	10.5	0 50.96	56.8	46.8	-	-	-	-
			Margin [dB]	-5.84	4.16	-	-	-	-
13 .44577	42.17 pk	10.5	0 52.67	57	47	-	-	-	-
14 51000	25 44	10 5	Margin [dB]	-4.33	5.67	_	_	_	-
14 .51298	35.44 pk	10.5	0 45.94	56 10 06	46	-	-	_	_
15 .56366	36.69 pk	10.4	Margin [dB] 0 47.09	-10.06 56	06 46	_	_	_	_
15 .50300	30.09 pk	10.4	Margin [dB]	-8.91	1.09	_	_	_	_
16 .61051	37.2 pk	10.4	0 47.6	56	46	_	_	_	_
10 .01031	37.2 pm	10.1	Margin [dB]	-8.4	1.6	_	_	_	_
17 .70932	37.61 pk	10.4	0 48.01	56	46	_	_	_	_
			Margin [dB]	-7.99	2.01	_	_	_	_
18 .75384	37.84 pk	10.4	0 48.24	56	46	_	_	_	_
	_		Margin [dB]	-7.76	2.24	-	-	_	_
19 .80452	36.8 pk	10.4	0 47.2	56	46	-	-	-	-
			Margin [dB]	-8.8	1.2	-	-	-	-
20 .84586	37.2 pk	10.4	0 47.6	56	46	-	-	-	-
			Margin [dB]	-8.4	1.6	-	-	-	-
21 .89717	37.05 pk	10.3	0 47.35	56	46	-	-	-	=
			Margin [dB]	-8.65	1.35	_	_	_	_
22 .94212	37.24 pk	10.3	0 47.54	56	46	_	_	_	_
			Margin [dB]	-8.46	1.54	-	_	_	-
23 .98643	35.45 pk	10.3	0 45.75	56	46	-	-	-	-
			Margin [dB]	-10.25	25	-	-	-	-
Tino T1 1	2 OMII-								
Line - L1 1 -			0 47 1		16				
24 1.13021	36.8 pk	10.3	0 47.1 Margin [dB]	56 -8.9	46 1.1	_	_	_	_
25 2.20803	35.36 pk	10.4	0 45.76	-6.9 56	46	_	_	_	_
23 2.20003	33.30 pk	10.1	Margin [dB]	-10.24	24	_	_	_	_
			argin [ab]	10.21	. 4 1				

Job Number: Model Number: Client Name:		740133 File Num M812 FCC ID: \(\text{Altec Lansing Technolog} \)			VJS-M812				Page 34 of 159				
26	2.45398	33.97	pk	10.4	0		44.37	56	46	-	_	_	_
					Margin	[dB]		-11.63	-1.63	-	-	-	-
27	3.61861	34.42	pk	10.4	0		44.82	56	46	-	-	-	-
					Margin	[dB]		-11.18	-1.18	-	-	-	-
28	29.89873	38.28	pk	11.1	0		49.38	60	50	-	_	_	-
					Margin	[dB]		-10.62	62	-	_	_	-
29	29.08132	40.22	pk	11.1	0		51.32	60	50	-	_	_	-
					Margin	[dB]		-8.68	1.32	-	_	_	-
30	27.99626	39.12	pk	11.1	0		50.22	60	50	-	_	_	-
					Margin	[dB]		-9.78	.22	-	_	_	-
31	26.25293	36.32	pk	11	0		47.32	60	50	-	-	-	-
					Margin	[dB]		-12.68	-2.68	-	_	_	-
32	25.67423	36.82	pk	11	0		47.82	60	50	-	_	_	-
					Margin	[dB]		-12.18	-2.18	-	-	-	_

LIMIT 1: FCC Part 15 Subpart C QPk

LIMIT 2: FCC Part 15 Subpart C Avg

LIMIT 3: NONE

LIMIT 4: NONE

LIMIT 5: NONE
LIMIT 6: NONE

pk - Peak detector

qp - Quasi-Peak detector av - Average detector

avlg - denotes average log detection ave - denotes average detection tm - Trace Math Result

Job Number: 740133 File Number: MC8319 Page 35 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Altec Lansing (Channel 1) Wireless Speaker System Model: M812 Wireless Speaker Job #: 740133 120Vac/60Hz Tested by: MA

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dI [dB]	Level 3(uVolts		2	3	4	5	6
Line - L1	.15 - 1MHz									
.4161	38.11 qp	10.6	0	48.71	57.5	47.5	-	-	-	=
			Margin [dB]:	:	-8.79	1.21	-	-	_	-
.45323	34.83 qp	10.5	0	45.33	56.8	46.8	-	-	_	-
			Margin [dB]:	:	-11.47	-1.47	-	-	_	-
.44423	40.42 qp	10.5	0	50.92	57	47	-	-	_	-
			Margin [dB]	:	-6.08	3.92	_	_	_	_

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

pk - Peak detector

qp - Quasi-Peak detector

av - Average detector

avlg - denotes average log detection

ave - denotes average detection

LIMIT 1: FCC Part 15 Subpart C QPk LIMIT 2: FCC Part 15 Subpart C Avg

LIMIT 3: NONE LIMIT 4: NONE LIMIT 5: NONE LIMIT 6: NONE Job Number: 740133 File Number: MC8319 Page 36 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Altec Lansing (Channel 1) Wireless Speaker System Model: M812 Wireless Speaker Job #: 740133 120Vac/60Hz

Tested	hw:	MΔ
restea	\mathbf{p}_{λ}	MM

Test Frequency [MHz]	Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Lev Factor [dB(uv [dB]	Volts)]	2	3	4	5	6
Line - L1										
.19241	10.3 ave	11.5	0 2:	1.8	63.9	53.9	_	_	_	_
.19241	10.5 ave	11.5	Margin [dB]:	1.0	-42.1	-32.1	_	_	_	_
.17905	21.18 ave	11.7		2.88	64.5	54.5	_	_	_	_
.17505	21.10 avc	11.7	Margin [dB]:	2.00	-31.62	-21.62	_	_	_	_
.16399	14.72 ave	11.9	-	6.62	65.3	55.3	_	_	_	_
.10333	11.72 ave	11.5	Margin [dB]:	0.02	-38.68	-28.68	_	_	_	_
.22209	11.24 ave	11.2		2.44	62.7	52.7	_	_	_	_
			Margin [dB]:		-40.26	-30.26	_	_	_	_
.23502	14.27 ave	11.1	0 2!	5.37	62.3	52.3	_	_	_	_
			Margin [dB]:		-36.93	-26.93	_	_	-	-
.25919	25.41 ave	11	0 36	6.41	61.5	51.5	-	-	-	_
			Margin [dB]:		-25.09	-15.09	_	_	_	_
.27319	24.74 ave	10.9	0 3!	5.64	61	51	-	-	-	-
			Margin [dB]:		-25.36	-15.36	-	-	-	-
.32471	13.56 ave	10.7	0 24	4.26	59.6	49.6	_	_	-	-
			Margin [dB]:		-35.34	-25.34	_	_	_	-
.35863	23.1 ave	10.6		3.7	58.8	48.8	_	_	-	-
			Margin [dB]:		-25.1	-15.1	-	-	_	-
.38641	15.48 ave	10.6		6.08	58.1	48.1	_	-	-	-
41.60	15 40	10.6	Margin [dB]:	0 00	-32.02	-22.02	_	_	_	-
.4163	17.42 ave	10.6		8.02	57.5	47.5	_	_	_	-
45405	20 52	10 5	Margin [dB]:	2 02	-29.48	-19.48	-	_	_	_
.45425	22.53 ave	10.5		3.03	56.8	46.8	-	_	_	_
.44577	20 11 2570	10.5	Margin [dB]:	8.61	-23.77 57	-13.77 47	_	_	_	_
.445//	28.11 ave	10.5	Margin [dB]:	0.01	-18.39	-8.39		_	_	_
.51298	12.99 ave	10.5	-	3.49	56	46	_	_	_	_
.51270	12.55 ave	10.5	Margin [dB]:	J. 17	-32.51	-22.51	_	_	_	_
.56366	10.03 ave	10.4		0.43	56	46	_	_	_	_
.50500	10.05 0.0	10.1	Margin [dB]:	0.15	-35.57	-25.57	_	_	_	_
.61051	10.25 ave	10.4		0.65	56	46	_	_	_	_
			Margin [dB]:		-35.35	-25.35	_	_	_	_
.70932	7.56 ave	10.4		7.96	56	46	_	_	-	-
			Margin [dB]:		-38.04	-28.04	-	_	-	_
.75384	7.15 ave	10.4	0 1	7.55	56	46	_	_	_	_
			Margin [dB]:		-38.45	-28.45	_	-	_	-
.80452	13.28 ave	10.4	0 2:	3.68	56	46	-	-	-	-
			Margin [dB]:		-32.32	-22.32	_	_	-	_
.84586	5.34 ave	10.4		5.74	56	46	_	_	-	-
			Margin [dB]:		-40.26	-30.26	_	_	-	_
.89717	12.54 ave	10.3		2.84	56	46	_	-	-	-
0.401.0	0.00	10.0	Margin [dB]:	0 10	-33.16	-23.16	_	_	_	-
.94212	9.82 ave	10.3		0.12	56	46	_	_	_	_
00642	14 21 277	10.3	Margin [dB]:	4.61	-35.88	-25.88	_	_	_	-
.98643	14.31 ave	10.3	0 24 Margin [dB]:		56 -31.39	46 -21.39	_	_	_	_
Line - L1	1 _ 30MU-		Margin [db].		-31.39	-21.39	_	_	_	_
1.13021	13.55 ave	10.3	0 2:	3.85	56	46	_	_	_	_
1.10021	13.33 446	10.5	Margin [dB]:	2.03	-32.15	-22.15	_	_	_	_
2.20803	11.47 ave	10.4	-	1.87	56	46	_	_	_	_
. =			Margin [dB]:		-34.13	-24.13	_	_	_	_
2.45398	6.01 ave	10.4	9	6.41	56	46	_	_	_	_
			Margin [dB]:		-39.59	-29.59	_	-	_	_
3.61861	6.07 ave	10.4	0 10	6.47	56	46	-	-	-	-

