

4.7 Test Conditions and Results – Radiated Emissions (Transmit 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 Standard	FCC Part 15, Subpart C, 15.209	
UL LPG	80-EM-S0029	
	Frequency range	Measurement Point
Fully configured sample scanned over the following frequency range	30MHz – 1GHz	(3 meter measurement distance)
	1GHz – 26.5GHz	(3 meter measurement distance)
Limits		
Frequency (MHz)	Limit (dBµV/m)	
	Quasi-Peak	Average
General Emissions		
30 – 88	40	-
88 – 216	43.5	-
216-960	46	-
960-1000	54	-
1000-26500	-	54
Supplementary information: Spurious limits are only applied against products of the transmitter. All other emissions must meet the general limits.		

Table 30 Radiated Emissions EUT Configuration Settings

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

Job Number: 740133
 Model Number: M812
 Client Name: Altec Lansing Technologies

File Number: MC8319
 FCC ID: VJS-M812

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Table 31 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
Preamplifier (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

Figure 24 Test setup for Radiated Emissions (30-1000MHz) – Transmitter Base

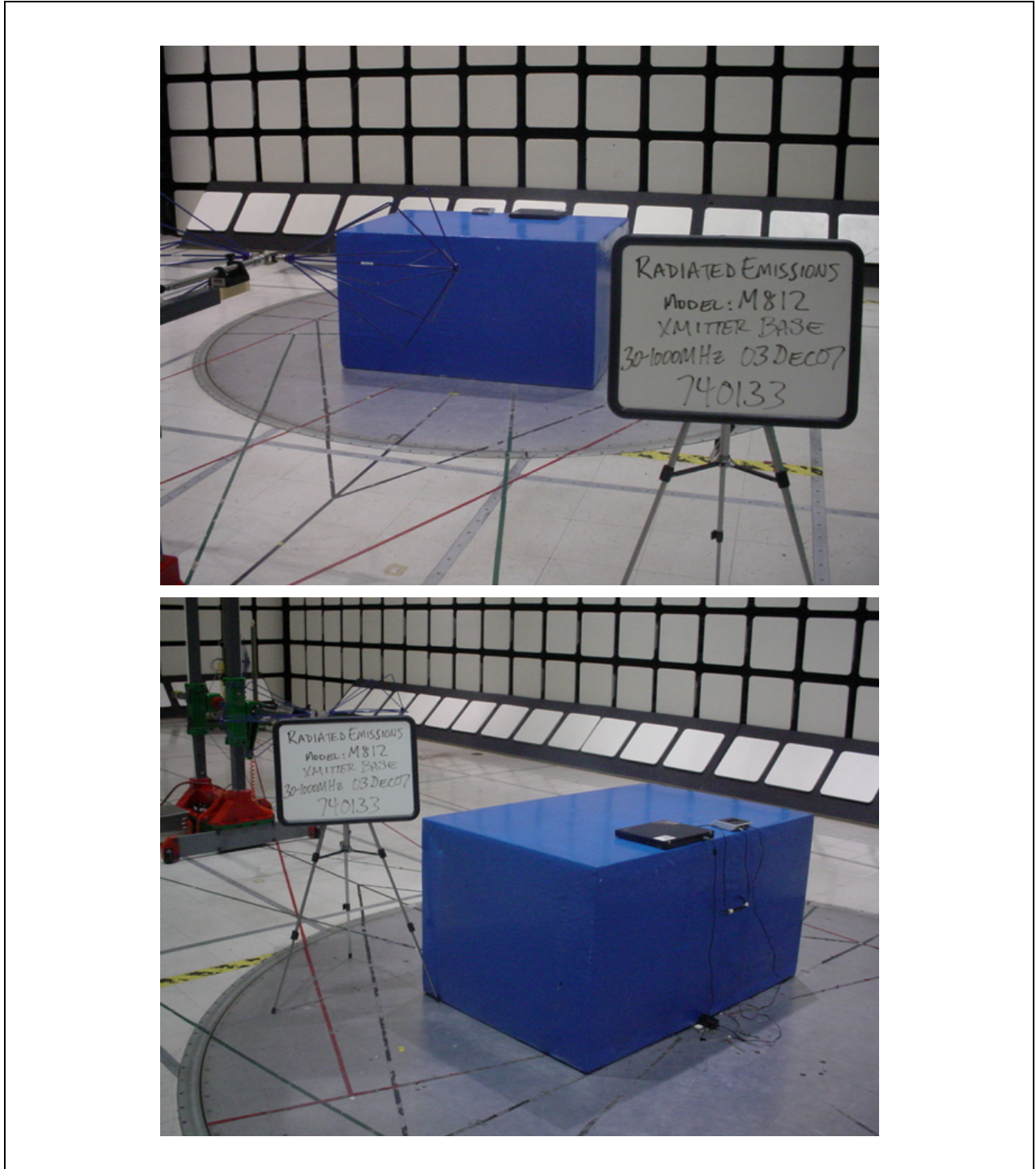


Figure 25 Test setup for Radiated Emissions (30-1000MHz) – Wireless Speaker

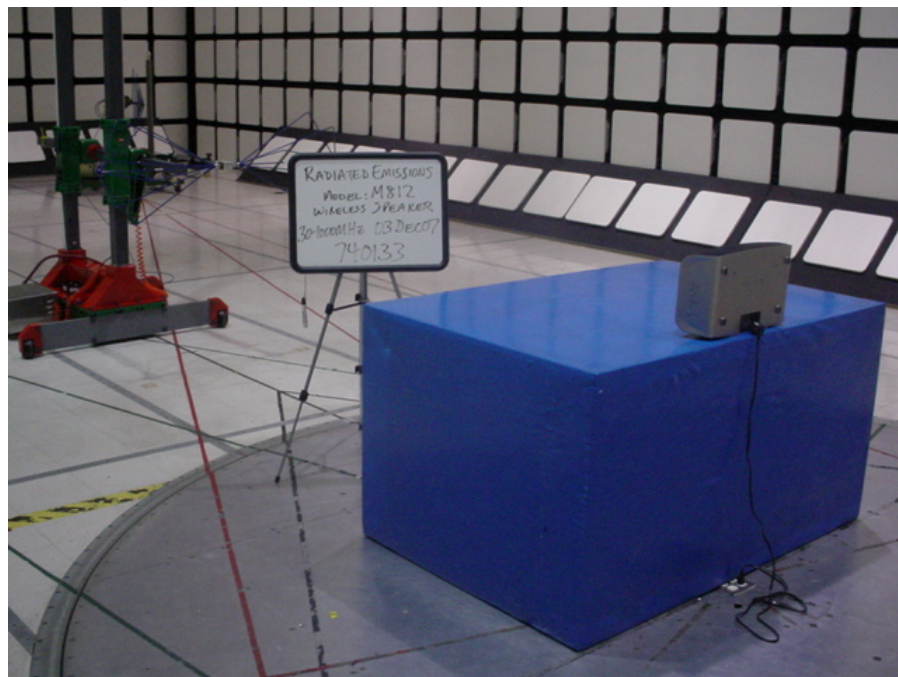


Figure 26 Test setup for Radiated Emissions (1-12GHz) – Transmitter Base

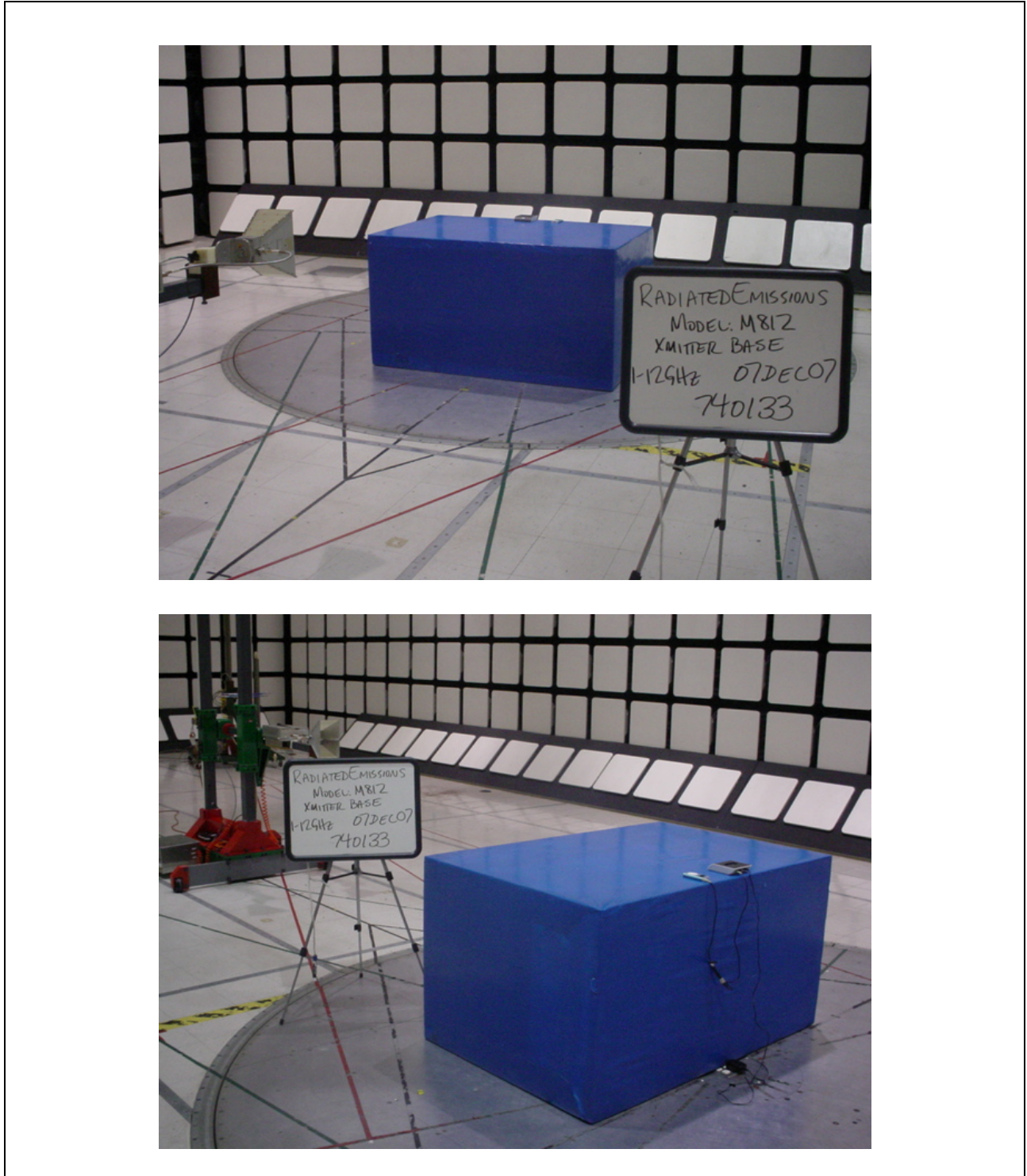


Figure 27 Test setup for Radiated Emissions (1-12GHz) – Wireless Speaker

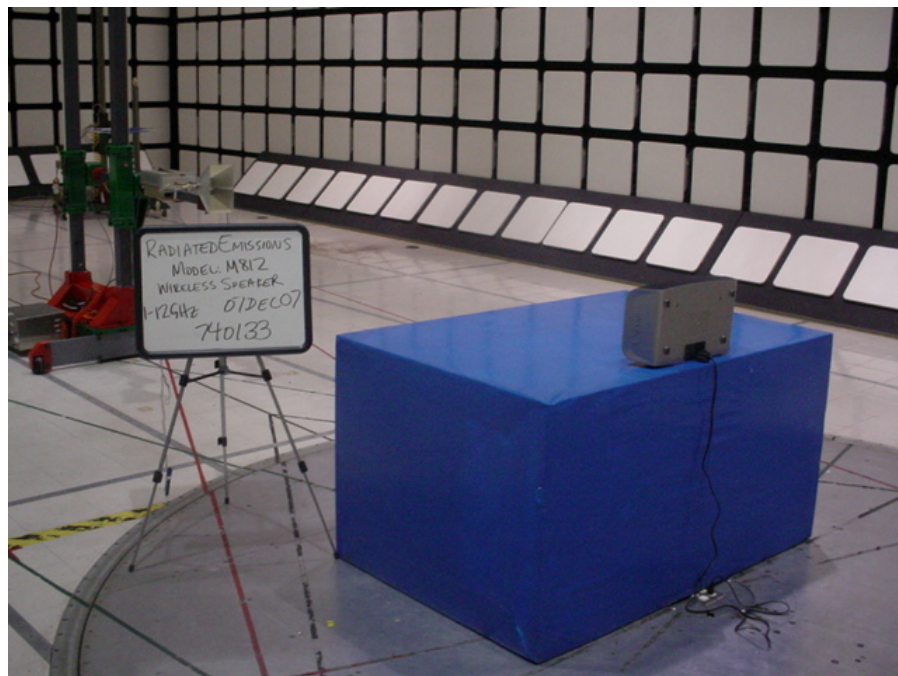
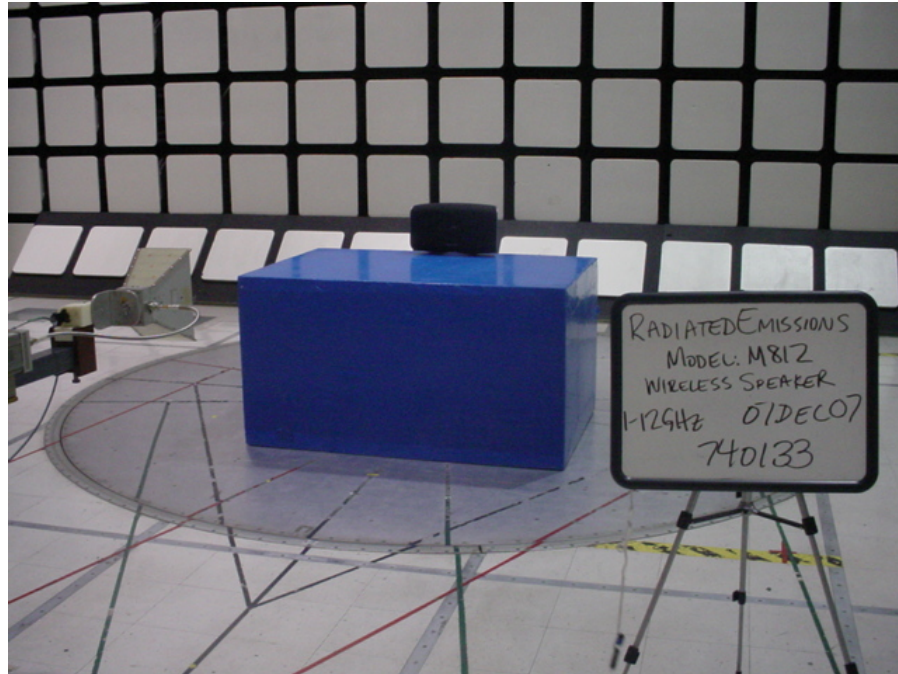