Job Nur Model N Client N	lumber:	740133 M812 Altec La	_		S-M812	C8319		Page	37 o	f 159
			Margin [dB]:	:	-39.53	-29.53	_	_	_	_
29.89873	16.71 ave	11.1	0	27.81	60	50	-	-	-	-
			Margin [dB]:	:	-32.19	-22.19	_	_	-	-
29.08132	17.78 ave	11.1	0	28.88	60	50	_	_	-	-
			Margin [dB]:	:	-31.12	-21.12	_	_	-	-
27.99626	15.45 ave	11.1	0	26.55	60	50	_	_	-	-
			Margin [dB]:	:	-33.45	-23.45	_	_	-	-
26.25293	13.65 ave	11	0	24.65	60	50	_	_		-
			Margin [dB]:	:	-35.35	-25.35	_	_	-	-
25.67423	13.32 ave	11	0	24.32	60	50	_	_		-
			Margin [dB]:	:	-35.68	-25.68	_	_		-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

pk - Peak detector

qp - Quasi-Peak detector av - Average detector

avlg - denotes average log detection

ave - denotes average detection

LIMIT 1: FCC Part 15 Subpart C QPk

LIMIT 2: FCC Part 15 Subpart C Avg

LIMIT 3: NONE

LIMIT 4: NONE

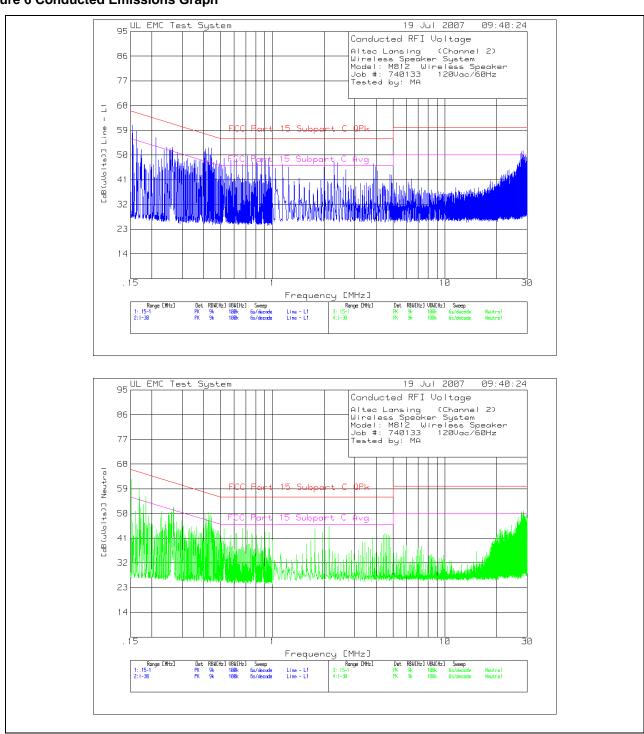
LIMIT 5: NONE

LIMIT 6: NONE

Job Number: 740133 File Number: MC8319 Page 38 of 159

Model Number: M812 FCC ID: VJS-M812

Figure 6 Conducted Emissions Graph



Job Number: 740133 File Number: MC8319 Page 39 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Table 7 Conducted Emissions Data Points

Altec Lansing (Channel 2)
Wireless Speaker System

Model: M812 Wireless Speaker Job #: 740133 120Vac/60Hz

Tested by: MA

	Test Frequency [MHz]	[dB(uV)]	Factor [dB]	Transducer Level Factor [dB(uVolts [dB]	5)]	2	3	4	5	6
							:======	:======	:======	=======
	e - L1 .15 .15445	48.89 pk		0 60.89	65.8	55.8		_	_	_
1	.13443	40.03 pk	12	Margin [dB]	-4.91	5.09	_	_	_	_
2	.16293	46.67 pk	11.9	0 58.57	65.3	55.3	_	_	_	_
4	.10293	40.07 pk	11.9	Margin [dB]	-6.73	3.27	_	_	_	_
3	.21128	45.04 pk	11.3	0 56.34	63.2	53.2	_	_	_	_
-				Margin [dB]	-6.86	3.14	-	_	_	_
4	.26216	41.78 pk	11	0 52.78	61.4	51.4	-	-	-	_
		_		Margin [dB]	-8.62	1.38	-	_	_	_
5	.35142	37.5 pk	10.7	0 48.2	58.9	48.9	-	-	-	-
				Margin [dB]	-10.7	7	-	_	_	-
6	.40803	41.56 pk	10.6	0 52.16	57.7	47.7	-	_	_	-
				Margin [dB]	-5.54	4.46	-	-	-	-
7	.44259	42.07 pk	10.5	0 52.57	57	47	-	-	-	-
				Margin [dB]	-4.43	5.57	-	-	-	-
8	.52465	38.16 pk	10.5	0 48.66	56	46	-	-	-	-
		0.7.64		Margin [dB]	-7.34	2.66	-	_	-	-
9	.57405	37.64 pk	10.4	0 48.04	56	46	-	-	_	-
1.0	61062	20 101-	10 4	Margin [dB]	-7.96	2.04	-	_	_	-
10	.61963	38.12 pk	10.4	0 48.52	56	46	-	-	-	-
11	71200	20 20 mls	10 4	Margin [dB] 0 49.68	-7.48 56	2.52 46	_	_	_	-
11	.71398	39.28 pk	10.4		-6.32	3.68	_	_	_	_
12	.8607	38.55 pk	10.4	Margin [dB] 0 48.95	-0.32 56	46	_	_	_	_
12	.0007	30.33 PK	10.1	Margin [dB]	-7.05	2.95	_	_	_	_
13	.95124	38.39 pk	10.3	0 48.69	56	46	_	_	_	_
	.,,,,,,,	30.33 P.I	20.5	Margin [dB]	-7.31	2.69	_	_	_	_
Lin	e - L1 1 -	30MHz								
14	1.0434	34.88 pk	10.3	0 45.18	56	46	-	-	-	-
				Margin [dB]	-10.82	82	-	_	_	-
15	1.14467	36.31 pk	10.3	0 46.61	56	46	-	-	-	-
				Margin [dB]	-9.39	.61	-	-	-	-
16	1.23871	35.2 pk	10.3	0 45.5	56	46	-	-	-	-
				Margin [dB]	-10.5	5	-	_	-	-
17	2.28037	36.93 pk	10.4	0 47.33	56	46	-	-	-	-
1.0	2 06456	26 221-	10 4	Margin [dB]	-8.67	1.33	-	_	_	_
18	3.86456	36.33 pk	10.4	0 46.73	56	46	-	-	-	_
19	20 40264	20 70 ple	11.1	Margin [dB] 0 49.89	-9.27 60	.73 50	_	_	_	-
13	29.49364	38.79 pk	11.1	Margin [dB]	-10.11	11	_	_	_	_
20	28.34348	40.47 pk	11.1	0 51.57	60	50	_	_	_	_
20	20.31310	10.17 pm	±±•±	Margin [dB]	-8.43	1.57	_	_	_	_
21	27.5984	39.48 pk	11	0 50.48	60	50	_	_	_	_
				Margin [dB]	-9.52	.48	-	_	_	_
22	26.20953	35.23 pk	11	0 46.23	60	50	_	_	_	_
		- 1		Margin [dB]	-13.77	-3.77	-	-	_	_
23	25.09554	33.32 pk	11	0 44.32	60	50	-	_	_	_
		-		Margin [dB]	-15.68	-5.68	-	-	-	=
24	22.90372	33.12 pk	11.1	0 44.22	60	50	-	-	-	-
				Margin [dB]	-15.78	-5.78	-	_	-	_
	tral .15 -									
25	.15212	50.48 pk	12	0 62.48	65.9	55.9	_	_	_	-

Ν	ob Number: lodel Numb lient Name:	er:	740133 M812 Altec L		FC	C ID:	VJS-M8	MC8319 312	9	P	age	40 of '	159
					Margin	[dB]		-3.42	6.58	_	_	_	_
26	.16908	47.02	pk 1	1.8	0		58.82	65	55	-	-	-	-
					Margin	[dB]		-6.18	3.82	-	-	-	-
27	.18541	44.49	pk 1	1.6	0		56.09	64.2	54.2	-	-	-	-
					Margin	[dB]		-8.11	1.89	-	-	-	-
28	.26661	41.34	pk 1	.0.9	0		52.24	61.2	51.2	-	-	-	-
					Margin	[dB]		-8.96	1.04	-	-	-	-
29	.40697	39.06	pk 1	.0.6	0		49.66	57.7	47.7	-	-	-	-
					Margin	[dB]		-8.04	1.96	-	-	-	-
30	.44026	39.51	pk 1	.0.5	0		50.01	57.1	47.1	-	-	-	-
					Margin	[dB]		-7.09	2.91	-	-	-	-
31	.6684	34.24	pk 1	.0.4	0		44.64	56	46	-	-	-	-
					Margin	[dB]		-11.36	-1.36	-	-	-	-
32	.90374	33.01	pk 1	.0.3	0		43.31	56	46	_	-	-	-
					Margin	[dB]		-12.69	-2.69	-	-	-	-
Neu	tral 1 - 30M	Hz											
33	1.75954	34.1 p	ok 1	0.3	0		44.4	56	46	_	_	_	_
		_			Margin	[dB]		-11.6	-1.6	_	-	-	_
34	2.1357	35.07	pk 1	0.4	0		45.47	56	46	_	-	-	_
			_		Margin	[dB]		-10.53	53	_	-	-	_
35	4.50112	32.43	pk 1	0.4	0		42.83	56	46	_	-	-	-
					Margin	[dB]		-13.17	-3.17	_	-	-	-
36	27.89499	39.66	pk 1	.1	0		50.66	60	50	_	-	-	-
					Margin	[dB]		-9.34	.66	-	-	-	-
37	26.62909	35.24	pk 1	.1	0		46.24	60	50	_	-	-	-
					Margin	[dB]		-13.76	-3.76	_	-	-	-
38	24.27089	34.82	pk 1	.1	0		45.82	60	50	-	-	-	-
					Margin	[dB]		-14.18	-4.18	-	-	-	-
39	22.38289	32.65	pk 1	1.1	0		43.75	60	50	-	-	-	-
					Margin	[dB]		-16.25	-6.25	-	-	-	-
40	20.93614	32.62	pk 1	1.6	0		44.22	60	50	_	-	-	-
					Margin	[dB]		-15.78	-5.78	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C QPk LIMIT 2: FCC Part 15 Subpart C Avg

LIMIT 3: NONE LIMIT 4: NONE LIMIT 5: NONE LIMIT 6: NONE

pk - Peak detector

qp - Quasi-Peak detector

av - Average detector

avlg - denotes average log detection ave - denotes average detection

tm - Trace Math Result

Job Number: 740133 File Number: MC8319 Page 41 of 159

FCC ID: VJS-M812 Model Number: M812

Altec Lansing Technologies Client Name:

Altec Lansing (Channel 2) Wireless Speaker System Model: M812 Wireless Speaker Job #: 740133 120Vac/60Hz Tested by: MA

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]		Level B(uVolts		2	3	4	5	6
Line - L1	.15 - 1MHz									
.15286	38.9 gp	12	0	50.9	65.8	55.8	_	-	_	-
			Margin [dB]	:	-14.9	-4.9	-	-	_	-
.40687	38.32 qp	10.6	0	48.92	57.7	47.7	-	-	_	-
			Margin [dB]	:	-8.78	1.22	-	-	-	-
.44109	38.72 qp	10.5	0	49.22	57	47	-	-	_	_
			Margin [dB]	:	-7.78	2.22	-	-		
Neutral .1	5 - 1MHz									
.1517	38.15 qp	12	0	50.15	65.9	55.9	-	-	_	-
			Margin [dB]	:	-15.75	-5.75	_	-	_	_

NOTE: "+" $\,\,$ - Indicates an emission level in excess of the applicable limit (s).

pk - Peak detector

qp - Quasi-Peak detector

av - Average detector

avlg - denotes average log detection ave - denotes average detection

LIMIT 1: FCC Part 15 Subpart C QPk LIMIT 2: FCC Part 15 Subpart C Avg

LIMIT 3: NONE

LIMIT 4: NONE

LIMIT 5: NONE

LIMIT 6: NONE

Job Number: 740133 File Number: MC8319 Page 42 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Altec Lansing (Channel 2) Wireless Speaker System Model: M812 Wireless Speaker Job #: 740133 120Vac/60Hz

Tested by: MA

Test Frequency [MHz]	Reading [dB(uV)]	Gain/Loss Factor [dB]		(uVolts)]	2	3	4	5	6
Line - L1										
.15445	10.83 ave	12	0	22.83	65.8	55.8	_	_	_	_
.13113	10.05 ave	12	Margin [dB]:	22.03	-42.97	-32.97	_	_	_	_
.16293	16.86 ave	11.9	0	28.76	65.3	55.3	_	_	_	_
.10275	20.00 0.00		Margin [dB]:	20170	-36.54	-26.54	_	_	_	_
.21128	9.92 ave	11.3	0	21.22	63.2	53.2	_	_	_	_
			Margin [dB]:		-41.98	-31.98	_	_	_	_
.26216	28.5 ave	11	0	39.5	61.4	51.4	_	_	_	_
			Margin [dB]:		-21.9	-11.9	-	_	_	-
.35142	21.23 ave	10.7	0	31.93	58.9	48.9	-	-	_	-
			Margin [dB]:		-26.97	-16.97	-	-	_	-
.40803	17.28 ave	10.6	0	27.88	57.7	47.7	_	_	_	_
			Margin [dB]:		-29.82	-19.82	-	-	_	-
.44259	26.75 ave	10.5	0	37.25	57	47	-	_	_	-
			Margin [dB]:		-19.75	-9.75	_	_	_	_
.52465	19.63 ave	10.5	0	30.13	56	46	_	-	_	-
			Margin [dB]:		-25.87	-15.87	-	-	_	-
.57405	11.78 ave	10.4	0	22.18	56	46	-	-	_	-
61062	12 20	10.4	Margin [dB]:	00 50	-33.82	-23.82	_	_	_	_
.61963	13.38 ave	10.4	0	23.78	56	46	-	_	_	_
71200	7 70	10 4	Margin [dB]:	10 10	-32.22	-22.22	_	_	_	_
.71398	7.78 ave	10.4	0 Marain [dD]:	18.18	56 -37.82	46 -27.82	_	_	_	_
.8607	6.27 ave	10.4	Margin [dB]:	16.67	-37.62 56	-27.62 46	_	_	_	_
.0007	0.27 ave	10.4	Margin [dB]:	10.07	-39.33	-29.33	_	_	_	
.95124	11.83 ave	10.3	0	22.13	56	46	_	_	_	_
. 75121	11.05 ave	10.5	Margin [dB]:	22.13	-33.87	-23.87	_	_	_	_
Line - L1	L - 30MHz		nargrii (ab)		33.07	23.07				
1.0434	15.23 ave	10.3	0	25.53	56	46	_	_	_	_
			Margin [dB]:		-30.47	-20.47	_	_	_	_
1.14467	10.74 ave	10.3	0	21.04	56	46	_	_	_	_
			Margin [dB]:		-34.96	-24.96	-	_	_	_
1.23871	13.05 ave	10.3	0	23.35	56	46	-	_	_	_
			Margin [dB]:		-32.65	-22.65	-	_	_	-
2.28037	10.11 ave	10.4	0	20.51	56	46	-	-	-	-
			Margin [dB]:		-35.49	-25.49	-	_	_	-
3.86456	4.77 ave	10.4	0	15.17	56	46	_	-	_	-
			Margin [dB]:		-40.83	-30.83	_	_	_	-
29.49364	15.5 ave	11.1	0	26.6	60	50	_	_	_	_
00 24240	16 24	11 1	Margin [dB]:	07 44	-33.4	-23.4	-	_	_	_
28.34348	16.34 ave	11.1	O Manain [dD]:	27.44	60	50	-	_	_	-
27.5984	14.69 ave	11	Margin [dB]:	25.69	-32.56 60	-22.56 50	_	_	_	_
27.3904	14.09 ave	11	Margin [dB]:	23.09	-34.31	-24.31	_	_	_	_
26.20953	11.96 ave	11	0	22.96	60	50	_	_	_	_
20.2000	11.70 0.00		Margin [dB]:	22.70	-37.04	-27.04	_	_	_	_
25.09554	10.98 ave	11	0	21.98	60	50	_	_	_	_
			Margin [dB]:		-38.02	-28.02	_	_	_	_
22.90372	9.01 ave	11.1	0	20.11	60	50	-	_	_	_
			Margin [dB]:		-39.89	-29.89	-	_	_	-
Neutral .15	5 - 1MHz									
.15212	8.89 ave	12	0	20.89	65.9	55.9	-	_	-	_
			Margin [dB]:		-45.01	-35.01	-	-	-	-
.16908	18.05 ave	11.8	0	29.85	65	55	-	-	-	-
			Margin [dB]:		-35.15	-25.15	-	-	-	-

Job Num Model Nu Client Na	umber:	740133 M812 Altec La			S-M812	C8319		Page	43 of	159
.18541	11.49 ave	11.6	0	23.09	64.2	54.2	_	-	_	-
.26661	25.3 ave	10.9	Margin [dB]:	36.2	-41.11 61.2	-31.11 51.2	_	_ _	_	_
			Margin [dB]:		-25	-15	-	=	-	-
.40697	14.43 ave	10.6	0	25.03	57.7	47.7	-	-	-	-
.44026	24.33 ave	10.5	Margin [dB]:	34.83	-32.67 57.1	-22.67 47.1	_	_	_	_
.11020	21.33 ave	10.5	Margin [dB]:		-22.27	-12.27	-	-	_	-
.6684	3.82 ave	10.4	0	14.22	56	46	-	-	-	-
00274	0 77	10.2	Margin [dB]:		-41.78	-31.78	-	=	-	-
.90374	2.77 ave	10.3	U Margin [dB]:	13.07	56 -42.93	46 -32.93	_	_	_	_
Neutral 1 -	30MHz									
1.75954	2.95 ave	10.3	0	13.25	56	46	-	-	-	-
2.1357	1.47 ave	10.4	Margin [dB]:	11.87	-42.75 56	-32.75 46	_	_	_	-
2.135/	1.4/ ave	10.4	Margin [dB]:		-44.13	-34.13	_	_	_	_
4.50112	-1.43 ave	10.4	0	8.97	56	46	-	=	_	-
			Margin [dB]:		-47.03	-37.03	-	-	-	-
27.89499	15.02 ave	11	0 Margin [dB]:	26.02	60 -33.98	50 -23.98	-	-	-	_
26.62909	12.97 ave	11	Margin (db).	23.97	-33.90 60	-23.96 50	_	_	_	_
			Margin [dB]:		-36.03	-26.03	-	-	-	-
24.27089	11.21 ave	11	0	22.21	60	50	-	-	-	-
22.38289	9.48 ave	11.1	Margin [dB]:	20.58	-37.79 60	-27.79 50	-	_	_	_
22.30209	J.40 ave	11.1	Margin [dB]:		-39.42	-29.42	_	_	_	_
20.93614	8.97 ave	11.6	0	20.57	60	50	-	-	_	-
			Margin [dB]:		-39.43	-29.43	-	-	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

pk - Peak detector

qp - Quasi-Peak detector av - Average detector

avlg - denotes average log detection

ave - denotes average detection

LIMIT 1: FCC Part 15 Subpart C QPk LIMIT 2: FCC Part 15 Subpart C Avg

LIMIT 3: NONE LIMIT 4: NONE

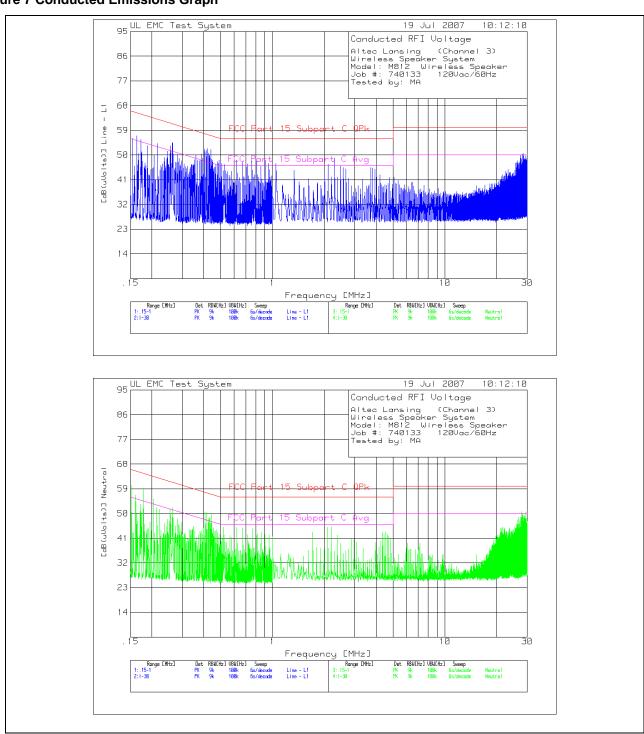
LIMIT 5: NONE

LIMIT 6: NONE

Job Number: 740133 File Number: MC8319 Page 44 of 159

Model Number: M812 FCC ID: VJS-M812

Figure 7 Conducted Emissions Graph



Job Number: 740133 File Number: MC8319 Page 45 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Table 8 Conducted Emissions Data Points

Altec Lansing (Channel 3) Wireless Speaker System Model: M812 Wireless Speaker Job #: 740133 120Vac/60Hz

Tested by: MA

	Test Frequency [MHz]	[dB(uV)]	Gain/Loss Factor [dB]	Transducer L Factor [dB(uVolts)]	2	3	4	5	6
	======== - L1 .15			========	======	======	=======	======	======	======	======
	16421	45.02 pk	11.9	0	56.92	65.2	55.2	_	_	_	_
.	10121	13.02 PK	11.7	Margin [dB]	30.72	-8.28	1.72	_	_	_	_
2.	1888	41.77 pk	11.6		53.37	64.1	54.1	_	_	_	_
	1000	11.// PM	11.0	Margin [dB]	33.37	-10.73	73	_	_	_	_
3.	21488	42.82 pk	11.3	-	54.12	63	53	_	_	_	_
				Margin [dB]		-8.88	1.12	_	_	_	_
4 .	26322	43.51 pk	11		54.51	61.3	51.3	_	_	_	_
		_		Margin [dB]		-6.79	3.21	_	_	_	_
5.	36096	39.27 pk	10.6	0	49.87	58.7	48.7	_	-	_	_
				Margin [dB]		-8.83	1.17	-	_	-	_
6.	42224	41.84 pk	10.5	0	52.34	57.4	47.4	_	_	-	-
				Margin [dB]		-5.06	4.94	-	_	_	_
7.	49178	37.5 pk	10.5		48	56.1	46.1	-	-	-	-
				Margin [dB]		-8.1	1.9	_	_	_	_
8.	61878	37.69 pk	10.4		48.09	56	46	-	_	-	_
_				Margin [dB]		-7.91	2.09	=-	-	-	_
9.	7602	37.39 pk	10.4		47.79	56	46	-	_	-	_
1.0	00005	25 21 1	10.0	Margin [dB]	40 11	-8.21	1.79	_	_	_	_
10	.90925	37.81 pk	10.3		48.11	56	46	_	_	_	_
11	01045	27 011-	10.4	Margin [dB]	40 21	-7.89	2.11	_	_	_	-
11	.81045	37.91 pk	10.4		48.31	56 -7.69	46 2.31	-	_	_	_
12	.43973	41 47 ple	10.5	Margin [dB] 0	51.97	57.1	47.1	_	_	_	_
12	.43973	41.47 pk	10.5	Margin [dB]	31.97	-5.13	4.87	_	_	_	_
				Margin [ub]		-3.13	4.07				
Line	- L1 1 -	30MHz									
	1.05064	36.53 pk		0	46.83	56	46	_	_	_	_
				Margin [dB]		-9.17	.83	_	_	_	_
14	1.33275	34.09 pk	10.3		44.39	56	46	_	_	_	_
		_		Margin [dB]		-11.61	-1.61	_	_	_	_
15	2.09953	36.09 pk	10.4	0	46.49	56	46	_	-	_	_
				Margin [dB]		-9.51	.49	_	_	_	_
16	2.29484	38.53 pk	10.4	0	48.93	56	46	-	_	-	_
				Margin [dB]		-7.07	2.93	-	-	-	-
17	2.48291	35.75 pk	10.4	0	46.15	56	46	-	-	-	-
				Margin [dB]		-9.85	.15	_	_	_	_
18	3.71265	34.95 pk	10.4		45.35	56	46	_	_	_	_
				Margin [dB]		-10.65	65	-	_	-	_
19	29.443	38.58 pk	11.1		49.68	60	50	-	_	-	_
	00 45545			Margin [dB]		-10.32	32	_	_	_	_
20	28.46645	39.39 pk	11.1		50.49	60	50	_	_	_	_
0.1	27 21 620	20 01-	11 1	Margin [dB]	40 0	-9.51	.49	_	_	_	_
21	27.31629	38.8 pk	11.1		49.9	60	50	_	_	_	_
22	25 56572	26 07 -1-	11	Margin [dB] 0	47 O7	-10.1	1 E0	_	_	_	_
22	25.56573	36.07 pk	11	Margin [dB]	47.07	60 -12.93	50 -2.93	_	_	_	_
23	23.22923	33.73 pk	11.1	-	44.83	-12.93 60	-2.93 50		_	_	_
ر ہے	22.222	33.73 PK	****	Margin [dB]	11.00	-15.17	-5.17	_	_	_	_
24	22.46969	32.93 pk	11.1	-	44.03	60	50	=	_	_	_
		>5 Pit		Margin [dB]		-15.97	-5.97	_	_	_	_
						,					