Figure 28 Test setup for Radiated Emissions (12-18GHz) – Transmitter Base

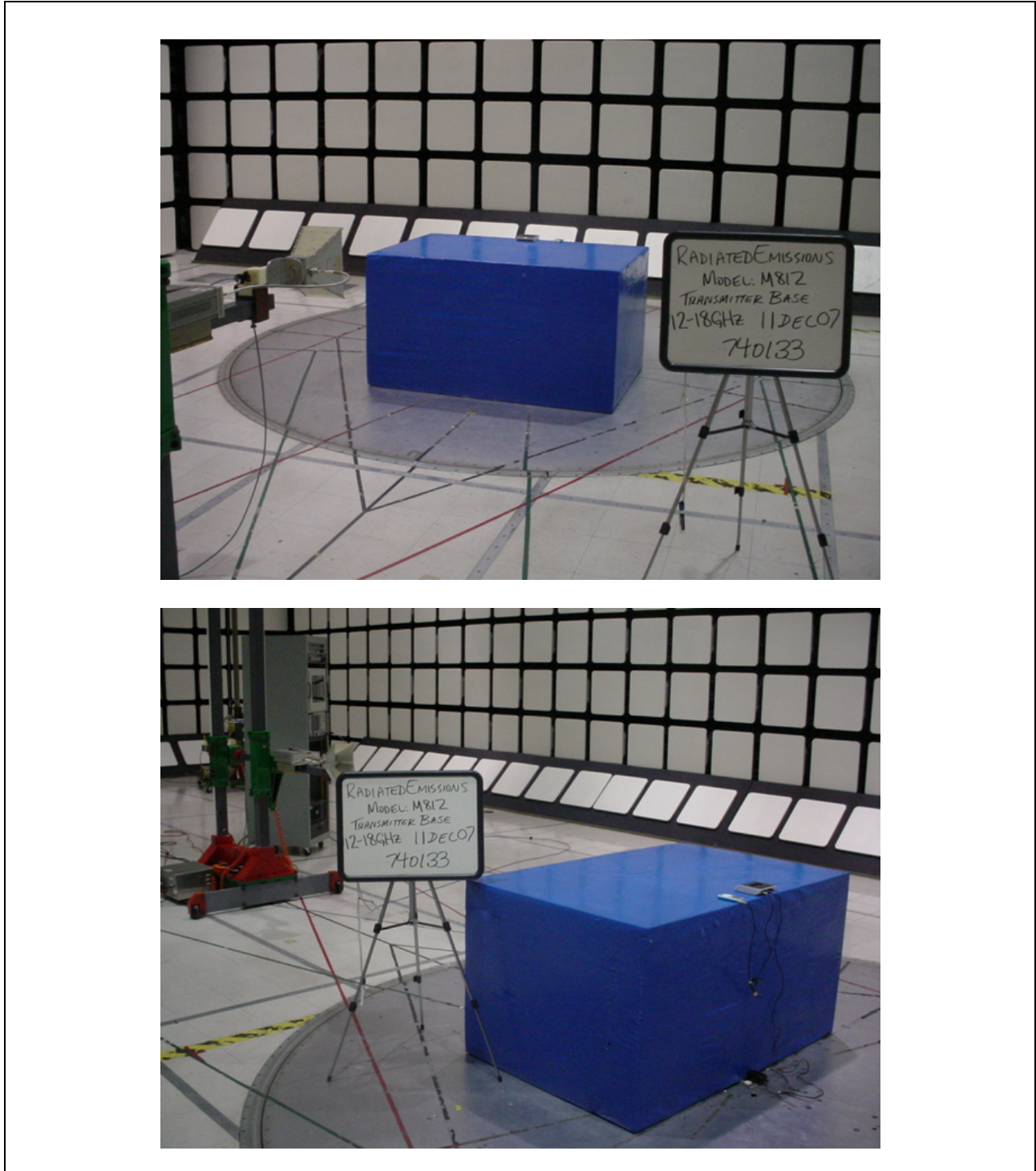


Figure 29 Test setup for Radiated Emissions (12-18GHz) – Wireless Speaker

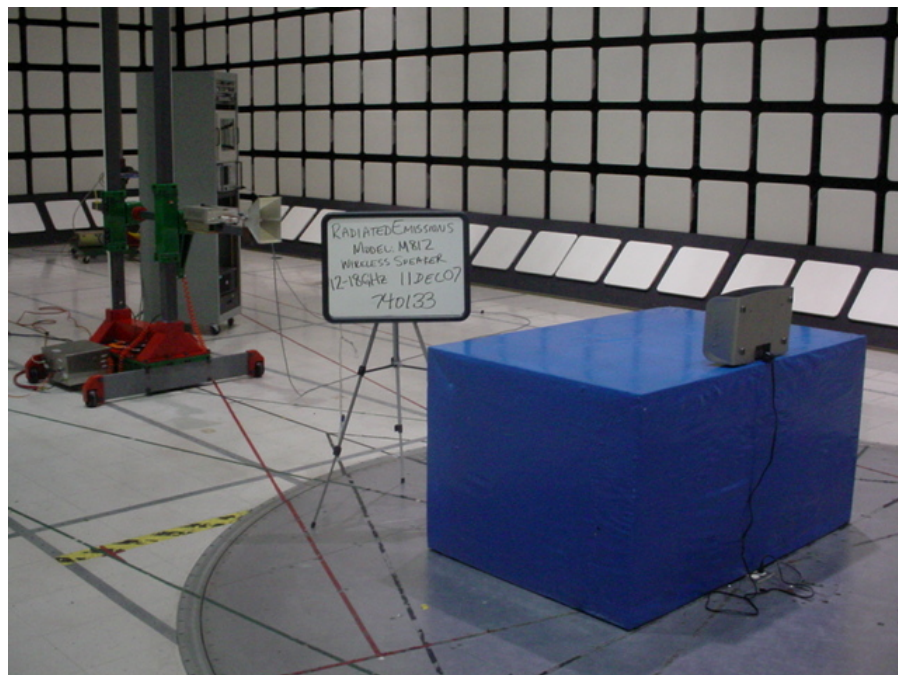
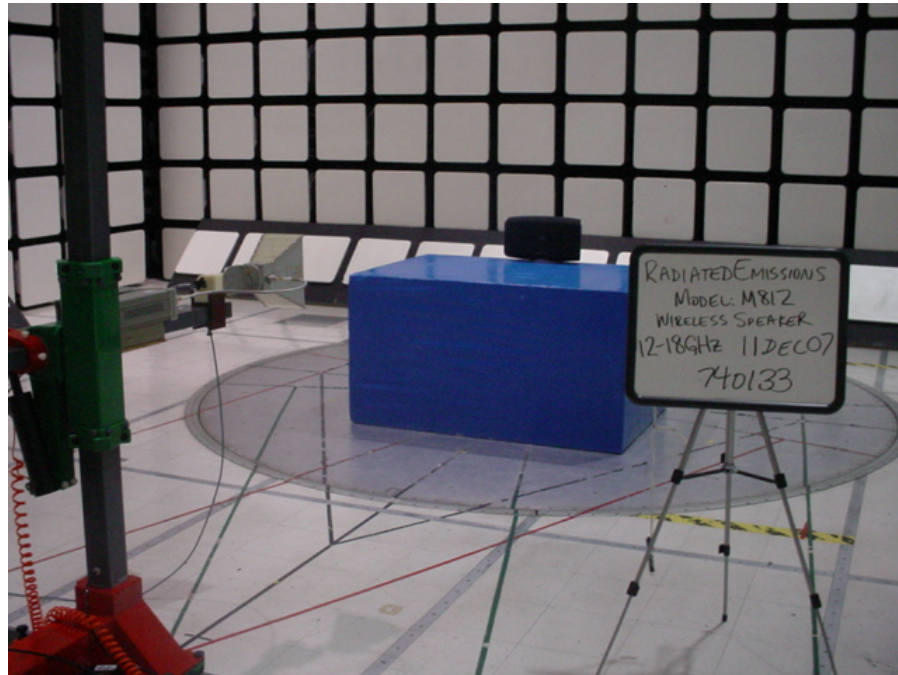


Figure 30 Test setup for Radiated Emissions (18-26.5GHz) – Transmitter Base

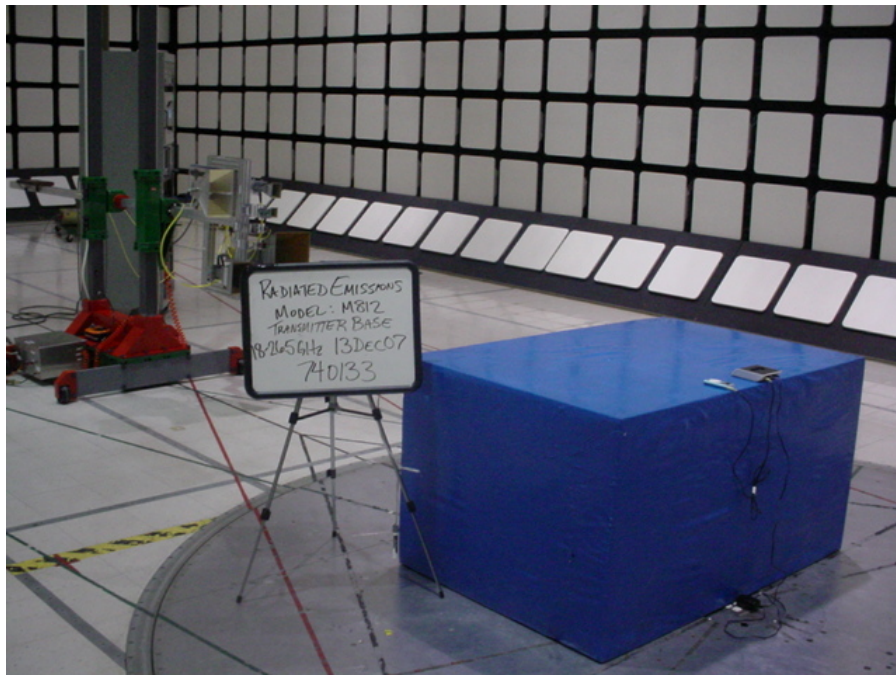
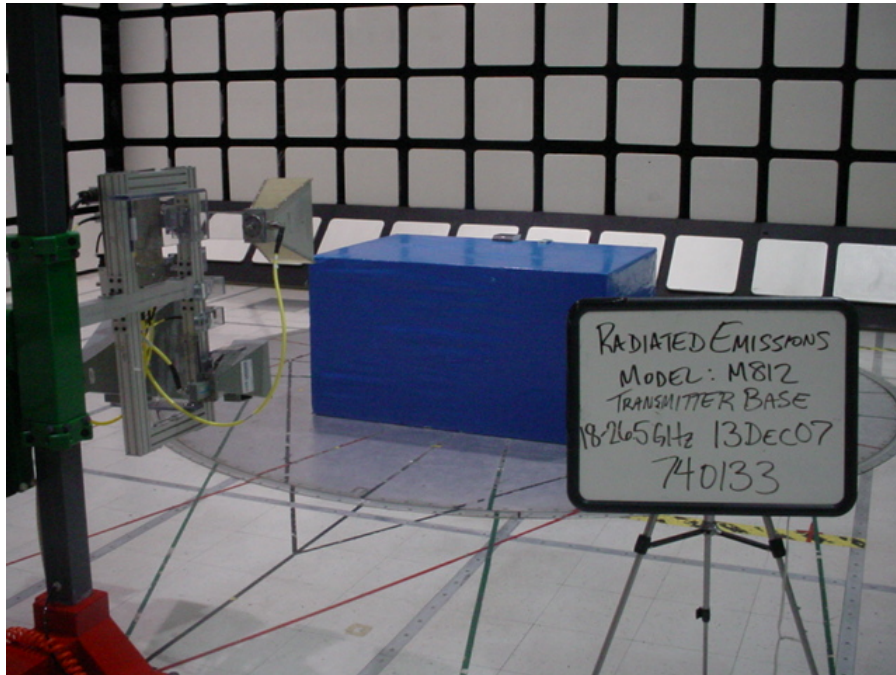