Job Number: 740133 File Number: MC8319 Page 46 of 159 M812 FCC ID: VJS-M812 Model Number: Client Name: Altec Lansing Technologies Neutral .15 - 1MHz -----60.34 65.8 55.8 25 .15276 48.34 pk 0 12 Margin [dB] -5.46 4.54 26 .1782 47.61 pk 11.7 59.31 64.6 54.6 0 Margin [dB] -5.29 4.71 .20364 43.87 pk 55.27 63.5 2.7 11.4 0 53.5 Margin [dB] -8.23 1.77 28 .26386 41.28 pk 10.9 0 52.18 61.3 51.3 Margin [dB] -9.12 .88 29 .4074 39.76 pk 10.6 0 50.36 57.7 47.7 -7.34 Margin [dB] 2.66 .44259 39.48 pk 10.5 0 57 30 47 Margin [dB] -7.02 2.98 31 .52295 34.63 pk 10.4 0 45.03 56 46 Margin [dB] -10.97 -.97 32 .67094 34.34 pk 10.4 0 44.74 56 46 Margin [dB] -11.26 -1.26 33 .76572 56 34.01 pk 10.4 0 44.41 46 -1.59 Margin [dB] -11.59 34 .86282 10.3 32.79 pk 0 43.09 56 46 Margin [dB] -12.91 -2.91 Neutral 1 - 30MHz -----0 35 1.71614 32.96 pk 10.3 43.26 56 46 -2.74Margin [dB] -12.7436 2.19356 34.82 pk 46 -.78 Margin [dB] -10.7837 4.53729 32.82 pk 10.4 0 43.22 56 46 Margin [dB] -12.78 -2.78 38 29.3996 39.47 pk 11 0 50.47 60 50 Margin [dB] -9.53 .47 39 28.80644 38.41 pk 11 0 49.41 60 50 -.59 Margin [dB] -10.5940 27.85158 39.67 pk 50.67 11 0 60 50 Margin [dB] -9.33 .67 41 26.65079 37.48 pk 11 0 48.48 60 50 Margin [dB] -11.52 -1.52 42 24.91469 33.17 pk 11 0 44.17 60 50 Margin [dB] -15.83-5.83 43 23.70666 33.67 pk 50 -15.33 Margin [dB] -5.33 44 21.94163 44.79 50 33.69 pk 11.1 60 Margin [dB] -5.21 -15.21LIMIT 1: FCC Part 15 Subpart C QPk LIMIT 2: FCC Part 15 Subpart C Avg LIMIT 3: NONE

LIMIT 3: NONE LIMIT 4: NONE

LIMIT 5: NONE

LIMIT 6: NONE

pk - Peak detector

qp - Quasi-Peak detector

av - Average detector

avlg - denotes average log detection

ave - denotes average detection

tm - Trace Math Result

Job Number: 740133 File Number: MC8319 Page 47 of 159

FCC ID: VJS-M812 M812 Model Number:

Altec Lansing Technologies Client Name:

Altec Lansing (Channel 3) Wireless Speaker System Model: M812 Wireless Speaker Job #: 740133 120Vac/60Hz Tested by: MA

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB [dB]	Level 1 (uVolts		2	3	4	5	6
Line - L1	.15 - 1MHz									
.42067	36.26 qp	10.5	0	46.76	57.4	47.4	_	_	_	_
			Margin [dB]:		-10.64	64	_	_		
.43837	38.29 qp	10.5	0	48.79	57.1	47.1	_	_	-	-
			Margin [dB]:		-8.31	1.69	_	_		
Neutral .1	.5 - 1MHz									
.15124	38.63 qp	12	0	50.63	65.9	55.9	-	_	-	-
			Margin [dB]:		-15.27	-5.27	-	_	-	-
.17688	38.61 qp	11.7	0	50.31	64.6	54.6	-	_	-	-
			Margin [dB]:		-14.29	-4.29	_	_	-	-

NOTE: "+" $\,\,$ - Indicates an emission level in excess of the applicable limit (s).

pk - Peak detector

qp - Quasi-Peak detector

av - Average detector

avlg - denotes average log detection ave - denotes average detection

LIMIT 1: FCC Part 15 Subpart C QPk

LIMIT 2: FCC Part 15 Subpart C Avg LIMIT 3: NONE

LIMIT 4: NONE

LIMIT 5: NONE

LIMIT 6: NONE

Job Number: 740133 File Number: MC8319 Page 48 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Altec Lansing (Channel 3) Wireless Speaker System Model: M812 Wireless Speaker Job #: 740133 120Vac/60Hz

Tested	bv:	MΑ
resecu	ω_I	1.17.7

Test Frequency [MHz]	Reading [dB(uV)]	Factor [dB]	Transducer Factor [dB [dB]	(uVolts)]	2	3	4	5	6
Line - L1										
.16421	16.05 ave	11.9	0	27.95	65.2	55.2	_	_	_	_
.10121	10.05 ave	. 11.7	Margin [dB]:	27.55	-37.25	-27.25	_	_	_	_
.1888	11.35 ave	11.6	0	22.95	64.1	54.1	_	_	_	_
. 1000	11.55 ave		Margin [dB]:	22.75	-41.15	-31.15	_	_	_	_
.21488	10.25 ave	11.3	0	21.55	63	53	_	_	_	_
			Margin [dB]:		-41.45	-31.45	_	_	_	_
.26322	28.78 ave	11	0	39.78	61.3	51.3	_	_	_	_
			Margin [dB]:		-21.52	-11.52	-	_	_	_
.36096	14.86 ave	10.6	0	25.46	58.7	48.7	-	_	_	_
			Margin [dB]:		-33.24	-23.24	-	-	_	-
.42224	19.03 ave	10.5	0	29.53	57.4	47.4	-	-	-	-
			Margin [dB]:		-27.87	-17.87	-	_	_	_
.49178	12.54 ave	10.5	0	23.04	56.1	46.1	-	-	-	-
64.000			Margin [dB]:		-33.06	-23.06	_	_	-	_
.61878	13.2 ave	10.4	0	23.6	56	46	_	_	_	_
7600	0 10	10 4	Margin [dB]:	10 50	-32.4	-22.4	_	-	-	_
.7602	9.19 ave	10.4	0 Marain [dD]:	19.59	56 26 41	46	_	_	_	_
.90925	7.02 ave	10.3	Margin [dB]:	17.32	-36.41 56	-26.41 46	_	_	_	_
.90925	7.02 ave	10.3	Margin [dB]:	17.32	-38.68	-28.68	_	_	_	_
.81045	5.6 ave	10.4	0	16	56	46	_	_	_	_
.01015	3.0 0.0	10.1	Margin [dB]:		-40	-30	_	_	_	_
.43973	26.63 ave	10.5	0	37.13	57.1	47.1	_	_	_	_
			Margin [dB]:		-19.97	-9.97	_	_	_	_
Line - L1	1 - 30MHz									
1.05064	15.62 ave	10.3	0	25.92	56	46	-	_	_	_
			Margin [dB]:		-30.08	-20.08	-	-	-	-
1.33275	5.47 ave	10.3	0	15.77	56	46	-	-	_	_
			Margin [dB]:		-40.23	-30.23	-	_	-	-
2.09953	7.66 ave	10.4	0	18.06	56	46	-	_	-	_
0 00404	10 47	10 4	Margin [dB]:	00 07	-37.94	-27.94	-	_	_	=
2.29484	10.47 ave	10.4	O Margin [dD]:	20.87	56	46 -25.13	_	-	_	_
2.48291	4.92 ave	10.4	Margin [dB]:	15.32	-35.13 56	-25.13 46	_	_	_	_
2.40291	4.72 ave	10.4	Margin [dB]:	13.32	-40.68	-30.68	_	_	_	_
3.71265	8.74 ave	10.4	0	19.14	56	46	_	_	_	_
3.71200	0.71 4.0	10.1	Margin [dB]:		-36.86	-26.86	_	_	_	_
29.443	15.4 ave	11.1	0	26.5	60	50	_	_	_	_
			Margin [dB]:		-33.5	-23.5	-	_	_	_
28.46645	16.55 ave	11.1	0	27.65	60	50	-	_	_	_
			Margin [dB]:		-32.35	-22.35	-	_	_	_
27.31629	13.93 ave	11.1	0	25.03	60	50	-	-	-	-
			Margin [dB]:		-34.97	-24.97	-	_	_	_
25.56573	11.06 ave	: 11	0	22.06	60	50	-	_	-	_
02 00002	0.05	11 1	Margin [dB]:	10 00	-37.94	-27.94	_	_	_	_
23.22923	8.87 ave	11.1	0	19.97	60	50	_	_	_	_
22.46969	0 56 2770	11 1	Margin [dB]:	10 66	-40.03	-30.03	_	_	_	_
44.40303	8.56 ave	11.1	Margin [dB]:	19.66	60 -40.34	50 -30.34	_	_	_	_
Neutral .1	5 - 1MHz		margin [ub].		40.54	JU.J4				
.15276	8.41 ave	12	0	20.41	65.8	55.8	_	_	=	_
- -		_	Margin [dB]:	=	-45.39	-35.39	_	_	_	_
.1782	20.13 ave	11.7	0	31.83	64.6	54.6	_	-	-	_
			Margin [dB]:		-32.77	-22.77	-	-	-	-

Job Num Model N Client Na	umber:	740133 M812 Altec L		FCC	Numbe ID: VJ nologie	S-M812	MC8319 2		Page	49 of	159
.20364	9.09 ave	11.4	0	[1p.] .	20.49	63.5	53.5	-	_	-	-
.26386	25.43 ave	10.9	Margin 0	[aB]:	36.33	-43.01 61.3	-33.01 51.3	_	-	-	-
.20380	25.43 ave	10.9	u Margin	ו מה.	30.33	-24.97		-	_	-	-
.4074	14.84 ave	10.6	Margin 0	[db].	25.44	57.7	47.7	_	_	_	_
.40/4	14.04 ave	10.6	Margin	[45].	25.44	-32.26		_	_	_	_
.44259	24.32 ave	10.5	0	[GD].	34.82	57	47	_	_	_	_
. 11233	21.32 ave	10.5	Margin	[dB]:	31.02	-22.18		_	_	_	_
.52295	19.66 ave	10.4	0	[42]	30.06	56	46	_	_	_	_
			Margin	[dB]:		-25.94		_	_	_	_
.67094	3.87 ave	10.4	0		14.27	56	46	_	_	_	_
			Margin	[dB]:		-41.73	-31.73	_	_	_	_
.76572	7.41 ave	10.4	0		17.81	56	46	-	-	_	-
			Margin	[dB]:		-38.19	-28.19	-	_		-
.86282	4.56 ave	10.3	0		14.86	56	46	-	_	_	-
			Margin	[dB]:		-41.14	-31.14	-	-	-	-
Neutral 1 -	- 30MHz										
1.71614	1.14 ave	10.3	0		11.44	56	46	-	_	-	-
			Margin	[dB]:		-44.56		-	-	_	-
2.19356	2.68 ave	10.4	0		13.08	56	46	-	_	-	-
			Margin	[dB]:		-42.92		-	_	-	-
4.53729	-2.37 ave	10.4	0		8.03	56	46	-	-	_	-
			Margin	[dB]:		-47.97		-	-	_	-
29.3996	15.73 ave	11	0	r 1- 1	26.73	60	50	-	-	-	-
00 00644	15 10		Margin	[dB]:	00 10	-33.27		-	_	-	-
28.80644	17.13 ave	11	0	[45].	28.13	60	50	_	_	_	-
07 05150	15 04	11	Margin	[gB]:	26 24	-31.87		-	_	_	-
27.85158	15.24 ave	11	0 Manada	יו מבי	26.24	60	50	-			_
26.65079	13.32 ave	11	Margin 0	[gB]:	24.32	-33.76	5 -23.76 50	-	_	-	-
20.05079	13.32 ave	T, T,	u Margin	ו מה.	24.32	60 -35.68		_	_	-	-
24.91469	11.27 ave	11	Margin 0	[UB]·	22.27	-35.00 60	50	_	_	_	_
24.91409	II.Z/ ave	11	Margin	[dB]:	22.21	-37.73		_	_	_	_
23.70666	10.36 ave	11	0	[ub]·	21.36	60	50	_	_	_	_
23.70000	10.50 ave		Margin	[dB]:	21.50	-38.64		_	_	_	_
21.94163	9.4 ave	11.1	0		20.5	60	50	_	_	_	_
,,,	J.1 avc		Margin	[dB]:	20.5	-39.5	-29.5	_	_	_	_
			.101 9 111	Labj.		37.3	27.5				

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

pk - Peak detector

qp - Quasi-Peak detector

av - Average detector

avlg - denotes average log detection

ave - denotes average detection

LIMIT 1: FCC Part 15 Subpart C QPk

LIMIT 2: FCC Part 15 Subpart C Avg

LIMIT 3: NONE

LIMIT 4: NONE

LIMIT 5: NONE LIMIT 6: NONE

Job Number: 740133 File Number: MC8319 Page 50 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

4.2 Test Conditions and Results - Occupied Bandwidth

Test Description	tuned to the transmit frequ	Measurements were made in the laboratory environment. A Dipole (or equivalent) antenna uned to the transmit frequency was attached to the input of a spectrum analyzer. The device was operated and the spectrum analyzer resolution bandwidth set per the appropriate tandard.						
Basic Stand	Basic Standard FCC Part 15, Subpart C, 15.247							
	Occupied Bandwidth Limits							
OBW must be greater than 500kHz								

Table 9 Occupied Bandwidth Configuration Settings

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #	
1	1	1,2,3	
Supplementary information: None			

Table 10 Occupied Bandwidth Spectrum Analyzer Settings

Resolution Bandwidth (MHz)	Occupied Bandwidth Requirements
100kHz	> 500kHz
Supplementary information: None	

Table 11 Occupied Bandwidth Test Equipment

Test Equipment Used							
Description	Manufacturer	Model	Identifier				
Spectrum							
Analyzer	Advantest	R3261C	ME5A-229				
Horn Antenna	EMCO	RGA-180	ME5-565				
Temp/Humidity/							
Pressure Meter	Cole Parmer	99760-00	4268				
Measurement							
Software	UL	Version 9.3	44740				

Job Number: 740133 File Number: MC8319 Page 51 of 159

Model Number: M812 FCC ID: VJS-M812

Figure 8 Test Setup for Occupied Bandwidth



Job Number: 740133 File Number: MC8319 Page 52 of 159

Model Number: M812 FCC ID: VJS-M812

Figure 9 Occupied Bandwidth Graph - Channel 1

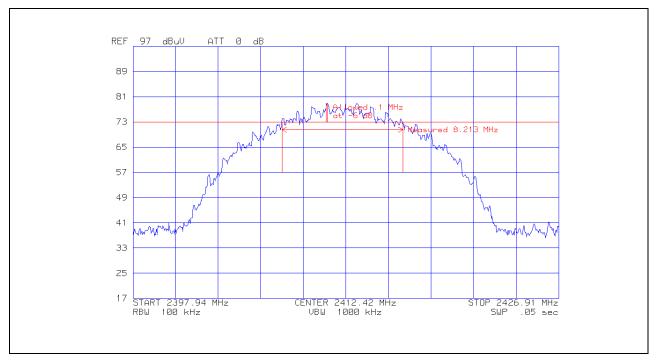
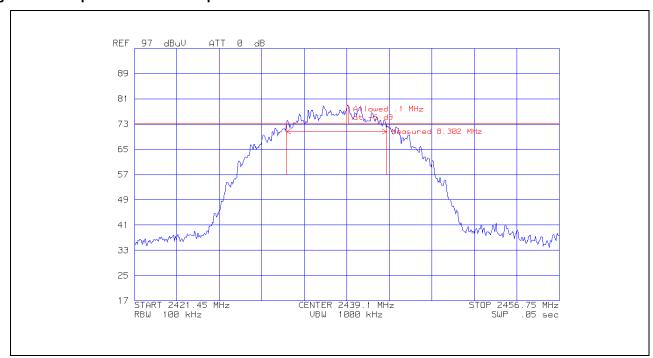


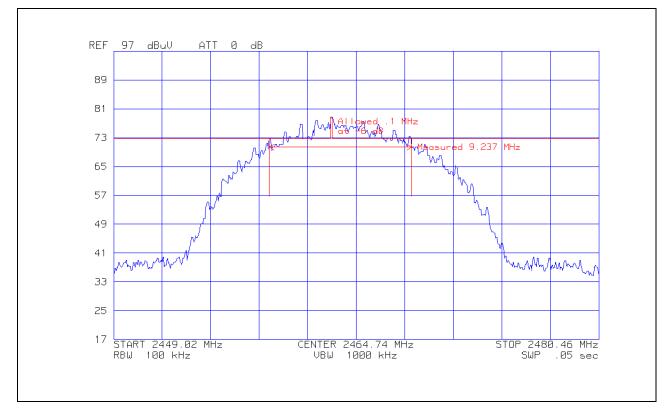
Figure 10 Occupied Bandwidth Graph - Channel 2



Job Number: 740133 File Number: MC8319 Page 53 of 159

Model Number: M812 FCC ID: VJS-M812

Figure 11 Occupied Bandwidth Graph – Channel 3



Job Number: 740133 File Number: MC8319 Page 54 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

4.3 Test Conditions and Results – Bandedge Measurement

16	est			
D	esc	crip	oti	on

Conducted and radiated measurements were made for this test. Measurements were made in the laboratory environment. The transmit antenna of the EUT was attached directly to the input of a spectrum analyzer. The device was operated and the spectrum analyzer resolution bandwidth set per the appropriate standard. A plot of the spectrum analyzer display screen is produced with marker points displaying the intended signal along with the –20dB frequency and the signal strength at the bandedges. Measurements were made in a 10-meter semi-anechoic chamber that complies to CISPR 16/ANSI C63.4. Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 3-meter. The EUT was rotated 360° about its azimuth with the receive antenna located at various heights in both horizontal and vertical polarities. Points were marked displaying the intended signal along with the – 20dB frequency and the signal strength at the bandedges

Basic Standard	FCC Part 15, Subpart C, 15.247	
	Limits	
Bandedge Frequencies	Criteria	
2400MHz	Outside OBW (low channel)	
2483.5MHz	Outside OBW (high channel)	

Table 12 Bandedge Measurement Configuration Settings

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #		
1	1	1,3		
Supplementary information: None				

Table 13 Bandedge Measurement Spectrum Analyzer Settings

Resolution Bandwidth	Video Bandwidth		
1MHz	1MHz		
Supplementary information: None			

Job Number: 740133 File Number: MC8319 Page 55 of 159

Model Number: M812 FCC ID: VJS-M812

Table 14 Bandedge Measurement Test Equipment

Test Equipment Used						
Description	Manufacturer	Model	Identifier			
Spectrum Analyzer	Advantest	R3261C	ME5A-229			
EMI Receiver	Rohde & Schwarz	ESI26	ME5B-081			
Preamp	HP	8449B	5914			
Horn Antenna	EMCO	RGA-180	ME5-565			
20dB Pad	MCL	BW-N20W5+	31618			
Temp/Humidity/ Pressure Meter	Cole Parmer	99760-00	4268			
Measurement Software	UL	Version 9.3	44740			

Job Number: 740133 File Number: MC8319 Page 56 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Table 15 Radiated Bandedge Data Points - Low Channel

Altec Lansing [Channel 1] Wireless Speaker System Model: M812 Aux In Mode Job: 740133 120V 60Hz

Tested By: MA				
Test Meter Gain/Loss Frequency Reading Factor [MHz] [dB(uV)] [dB]	Transducer Level Limit:1 Factor dB[uVolts/meter] [dB]		5	6
Horizontal 1000 - 3000MHz			 	
Fundamental 2411.8236 112.15 pk -32.7 Azimuth: 268 Height:151 Horz		- -	 - -	- -
-20dB Down Frequency 2403.8577 92.43 pk -32.8	28.7 88.33 54	_	 _	
2403.8577 92.43 pk -32.8 Azimuth: 268 Height:151 Horz			 -	-
Bandegdes				
2400 74.91 pk -32.8 Azimuth: 268 Height:151 Horz			 - -	- -
2390.0113 74.1 pk -32.8 Azimuth: 268 Height:151 Horz	28.7 70 54 Margin [dB]: 16	- -	 - -	-
2390.0113 54.75 ave -32.8	28.7 50.65 54	_	 =	_
Azimuth: 268 Height:151 Horz	Margin [dB]: -3.35	-	 -	-
2400 54.67 ave -32.8 Azimuth: 268 Height:151 Horz			 - -	- -
Vertical 1000 - 3000MHz				
<u>Fundamental</u> 2411.8236 104.49 pk -32.7	28.5 100.29 54	=	 -	_
Azimuth: 7 Height:101 Vert		-	 -	-
-20dB Down Frequency 2403.8076 85.06 pk -32.8	28.5 80.76 54	_	 _	_
Azimuth: 7 Height:101 Vert		-	 =	=
Bandegdes 2400.0501 70.67 pk -32.8	28.5 66.37 54	_	 _	_
Azimuth: 7 Height:101 Vert		-	 -	-
2390.0301 66.27 pk -32.8 Azimuth: 7 Height:101 Vert		- -	 -	- -
2390.0301 49.38 ave -32.8		-	 -	-
Azimuth: 7 Height:101 Vert	Margin [dB]: -8.92	_	 -	_
2400 47.97 ave -32.8 Azimuth: 7 Height:101 Vert		- -	 - -	-

LIMIT 1: FCC Part 15 Subpart C 15.209

pk - Peak detector

qp - Quasi-Peak detector

av - Average detector

avlg - Average log detector

ave - Average detector

Job Number: 740133 File Number: MC8319 Page 57 of 159

M812 FCC ID: VJS-M812 Model Number:

Altec Lansing Technologies Client Name:

Table 16 Radiated Bandedge Data Points - High Channel

[Channel 3] Altec Lansing Wireless Speaker System Model: M812 Aux In Mode Job: 740133 120V 60Hz Tested By: MA

Tested By: MA									
Test Meter G Frequency Reading [MHz] [dB(uV)]	Factor [dB]	Fransducer I Factor dB[u [dB]	ıVolts/m	neter]	2	3	4	5	6
Horizontal 1000 - 3000									
2464.0531 110.6 pk	-32.7	28.8	106.7	54	_	_	_	_	_
Azimuth: 107 Height:1	20 Horz	Margin	[dB]:	52.7	_	_	-	_	_
-20dB Down Frequency									
2472.2341 90.15 pk		28.8		54	-	-	-	-	-
Azimuth: 107 Height:1	20 Horz	Margin	[dB]:	32.25	-	-	-	-	-
Bandegdes									
2483.5067 75.72 pk		28.9		54	-	-	-	-	-
Azimuth: 107 Height:1	20 Horz	Margin	[dB]:	17.92	-	-	-	-	-
2483.5067 48.42 ave	-32.7	28.9	44.62	54	_	_	_	_	_
Azimuth: 107 Height:1	20 Horz	Margin	[dB]:	-9.38	-	-	-	-	-
Vertical 1000 - 3000MH Fundamental	Z								
2463.9676 105.3 pk		28.6		54	_	-	-	-	-
Azimuth: 176 Height:1	04 Vert	Margin	[dB]:	47.2	-	-	-	-	-
-20dB Down Frequency									
2471.5766 85.86 pk		28.6		54	_	-	-	-	-
Azimuth: 176 Height:1	04 Vert	Margin	[dB]:	27.76	_	_	-	_	_
Bandegdes									
-	-32.7	28.7		54	-	-	_	-	-
Azimuth: 176 Height:1	04 Vert	Margin	[dB]:	9.45	-	-	-	-	-
2483.5054 44.85 ave	-32.7	28.7	40.85	54	-	-	_	_	-
Azimuth: 176 Height:1	04 Vert	Margin	[dB]:	-13.15	=	=	-	=	-

LIMIT 1: FCC Part 15 Subpart C 15.209

pk - Peak detector qp - Quasi-Peak detector

av - Average detector

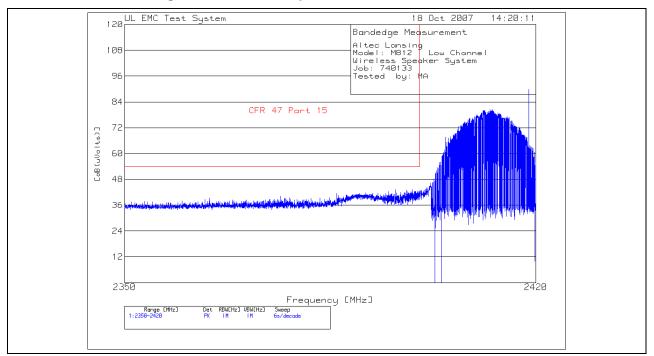
avlg - Average log detector ave - Average detector

Job Number: 740133 File Number: MC8319 Page 58 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Figure 13 Conducted Bandedge Measurement Graph - Low Channel



Altec Lansing

Model: M812 Low Channel Wireless Speaker System

Job: 740133 Tested by: MA

No	Test . Frequency [MHz]	Meter Reading [dB(uV)]	Attenuator Factor [dB]	Level [dB(uV)]
== Ra 1	nge 1 2350 - 2412.469	2420MHz - 80.5 pk	19.6	100.1
2	2403.878	59.2 pk	19.6	78.8
3	2400.043	43 pk	19.6	62.6

LIMIT 1: CFR 47 Part 15

pk - Peak detector

qp - Quasi-Peak detector

av - Average detector

avlg - denotes average log detection

ave - denotes average detection

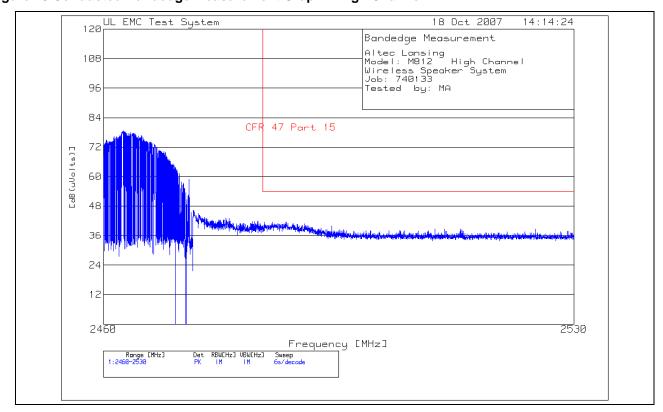
tm - Trace Math Result

Job Number: 740133 File Number: MC8319 59 of 159 Page

M812 FCC ID: VJS-M812 Model Number:

Client Name: Altec Lansing Technologies

Figure 15 Conducted Bandedge Measurement Graph - High Channel



Altec Lansing

Model: M812 High Channel

Wireless Speaker System

Job: 740133 Tested by: MA

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Attenuator Factor [dB]	Level [dB(uV)]	
===				=======	
	nge 1 2460 - 2462.887	2530MHz - 78.7 pk	19.6	98.3	
2	2471.487	58 pk	19.6	77.6	
3	2483.453	40 pk	19.6	59.6	

LIMIT 1: CFR 47 Part 15

pk - Peak detector

qp - Quasi-Peak detector

av - Average detector

avlg - denotes average log detection
ave - denotes average detection

tm - Trace Math Result

Job Number: 740133 File Number: MC8319 Page 60 of 159

Model Number: M812 FCC ID: VJS-M812

Figure 16 Radiated Bandedge Setup



Job Number: 740133 File Number: MC8319 Page 61 of 159

Model Number: M812 FCC ID: VJS-M812

Figure 17 Conducted Bandedge Setup Photo



Job Number: 740133 File Number: MC8319 Page 62 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

4.4 Test Conditions and Results – Peak Power

Test Description	input of the power meter	ments were performed with the output of the control	is located between the			
Basic Standa	ard	FCC Part 15, Subpart	C, 15.209			
		Frequency	Channel			
	red sample scanned	2412MHz	1			
over the follo	owing frequency range	2436MHz	2			
		2463MHz	3			
Limits						
1 Watt						

Table 17 Peak Power Measurement Test Equipment

Test Equipment Used							
Description	Manufacturer	Model	Identifier				
Power Meter	Rohde & Schwarz	NRVD	ME5B-081				
Power Meter							
Sensor	Rohde & Schwarz	NRVZ51	ME5B-078				
20dB Pad	MCL	BW-N20W5+	31618				
Temp/Humidity/							
Pressure Meter	Cole Parmer	99760-00	4268				

Job Number: 740133 File Number: MC8319 Page 63 of 159

M812 FCC ID: VJS-M812 Model Number:

Altec Lansing Technologies Client Name:

Table 18 Peak Power Data Points

Altec Lansing

Wireless Speaker System Model: M812 Channels 1,2,3 Job#: 740133

Tested by: MA

Test Frequency [MHz]	Pwr Mtr Reading [dBm]	Attenuator Factor [dB]	Power Level [dBm]	Power Level [mWatts]	Limit [Watts]
Channel 1 2412	-20.8	19.6	-1.2	0.76	1.0
Channel 2 2436	-20.9	19.6	-1.3	0.74	1.0
Channel 3 2463	-21.8	19.6	-2.2	0.60	1.0

Job Number: 740133 File Number: MC8319 Page 64 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

4.5 Test Conditions and Results – Power Spectral Density

Test Description	The following measurements were performed with the output of the EUT connected to the input of the power meter. A 50-ohm, 20 dB (nominal) attenuator is located between the measuring receiver and the EUT output connector. Measurements are performed on all three channels.					
Basic Standard FCC Part 15, Subpart C, 15.209						
		Frequency	Channel			
Fully configured sample scanned over the following frequency range		2412MHz	1			
		2436MHz	2			
		2463MHz	3			
Limits						
8dBm						

Table 19 Power Spectral Density Measurement Spectrum Analyzer Settings

Resolution Bandwidth	Video Bandwidth	Sweep Time			
3kHz	30kHz	1000sec			
Supplementary information: None					

Table 20 Power Spectral Density Measurement Test Equipment

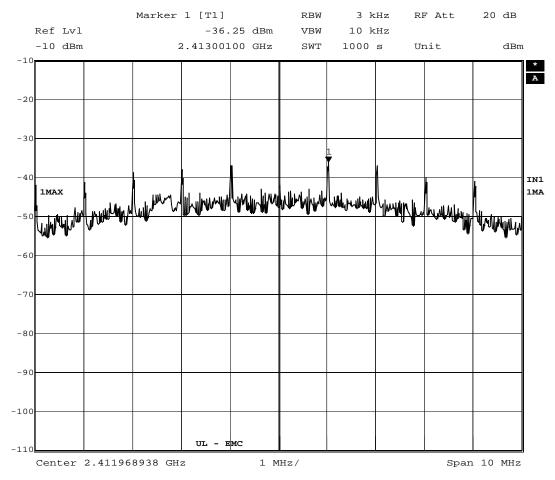
Test Equipment Used								
Description	Manufacturer	Model	Identifier					
EMI Receiver	Rohde & Schwarz	ESI26	ME5B-081					
20dB Pad	MCL	BW-N20W5+	31618					
Temp/Humidity/ Pressure Meter	Cole Parmer	99760-00	4268					

Job Number: 740133 File Number: MC8319 Page 65 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Table 21 Power Spectral Density - Channel 1



Date: 14.DEC.2007 12:46:52

Altec Lansing

Wireless Speaker System

Model: M812 Job#: 740133 Tested by: MA

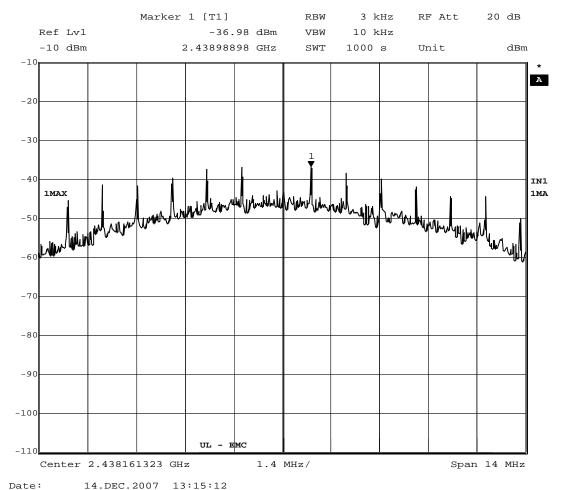
Test Frequency [MHz]	Meter Reading [dBm]	Attenuator Factor [dB]	Power Level [dBm]	Limit [dBm]
Channel 1 2412	-36.25	19.6	-16.65	8.0

Job Number: 740133 File Number: MC8319 Page 66 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Table 22 Power Spectral Density - Channel 2



11.556.2007 13.13.1

Altec Lansing

Wireless Speaker System

Model: M812 Job#: 740133 Tested by: MA

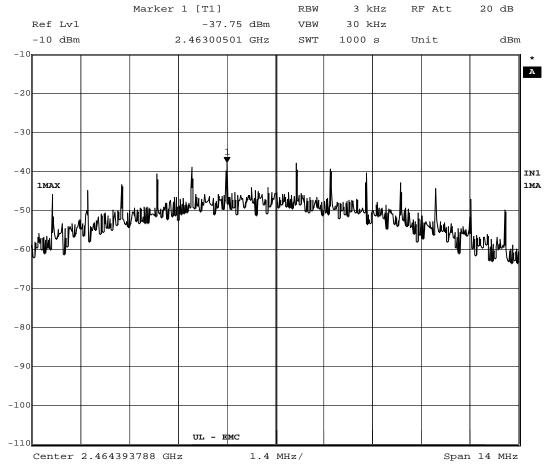
Test Frequency [MHz]	Meter Reading [dBm]	Attenuator Factor [dB]	Power Level [dBm]	Limit [dBm]
Channel 2 2436	-36.98	19.6	-17.38	8.0