Figure 31 Test setup for Radiated Emissions (18-26.5GHz) – Wireless Speaker

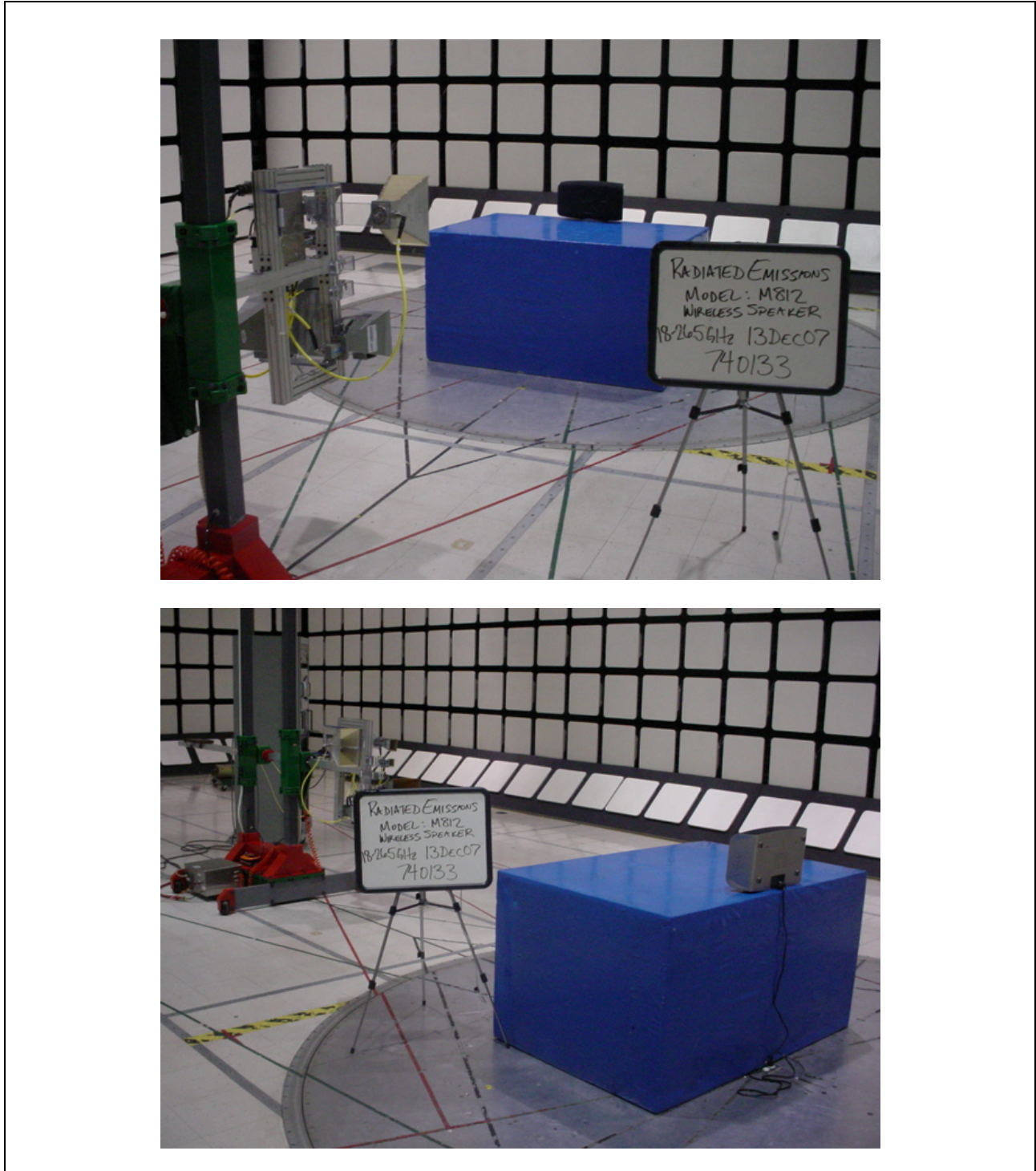


Figure 32 Radiated Emissions Graph – 30-1000MHz (Transmitter Base Channel 1)

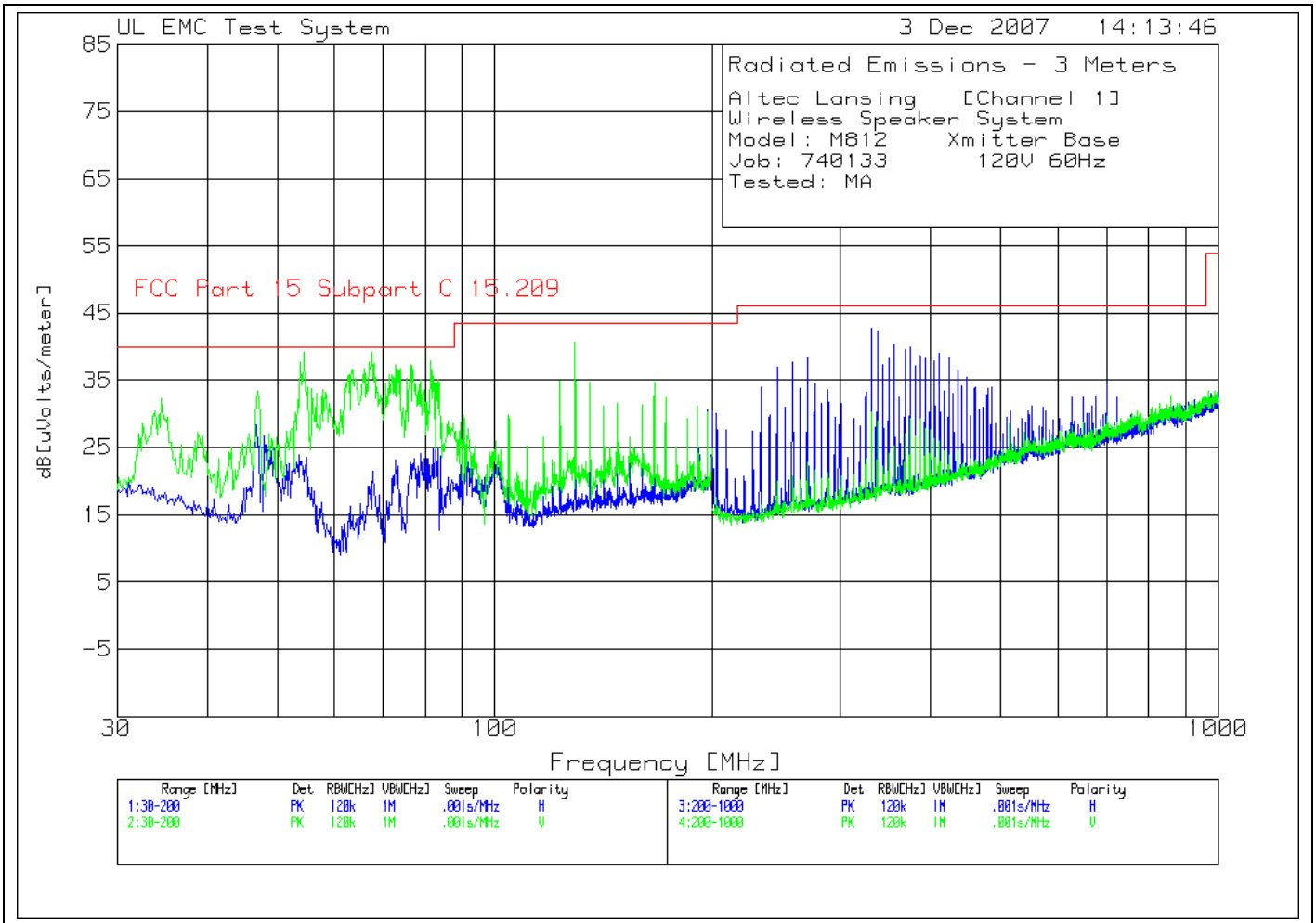


Table 32 Radiated Emissions Data Points

Altec Lansing [Channel 1]
 Wireless Speaker System
 Model: M812 Xmitter Base
 Job: 740133 120V 60Hz
 Tested: MA

Test No.	Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level Limit:1 dB[uVolts/meter]	2	3	4	5	6
Vertical 30 - 200MHz -----										
1	54.5045	30.47 pk	.4	8.3	39.17	40	-	-	-	-
	Azimuth:147	Height:100	Vert	Margin [dB]		-.83	-	-	-	-
2	67.6076	32.85 pk	.5	5.9	39.25	40	-	-	-	-
	Azimuth:219	Height:100	Vert	Margin [dB]		-.75	-	-	-	-
3	72.7127	30.81 pk	.4	6.2	37.41	40	-	-	-	-
	Azimuth:327	Height:100	Vert	Margin [dB]		-2.59	-	-	-	-
4	76.4565	29.8 pk	.5	7	37.3	40	-	-	-	-
	Azimuth:38	Height:100	Vert	Margin [dB]		-2.7	-	-	-	-
5	81.5616	29.15 pk	.5	8.2	37.85	40	-	-	-	-
	Azimuth:74	Height:100	Vert	Margin [dB]		-2.15	-	-	-	-
6	129.039	25.89 pk	.8	14	40.69	43.5	-	-	-	-
	Azimuth:18	Height:100	Vert	Margin [dB]		-2.81	-	-	-	-
Horizontal 200 - 1000MHz -----										
7	331.6658	26.24 pk	1.7	14.8	42.74	46	-	-	-	-
	Azimuth:86	Height:300	Horz	Margin [dB]		-3.26	-	-	-	-
8	337.6688	25.61 pk	1.7	15.1	42.41	46	-	-	-	-
	Azimuth:298	Height:400	Horz	Margin [dB]		-3.59	-	-	-	-
9	356.078	22.93 pk	1.8	15.5	40.23	46	-	-	-	-
	Azimuth:2	Height:300	Horz	Margin [dB]		-5.77	-	-	-	-
10	374.4872	22.62 pk	1.8	15.5	39.92	46	-	-	-	-
	Azimuth:341	Height:100	Horz	Margin [dB]		-6.08	-	-	-	-
11	270.035	23.65 pk	1.4	13.3	38.35	46	-	-	-	-
	Azimuth:2	Height:100	Horz	Margin [dB]		-7.65	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209
 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 - denotes average log detection

Job Number: 740133

File Number: MC8319

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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 120V 60Hz
Tested: MA

Table with columns: Test Frequency [MHz], Meter Reading [dB(uV)], Gain/Loss Factor [dB], Transducer Factor [dB], Level dB[uVolts/meter], Limit:1, 2, 3, 4, 5, 6. Rows include Vertical 30-200MHz and Horizontal 200-1000MHz tests with various frequency points and margin values.

LIMIT 1: FCC Part 15 Subpart C 15.209
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

Figure 33 Radiated Emissions Graph – 30-1000MHz (Transmitter Base Channel 2)

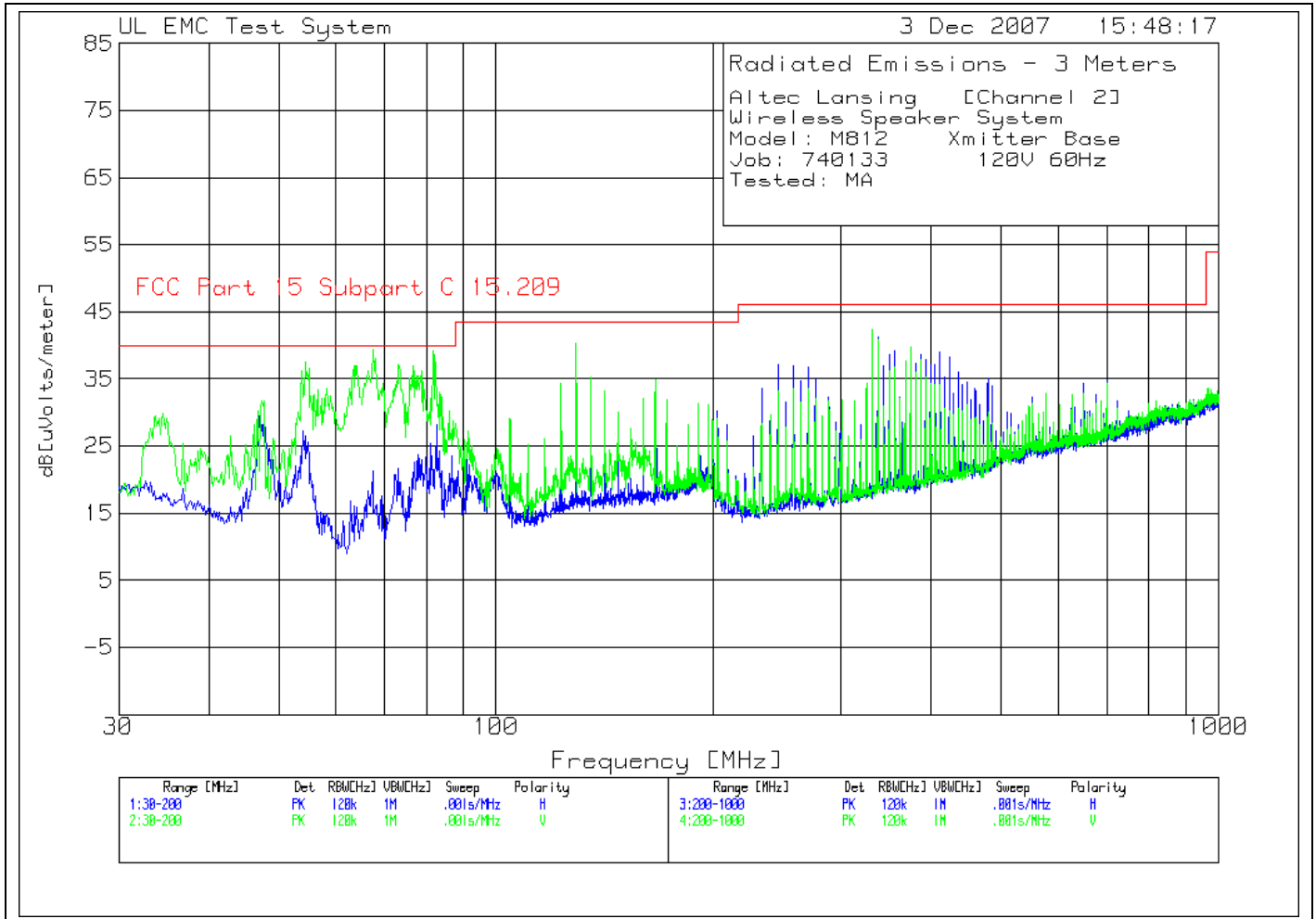


Table 33 Radiated Emissions Data Points

Altec Lansing [Channel 2]
 Wireless Speaker System
 Model: M812 Xmitter Base
 Job: 740133 120V 60Hz
 Tested: MA

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6

Vertical 30 - 200MHz -----											
1	81.9019	30.3 pk	.5	8.3	39.1	40	-	-	-	-	-
	Azimuth:351	Height:100	Vert	Margin [dB]		-.9	-	-	-	-	-
2	67.6076	32.96 pk	.5	5.9	39.36	40	-	-	-	-	-
	Azimuth:343	Height:100	Vert	Margin [dB]		-.64	-	-	-	-	-
3	54.3343	28.82 pk	.4	8.3	37.52	40	-	-	-	-	-
	Azimuth:358	Height:100	Vert	Margin [dB]		-2.48	-	-	-	-	-
4	63.8639	30.41 pk	.4	6.2	37.01	40	-	-	-	-	-
	Azimuth:244	Height:100	Vert	Margin [dB]		-2.99	-	-	-	-	-
5	73.2232	30.31 pk	.5	6.3	37.11	40	-	-	-	-	-
	Azimuth:343	Height:100	Vert	Margin [dB]		-2.89	-	-	-	-	-
6	129.039	25.5 pk	.8	14	40.3	43.5	-	-	-	-	-
	Azimuth:208	Height:100	Vert	Margin [dB]		-3.2	-	-	-	-	-