Job Number: 740133 File Number: MC8319 Page 67 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Table 23 Power Spectral Density - Channel 3



Date: 14.DEC.2007 13:17:13

Altec Lansing

Wireless Speaker System

Model: M812 Job#: 740133 Tested by: MA

Test Frequency [MHz]	Meter Reading [dBm]	Attenuator Factor [dB]	Power Level [dBm]	Limit [dBm]
Channel 3	-37.75	19.6	-18.15	8.0

Job Number: 740133 File Number: MC8319 Page 68 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

4.6 Test Conditions and Results – Radiated Emissions (Receive Mode)

Test Description	Measurements were made in a 10-meter semi-anechoic chamber that complies to CISPR 16/ANSI C63.4. Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 3-meter. The EUT was rotated 360° about its azimuth with the receive antenna located at various heights in both horizontal and vertical polarities. Final measurements (quasi-peak or average as noted) were then performed by rotating the EUT 360° and adjusting the receive antenna height from 1 to 4-meters. All frequencies were investigated in both horizontal and vertical antenna polarity, where applicable.						
Basic Standa	ard	FCC Part 15	, Subj	oart B			
UL LPG		80-EM-	S0029)			
		Frequency range		Measurement Point			
Fully configured sample scanned over the following frequency range		30MHz – 1GHz		(3 meter measurement distance)			
		1 – 12GHz		(3 meter measurement distance)			
		Limits - Class B					
_	(2.01.)	Limit (dBµV/m)					
Freq	uency (MHz)	Quasi-Peak	Average				
	30 – 88	40	-				
	88 – 216	43.5		-			
216-960		46		-			
960-1000		54		-			
1000-12000		-		54			
Supplementa	ary information: None	<u></u>					

Table 24 Radiated Emissions EUT Configuration Settings

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #					
1	1	7,8					
Supplementary information: None							

Job Number: 740133 File Number: MC8319 Page 69 of 159

Model Number: M812 FCC ID: VJS-M812

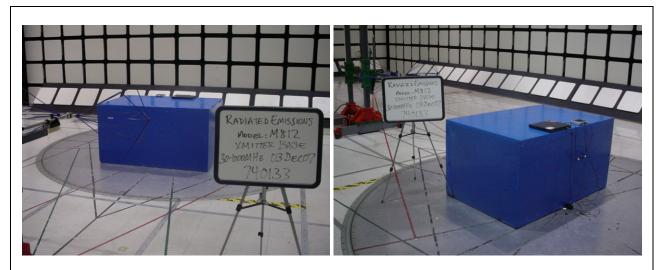
Table 25 Radiated Emissions Test Equipment

Test Equipment Used									
Description	Manufacturer	Model	Identifier						
30-1000MHz									
EMI Receiver	Rohde & Schwarz	ESIB26	ME5B-081						
Bicon Antenna	Schaffner	VBA6106A	54						
Log-P Antenna	Schaffner	UPA6109	44067						
Switch Driver	HP	11713A	ME7A-627						
System Controller	Sunol Sciences	SC99V	44396						
Camera Controller	Panasonic	WV-CU254	44395						
RF Switch Box	UL	1	44398						
Measurement Software	UL	Version 9.3	44740						
Temp/Humidity/ Pressure Meter	Cole Parmer	99760-00	4268						
Above 1GHz									
EMI Receiver	Rohde & Schwarz	ESIB26	ME5B-081						
Horn Antenna	EMCO	3115	ME5A-766						
Preamp (1 - 26GHz)	HP	8449B	ME5-914						
Switch Driver	HP	11713A	ME7A-627						
System Controller	Sunol Sciences	SC99V	44396						
Camera Controller	Panasonic	WV-CU254	44395						
RF Switch Box	UL	1	44398						
Measurement Software	UL	Version 9.3	44740						
Temp/Humidity/ Pressure Meter	Cole Parmer	99760-00	4268						

Job Number: 740133 File Number: MC8319 Page 70 of 159

Model Number: M812 FCC ID: VJS-M812

Figure 18 Test setup for Radiated Emissions



Transmitter Base 30-1000MHz

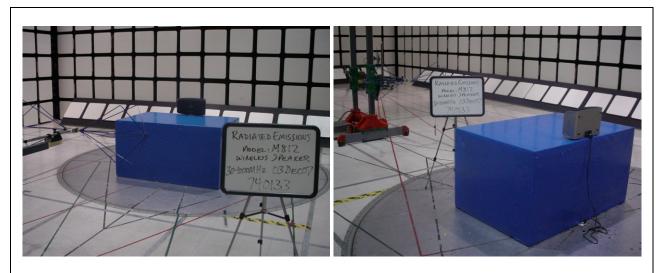


Transmitter Base 1-12GHz

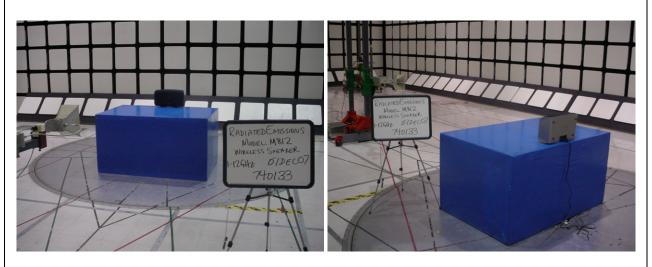
Job Number: 740133 File Number: MC8319 Page 71 of 159

Model Number: M812 FCC ID: VJS-M812

Figure 19 Test setup for Radiated Emissions



Wireless Speaker 30-1000MHz

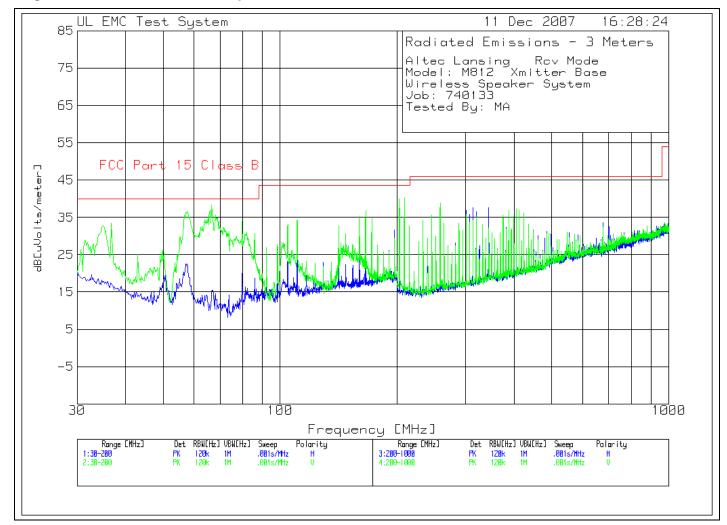


Wireless Speaker 1-12GHz

Job Number: 740133 File Number: MC8319 Page 72 of 159

Model Number: M812 FCC ID: VJS-M812

Figure 20 Radiated Emissions Graph



Job Number: 740133 File Number: MC8319 Page 73 of 159

FCC ID: VJS-M812 Model Number: M812

Altec Lansing Technologies Client Name:

Table 26 Radiated Emissions Data Points

Rcv Mode Altec Lansing Model: M812 Xmitter Base Wireless Speaker System Job: 740133 Tested By: MA

	Test		ain/Loss			Limit:1	2	3	4	5	6
No	. Frequency	Reading I	Factor	Factor	dB[uVolt	s/meter]					
	[MHz]	[dB(uV)]	[dB]	[dB]							
==	========	========		=======	=======	========	=======	======			:=======
Ve	rtical 30 - 1	200MHz									
1	66.5866	32.04 pk	. 4	5.9	38.3	4 40	-	_	_	-	-
	Azimuth:357	Height:10:	l Vert	Margin	[dB]	-1.66	-	_	_	-	-
2	57.7377	28.76 pk	. 4	7.3	36.4	6 40	-	_	-	_	-
	Azimuth:102	Height:10	l Vert	Margin	[dB]	-3.54	-	_	-	-	-
3	165.966	20.18 pk	1	15.7	36.8	8 43.5	-	_	-	-	-
	Azimuth:65	Height:10	l Vert	Margin	[dB]	-6.62	-	_	-	-	-
8	36.8068	18.56 pk	. 2	14.6	33.3	6 40	_	_	-	-	-
	Azimuth:343	Height:10	l Vert	Margin	[dB]	-6.64	-	_	-	-	-
Но	rizontal 200	- 1000MHz									
7	313.2566	21.84 pk	1.6	14.1	37.5	4 46	-	_	-	-	-
	Azimuth:18	Height:199	9 Horz	Margin	[dB]	-8.46	-	_	-	-	-
Ve	rtical 200 -	1000MHz									
4	208.8044	27.5 pk	1.1	11.7	40.3	43.5	_	_	_	_	_
	Azimuth:93	Height:10	l Vert	Margin	[dB]	-3.2	_	_	_	_	_
5	202.4012	26.75 pk	1.1	12.1	39.9	5 43.5	_	_	_	_	_
	Azimuth:305	Height:10	l Vert	Margin	[dB]	-3.55	_	_	_	_	_
6	258.029	24.23 pk	1.4	13.2	38.8	3 46	_	-	_	_	_
	Azimuth:263	Height:10	l Vert	Margin	[dB]	-7.17	_	_	_	_	_

LIMIT 1: FCC Part 15 Class B

LIMIT 2: NONE LIMIT 3: NONE

LIMIT 4: NONE

LIMIT 5: NONE

LIMIT 6: NONE

pk - Peak detector

qp - Quasi-Peak detector

Job Number: 740133 File Number: MC8319 Page 74 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Altec Lansing Rcv Mode Model: M812 Xmitter Base Wireless Speaker System Job: 740133

Tested By: MA

Test Frequency [MHz]	Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer I Factor dB[u [dB]	ıVolts/		2	3	4	5	6
Vertical 3 57.7162	0 - 200MHz	. 4	7.3 Margin	26.94	40 -13.06	- -	- - -	- - -	- - -	- - -
66.515 Azimuth: 2	24.69 qp 72 Height:1	.4 .04 Vert	5.9 Margin	30.99 [dB]:	40 -9.01	- -	- -	- -	- -	- -
202.7412	00 - 1000MHz 25.25 qp 7 Height:1	1.1	12.1 Margin	38.45 [dB]:	43.5 -5.05	- -	- -	- -	- -	- -
208.8751 Azimuth: 3	24.9 qp 5 Height:1		11.7 Margin	37.7 [dB]:	43.5 -5.8	- -	- -	- -	- -	- -