Horizontal 200 - 1000MHz -----											
10	337.6688	24.43 pk	1.7	15.1	41.23	46	-	-	-	-	-
	Azimuth:232	Height:400	Horz	Margin [dB]		-4.77	-	-	-	-	-

Vertical 200 - 1000MHz -----											
7	331.6658	26.08 pk	1.7	14.6	42.38	46	-	-	-	-	-
	Azimuth:274	Height:100	Vert	Margin [dB]		-3.62	-	-	-	-	-
8	337.6688	24.17 pk	1.7	15	40.87	46	-	-	-	-	-
	Azimuth:316	Height:100	Vert	Margin [dB]		-5.13	-	-	-	-	-
9	374.4872	22.14 pk	1.8	15.8	39.74	46	-	-	-	-	-
	Azimuth:104	Height:200	Vert	Margin [dB]		-6.26	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209
 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

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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 120V 60Hz
Tested: MA

Table with columns: Test Frequency [MHz], Meter Reading [dB(uV)], Gain/Loss Factor [dB], Transducer Factor [dB], Level dB[uVolts/meter], Limit:1, 2, 3, 4, 5, 6. Rows include vertical and horizontal test results for various frequencies and heights.

LIMIT 1: FCC Part 15 Subpart C 15.209
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

Figure 34 Radiated Emissions Graph – 30-1000MHz (Transmitter Base Channel 3)

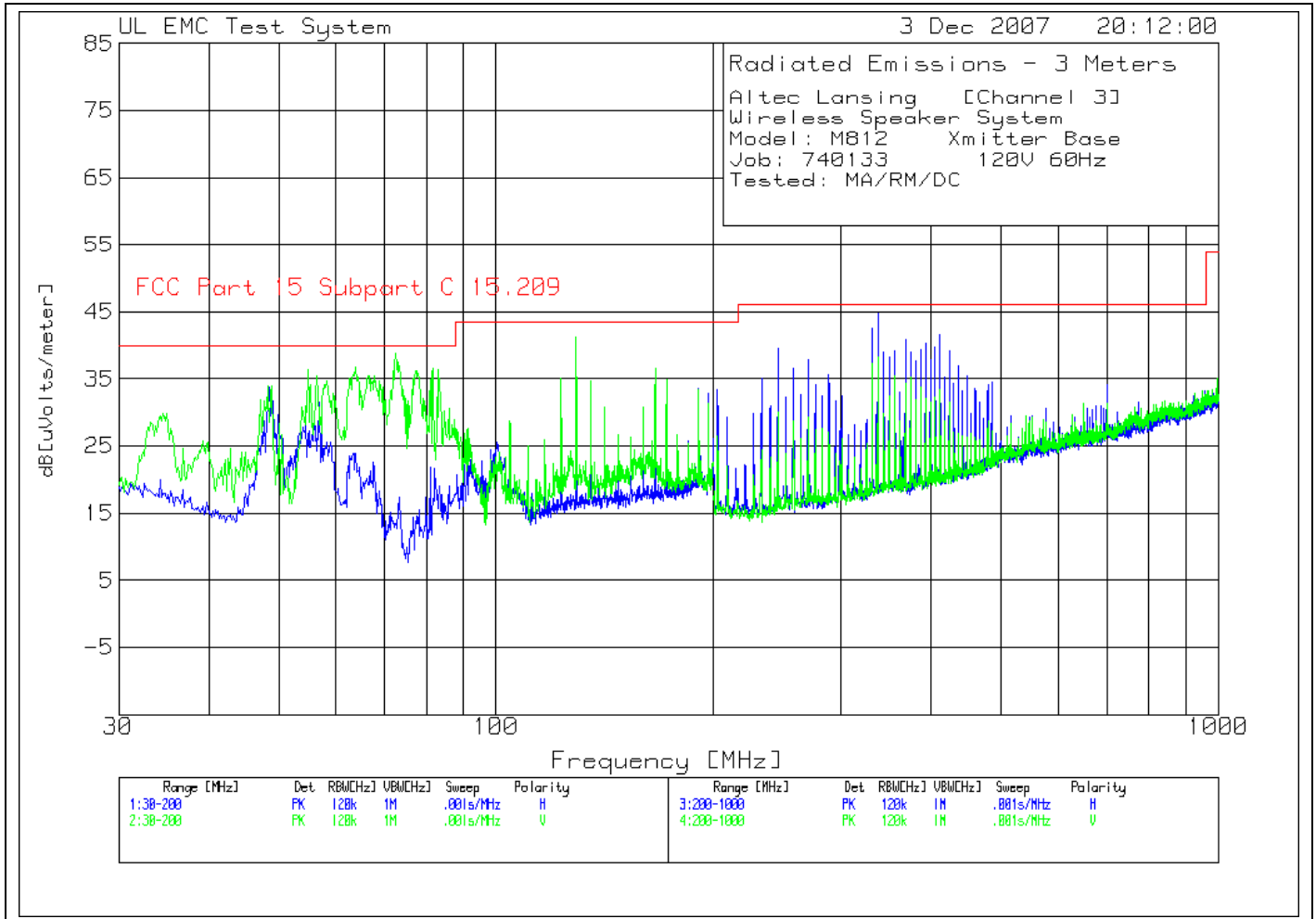


Table 34 Radiated Emissions Data Points

Altec Lansing [Channel 3]
 Wireless Speaker System
 Model: M812 Xmitter Base
 Job: 740133 120V 60Hz
 Tested: MA/RM/DC

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1 [dB]	2	3	4	5	6

Horizontal 30 - 200MHz -----											
1	48.5485	22.26 pk	.3	11.2	33.76	40	-	-	-	-	-
	Azimuth:2	Height:250	Horz	Margin [dB]		-6.24	-	-	-	-	-
2	129.039	17.91 pk	.8	13.7	32.41	43.5	-	-	-	-	-
	Azimuth:113	Height:250	Horz	Margin [dB]		-11.09	-	-	-	-	-
3	190.4705	16.47 pk	1.1	16.1	33.67	43.5	-	-	-	-	-
	Azimuth:113	Height:101	Horz	Margin [dB]		-9.83	-	-	-	-	-
4	196.5966	15.93 pk	1.1	15.9	32.93	43.5	-	-	-	-	-
	Azimuth:113	Height:101	Horz	Margin [dB]		-10.57	-	-	-	-	-

Vertical 30 - 200MHz -----											
5	48.8889	23.55 pk	.3	10.2	34.05	40	-	-	-	-	-
	Azimuth:17	Height:100	Vert	Margin [dB]		-5.95	-	-	-	-	-
6	54.8448	27.85 pk	.4	8.1	36.35	40	-	-	-	-	-
	Azimuth:344	Height:100	Vert	Margin [dB]		-3.65	-	-	-	-	-
7	56.3764	27.35 pk	.4	7.7	35.45	40	-	-	-	-	-
	Azimuth:74	Height:100	Vert	Margin [dB]		-4.55	-	-	-	-	-
8	58.2482	27.04 pk	.4	7.2	34.64	40	-	-	-	-	-
	Azimuth:183	Height:100	Vert	Margin [dB]		-5.36	-	-	-	-	-
9	63.8639	30.15 pk	.4	6.2	36.75	40	-	-	-	-	-
	Azimuth:74	Height:100	Vert	Margin [dB]		-3.25	-	-	-	-	-
10	66.4164	29.12 pk	.5	5.9	35.52	40	-	-	-	-	-
	Azimuth:110	Height:100	Vert	Margin [dB]		-4.48	-	-	-	-	-
11	72.5425	32.17 pk	.4	6.2	38.77	40	-	-	-	-	-
	Azimuth:329	Height:100	Vert	Margin [dB]		-1.23	-	-	-	-	-
12	77.3073	28.59 pk	.5	7.2	36.29	40	-	-	-	-	-
	Azimuth:74	Height:100	Vert	Margin [dB]		-3.71	-	-	-	-	-
13	81.7317	27.91 pk	.5	8.2	36.61	40	-	-	-	-	-
	Azimuth:17	Height:100	Vert	Margin [dB]		-3.39	-	-	-	-	-
14	83.0931	27.38 pk	.5	8.5	36.38	40	-	-	-	-	-
	Azimuth:220	Height:100	Vert	Margin [dB]		-3.62	-	-	-	-	-
15	122.9129	20.61 pk	.7	13.7	35.01	43.5	-	-	-	-	-
	Azimuth:256	Height:100	Vert	Margin [dB]		-8.49	-	-	-	-	-
16	129.039	26.37 pk	.8	14	41.17	43.5	-	-	-	-	-
	Azimuth:292	Height:100	Vert	Margin [dB]		-2.33	-	-	-	-	-
17	135.1652	19.56 pk	.8	14.4	34.76	43.5	-	-	-	-	-
	Azimuth:256	Height:100	Vert	Margin [dB]		-8.74	-	-	-	-	-
18	165.966	19.81 pk	1	15.7	36.51	43.5	-	-	-	-	-
	Azimuth:292	Height:100	Vert	Margin [dB]		-6.99	-	-	-	-	-

Horizontal 200 - 1000MHz -----											
19	245.6228	25.84 pk	1.3	12.4	39.54	46	-	-	-	-	-
	Azimuth:341	Height:100	Horz	Margin [dB]		-6.46	-	-	-	-	-
20	270.035	23.22 pk	1.4	13.3	37.92	46	-	-	-	-	-
	Azimuth:213	Height:100	Horz	Margin [dB]		-8.08	-	-	-	-	-
21	331.6658	26.07 pk	1.7	14.8	42.57	46	-	-	-	-	-
	Azimuth:2	Height:100	Horz	Margin [dB]		-3.43	-	-	-	-	-
22	337.6688	27.98 pk	1.7	15.1	44.78	46	-	-	-	-	-
	Azimuth:343	Height:100	Horz	Margin [dB]		-1.22	-	-	-	-	-
23	344.072	21.74 pk	1.8	15.4	38.94	46	-	-	-	-	-
	Azimuth:213	Height:100	Horz	Margin [dB]		-7.06	-	-	-	-	-
24	356.078	21.96 pk	1.8	15.5	39.26	46	-	-	-	-	-
	Azimuth:15	Height:100	Horz	Margin [dB]		-6.74	-	-	-	-	-
25	368.4842	23.59 pk	1.9	15.4	40.89	46	-	-	-	-	-

	Azimuth:128	Height:100	Horz	Margin [dB]	-5.11	-	-	-	-	-
26	374.4872	21.76 pk	1.8	15.5	39.06	46	-	-	-	-
	Azimuth:341	Height:100	Horz	Margin [dB]	-6.94	-	-	-	-	-
27	386.8934	21.46 pk	2	15.9	39.36	46	-	-	-	-
	Azimuth:256	Height:100	Horz	Margin [dB]	-6.64	-	-	-	-	-
28	393.2966	22.39 pk	2	16	40.39	46	-	-	-	-
	Azimuth:43	Height:100	Horz	Margin [dB]	-5.61	-	-	-	-	-
29	405.3027	21.37 pk	2	16.4	39.77	46	-	-	-	-
	Azimuth:214	Height:100	Horz	Margin [dB]	-6.23	-	-	-	-	-
30	411.7059	22.83 pk	2	16.7	41.53	46	-	-	-	-
	Azimuth:214	Height:100	Horz	Margin [dB]	-4.47	-	-	-	-	-
31	423.7119	20.55 pk	2	16.7	39.25	46	-	-	-	-
	Azimuth:128	Height:100	Horz	Margin [dB]	-6.75	-	-	-	-	-

Vertical 200 - 1000MHz -----

32	331.6658	21.06 pk	1.7	14.6	37.36	46	-	-	-	-
	Azimuth:18	Height:200	Vert	Margin [dB]	-8.64	-	-	-	-	-
33	337.6688	21.47 pk	1.7	15	38.17	46	-	-	-	-
	Azimuth:119	Height:200	Vert	Margin [dB]	-7.83	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209
 LIMIT 2: NONE
 LIMIT 3: NONE
 LIMIT 4: NONE
 LIMIT 5: NONE
 LIMIT 6: NONE

Job Number: 740133

File Number: MC8319

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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 120V 60Hz
Tested: MA/RM/DC

Table with columns: Test Frequency [MHz], Meter Reading [dB(uV)], Gain/Loss Factor [dB], Transducer Factor [dB], Level dB[uVolts/meter], Limit:1, 2, 3, 4, 5, 6. Rows include test results for 30-200MHz and 200-1000MHz ranges.

Job Number: 740133

File Number: MC8319

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Model Number: M812

FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

393.1994	23.32	qp	2	16	41.32	46	-	-	-	-	-
Azimuth: 139		Height:104		Horz		Margin [dB]:	-4.68	-	-	-	-
405.4871	22.92	qp	2	16.4	41.32	46	-	-	-	-	-
Azimuth: 153		Height:102		Horz		Margin [dB]:	-4.68	-	-	-	-
411.6272	24.61	qp	2	16.7	43.31	46	-	-	-	-	-
Azimuth: 142		Height:101		Horz		Margin [dB]:	-2.69	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209

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

Figure 35 Radiated Emissions Graph – 30-1000MHz (Wireless Speaker Channel 1)

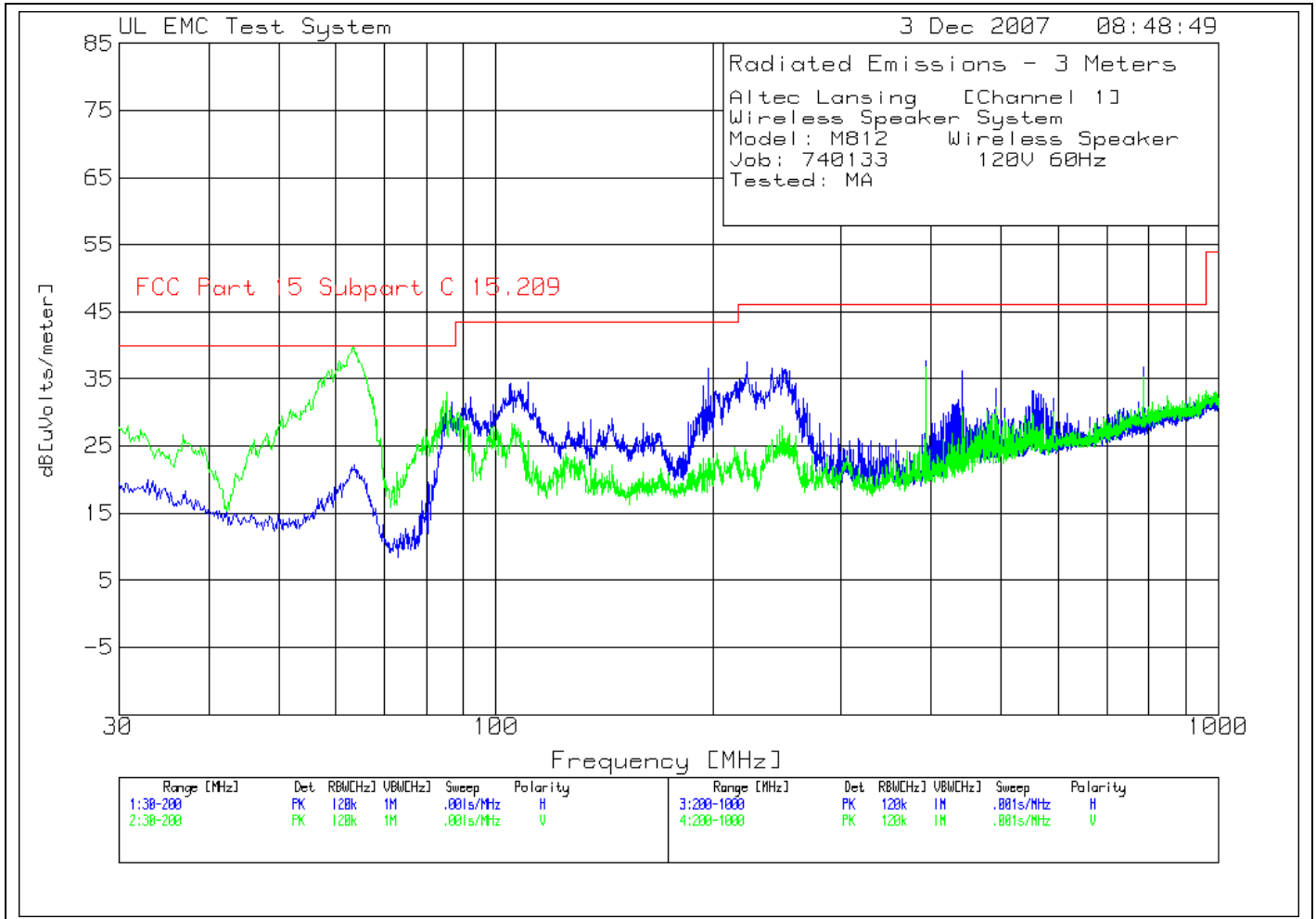


Table 35 Radiated Emissions Data Points

Altec Lansing [Channel 1]
 Wireless Speaker System
 Model: M812 Wireless Speaker
 Job: 740133 120V 60Hz
 Tested: MA