LIMIT 1: FCC Part 15 Class B

LIMIT 2: NONE LIMIT 3: NONE LIMIT 4: NONE LIMIT 5: NONE LIMIT 6: NONE

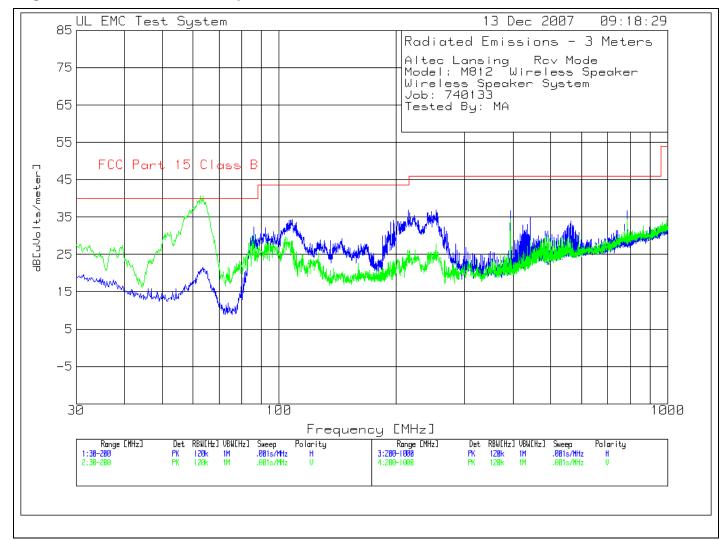
pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector

ave - Average detector

Job Number: 740133 File Number: MC8319 Page 75 of 159

Model Number: M812 FCC ID: VJS-M812

Figure 21 Radiated Emissions Graph



Job Number: 740133 File Number: MC8319 Page 76 of 159

FCC ID: VJS-M812 Model Number: M812

Altec Lansing Technologies Client Name:

Table 27 Radiated Emissions Data Points

Altec Lansing Rcv Mode Model: M812 Wireless Speaker

Wireless Speaker System

Job: 740133 Tested By: MA

No	Test . Frequency [MHz]	Reading	ain/Loss Factor [dB]	Transducer Factor dE [dB]			2	3	4	5	6
==						=======	======	======			
Ho	rizontal 30	- 200MHz									
3	85.986	23.65 pk	.5	8.2	32.35	40	-	-	_	_	_
	Azimuth:324	Height:25	0 Horz	Margin [dE	3]	-7.65	-	-	_	_	_
4	108.2783	22.17 pk	.7	11.5	34.37	43.5	-	-	_	_	_
	Azimuth:180	Height:25	0 Horz	Margin [dE	3]	-9.13	-	-	-	-	_
Ve	rtical 30 - 3	200MHz									
1	63.6937	34.17 pk	. 4	6.2	40.77	40	_	=	_	_	_
	Azimuth:136	Height:10	0 Vert	Margin [dE	3]	.77	_	-	_	_	_
2	52.4625	21.59 pk	. 4	9	30.99	40	_	-	_	_	_
	Azimuth:100	Height:10	0 Vert	Margin [dE	3]	-9.01	-	-	-	-	-
НС	rizontal 200	- 1000MHz -									
	214.8074			11.6		43.5	_	_	_	_	_
	Azimuth:345	Height:10		Margin [dE		-6.6	_	_	_	_	_
6	246.023	22.79 pk		12.4	36.49	46	_	_	_	_	_
Ŭ	Azimuth:17	Height:10		Margin [dE		-9.51	_	_	_	_	_
7	393.2966	18.65 pk		16	36.65	46	_	_	_	_	_
-	Azimuth:17	Height:30		Margin [dE		-9.35	_	_	_	_	_
				5							

LIMIT 1: FCC Part 15 Class B

LIMIT 2: NONE

LIMIT 3: NONE

LIMIT 4: NONE

LIMIT 5: NONE

LIMIT 6: NONE

pk - Peak detector

qp - Quasi-Peak detector

Job Number: 740133 File Number: MC8319 Page 77 of 159

FCC ID: VJS-M812 Model Number: M812

Client Name: Altec Lansing Technologies

Altec Lansing Rcv Mode Model: M812 Wireless Speaker Wireless Speaker System

Job: 740133 Tested By: MA

Gain/Loss Transducer Level Limit:1 3 Meter 5 Factor Factor dB[uVolts/meter] Frequency Reading [dB] [dB(uV)] [dB] [MHz] ______ Vertical 30 - 200MHz 64.1293 30.7 qp .5 6.1 37.3 40 Azimuth: 271 Height:104 Vert Margin [dB]: -2.7

LIMIT 1: FCC Part 15 Class B

LIMIT 2: NONE LIMIT 3: NONE

LIMIT 4: NONE

LIMIT 5: NONE

LIMIT 6: NONE

pk - Peak detector

qp - Quasi-Peak detector av - Average detector

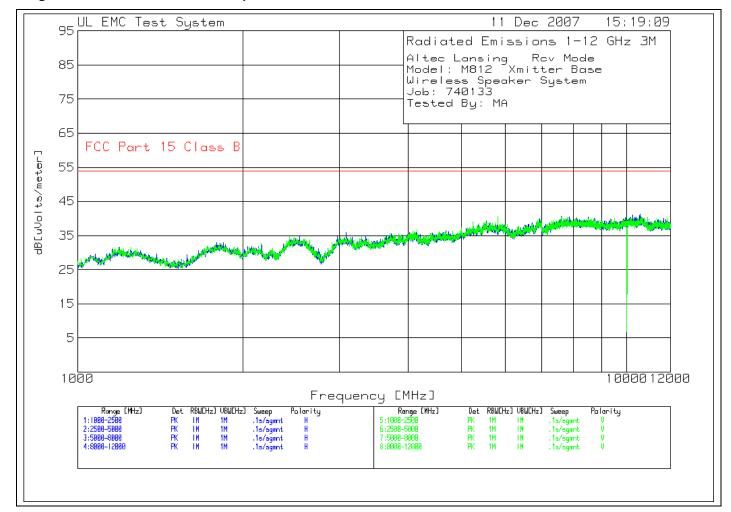
avlg - Average log detector

ave - Average detector

Job Number: 740133 File Number: MC8319 Page 78 of 159

Model Number: M812 FCC ID: VJS-M812

Figure 22 Radiated Emissions Graph



Job Number: 740133 File Number: MC8319 Page 79 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Table 28 Radiated Emissions Data Points

Altec Lansing Rcv Mode Model: M812 Xmitter Base Wireless Speaker System

Job: 740133 Tested By: MA

	. Frequency	Reading F [dB(uV)]	actor [dB]	[dB]	B[uVolts/ı		2	3	4	5	6
	======================================						 	 			
	4649.767							_	_	_	_
	Azimuth:112	Height:199	Horz	Margin [d	В]	-18.07	-	-	=	=	-
Но	rizontal 8000) - 12000MHz									
1	10567.284	29.75 pk	-27.2	38.7	41.25	54	-	-	_	-	-
	Azimuth:220	Height:101	Horz	Margin [d	В]	-12.75	_	-	-	-	_
2	8074.037	30.35 pk	-27.3	37.1	40.15	54	-	-	_	-	=
	Azimuth:251	Height:101	Horz	Margin [d	В]	-13.85	-	-	-	-	-
Ve	rtical 5000 -	- 8000MHz									
4	5822.548	35.02 pk	-28.7	34.4	40.72	54	-	-	_	-	-
	Azimuth:84	Height:199	Vert	Margin [d	в]	-13.28	-	-	_	-	-
5	5240.16	34.67 pk	-29.4	33.8	39.07	54	_	-	_	_	-
	Azimuth:5	Height:101	Vert	Margin [d	В]	-14.93	-	-	-	-	-
Ve	rtical 8000 -	- 12000MHz									
3	10193.097	29.2 pk	-28	38.8	40	54	-	-	_	-	-
	Azimuth:331	Height:201	Vert	Margin [d	в]	-14	-	-	_	-	-

LIMIT 1: FCC Part 15 Class B

LIMIT 2: NONE

LIMIT 3: NONE

LIMIT 4: NONE

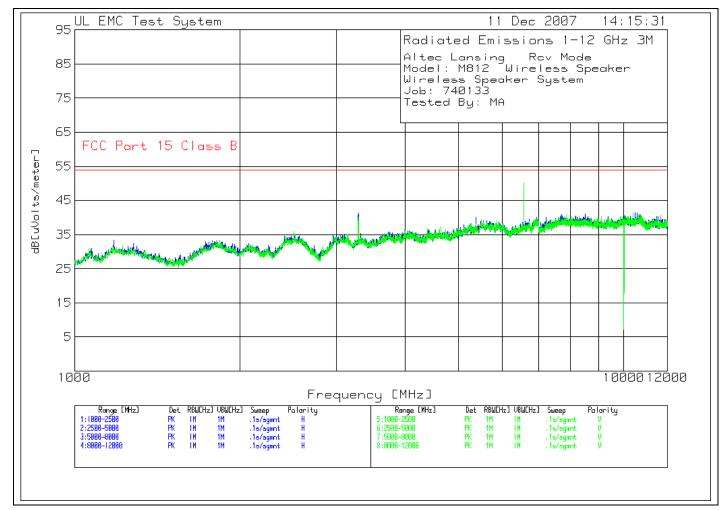
LIMIT 5: NONE

LIMIT 6: NONE

Job Number: 740133 File Number: MC8319 Page 80 of 159

Model Number: M812 FCC ID: VJS-M812

Figure 23 Radiated Emissions Graph



Job Number: 740133 File Number: MC8319 Page 81 of 159

Model Number: M812 FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

Table 29 Radiated Emissions Data Points

Altec Lansing Rcv Mode Model: M812 Wireless Speaker

Wireless Speaker System

Job: 740133 Tested By: MA

No. Frequency	[dB(uV)]	actor [dB]	Factor dB[[dB]	uVolts/m	eter]					6
Horizontal 250										
1 3285.524	42.55 pk	-32	30.7	41.25	54	_	_	_	_	_
	Height:100							-	-	_
Horizontal 500	0 - 8000MHz									
4 6571.047								_	_	_
	Height:199					-	-	-	-	-
6 5378.252	35.83 pk	-29.9	34.1	40.03	54	_	_	_	_	-
Azimuth:353	Height:199	Horz	Margin [dB]		-13.97	-	-	-	-	-
Horizontal 800	ı∩ – 12000МН⊽ -									
5 10479.24								_	_	_
	Height:101							-	-	-
	E000177									
Vertical 2500 2 3285.524										
	41.33 pk Height:101							_	_	_
AZIMULII · 312	neight.iui	AGIC	margin [dB]		-13.97	_	_	_	_	_
Vertical 5000										
3 6571.047	44 pk	-28.6	34.7	50.1	54	-	-	-	-	-
Azimuth:331	Height:199	Vert	Margin [dB]		-3.9	-	_	_	-	-

LIMIT 1: FCC Part 15 Class B

LIMIT 2: NONE

LIMIT 3: NONE

LIMIT 4: NONE

LIMIT 5: NONE

Job Number: 740133 File Number: MC8319 Page 82 of 159

FCC ID: VJS-M812 M812 Model Number:

Altec Lansing Technologies Client Name:

Altec Lansing Rcv Mode Model: M812 Wireless Speaker Wireless Speaker System

Job: 740133 Tested By: MA

Test	Meter	Gain/Loss	Transduce	r Level :	Limit:1	2	3	4	5	6	
Frequency	Reading	Factor	Factor	dB[uVolts/	meter]						
[MHz]	[dB(uV)]	[dB]	[dB]								
=======											
Vertical 5	Vertical 5000 - 8000MHz										
6570.6207	46.71 ave	-28.6	34.7	52.81	54	_	-	-	_	-	
Azimuth: 3	40 Height	:160 Vert	Mar	gin [dB]:	-1.19	_	-	-	-	-	

LIMIT 1: FCC Part 15 Class B

LIMIT 2: NONE LIMIT 3: NONE

LIMIT 4: NONE

LIMIT 5: NONE

LIMIT 6: NONE

pk - Peak detector

qp - Quasi-Peak detector av - Average detector

avlg - Average log detector

ave - Average detector