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6

Horizontal 30 - 200MHz -----											
3	104.5345	22.72 pk	.7	11	34.42	43.5	-	-	-	-	-
	Azimuth:344	Height:250	Horz	Margin [dB]		-9.08	-	-	-	-	-
4	196.7668	19.57 pk	1.1	15.9	36.57	43.5	-	-	-	-	-
	Azimuth:214	Height:100	Horz	Margin [dB]		-6.93	-	-	-	-	-

Vertical 30 - 200MHz -----											
1	63.3534	33.26 pk	.4	6.2	39.86	40	-	-	-	-	-
	Azimuth:174	Height:100	Vert	Margin [dB]		-.14	-	-	-	-	-
2	85.3053	23.58 pk	.5	9	33.08	40	-	-	-	-	-
	Azimuth:138	Height:100	Vert	Margin [dB]		-6.92	-	-	-	-	-

Horizontal 200 - 1000MHz -----											
5	222.4112	24.65 pk	1.2	11.7	37.55	46	-	-	-	-	-
	Azimuth:317	Height:100	Horz	Margin [dB]		-8.45	-	-	-	-	-
6	393.2966	19.72 pk	2	16	37.72	46	-	-	-	-	-
	Azimuth:104	Height:299	Horz	Margin [dB]		-8.28	-	-	-	-	-

Vertical 200 - 1000MHz -----											
7	393.2966	18.69 pk	2	16.1	36.79	46	-	-	-	-	-
	Azimuth:230	Height:200	Vert	Margin [dB]		-9.21	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209											
LIMIT 2: NONE											
LIMIT 3: NONE											
LIMIT 4: NONE											
LIMIT 5: NONE											
LIMIT 6: NONE											

Job Number: 740133 File Number: MC8319 Page 106 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 120V 60Hz
 Tested: MA

Test	Meter	Gain/Loss	Transducer	Level	Limit:1	2	3	4	5	6
Frequency [MHz]	Reading [dB(uV)]	Factor [dB]	Factor [dB]	dB[uVolts/meter]						
=====										
Vertical 30 - 200MHz										
64.1163	30.58 qp	.5	6.1	37.18	40	-	-	-	-	-
Azimuth: 271	Height:105	Vert		Margin [dB]:	-2.82	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209
 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

Figure 36 Radiated Emissions Graph – 30-1000MHz (Transmitter Base Channel 2)

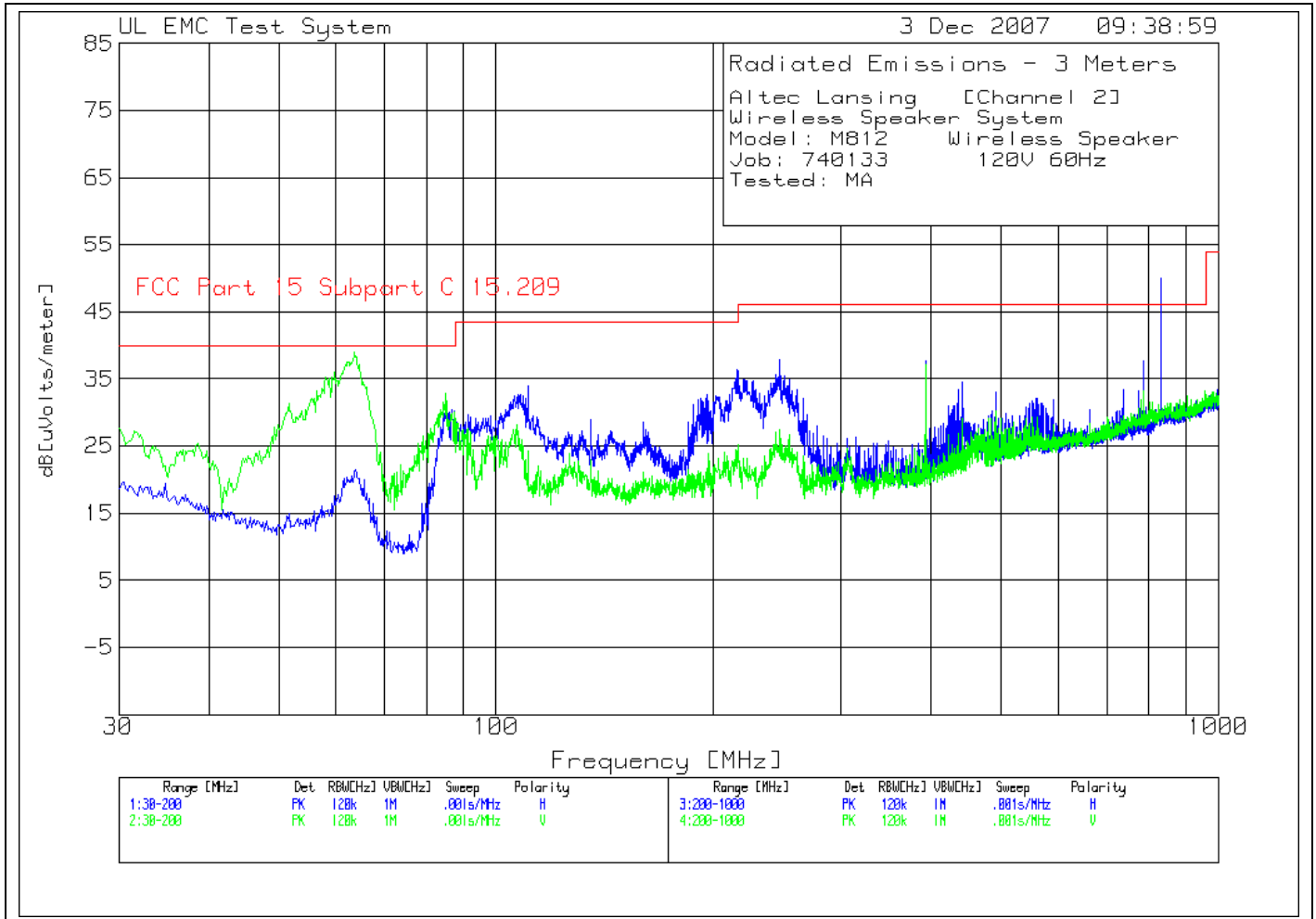


Table 36 Radiated Emissions Data Points

Altec Lansing [Channel 2]
 Wireless Speaker System
 Model: M812 Wireless Speaker
 Job: 740133 120V 60Hz
 Tested: MA

Test No.	Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6

Horizontal 30 - 200MHz -----											
3	110.6607	21.58 pk	.7	11.7	33.98	43.5	-	-	-	-	-
	Azimuth:145	Height:400	Horz	Margin [dB]		-9.52	-	-	-	-	-

Vertical 30 - 200MHz -----											
1	63.6937	32.37 pk	.4	6.2	38.97	40	-	-	-	-	-
	Azimuth:74	Height:100	Vert	Margin [dB]		-1.03	-	-	-	-	-
2	85.1351	23.52 pk	.5	8.9	32.92	40	-	-	-	-	-
	Azimuth:1	Height:100	Vert	Margin [dB]		-7.08	-	-	-	-	-

Horizontal 200 - 1000MHz -----											
4	247.2236	24.13 pk	1.3	12.5	37.93	46	-	-	-	-	-
	Azimuth:18	Height:100	Horz	Margin [dB]		-8.07	-	-	-	-	-
5	831.916	23.66 pk	3.3	23	49.96	46	-	-	-	-	-
	Azimuth:18	Height:200	Horz	Margin [dB]		3.96	-	-	-	-	-
6	393.2966	19.7 pk	2	16	37.7	46	-	-	-	-	-
	Azimuth:44	Height:100	Horz	Margin [dB]		-8.3	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209
 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

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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 120V 60Hz
Tested: MA

Test	Meter	Gain/Loss	Transducer	Level	Limit:1	2	3	4	5	6
Frequency [MHz]	Reading [dB(uV)]	Factor [dB]	Factor [dB]	dB[uVolts/meter]						
=====										
Vertical 30 - 200MHz										
63.7575	30.24 qp	.4	6.2	36.84	40	-	-	-	-	-
Azimuth: 278	Height:125	Vert		Margin [dB]:	-3.16	-	-	-	-	-
Horizontal 200 - 1000MHz										
831.0752	18.59 qp	3.3	23	44.89	46	-	-	-	-	-
Azimuth: 310	Height:119	Horz		Margin [dB]:	-1.11	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209
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

Figure 37 Radiated Emissions Graph – 30-1000MHz (Transmitter Base Channel 3)

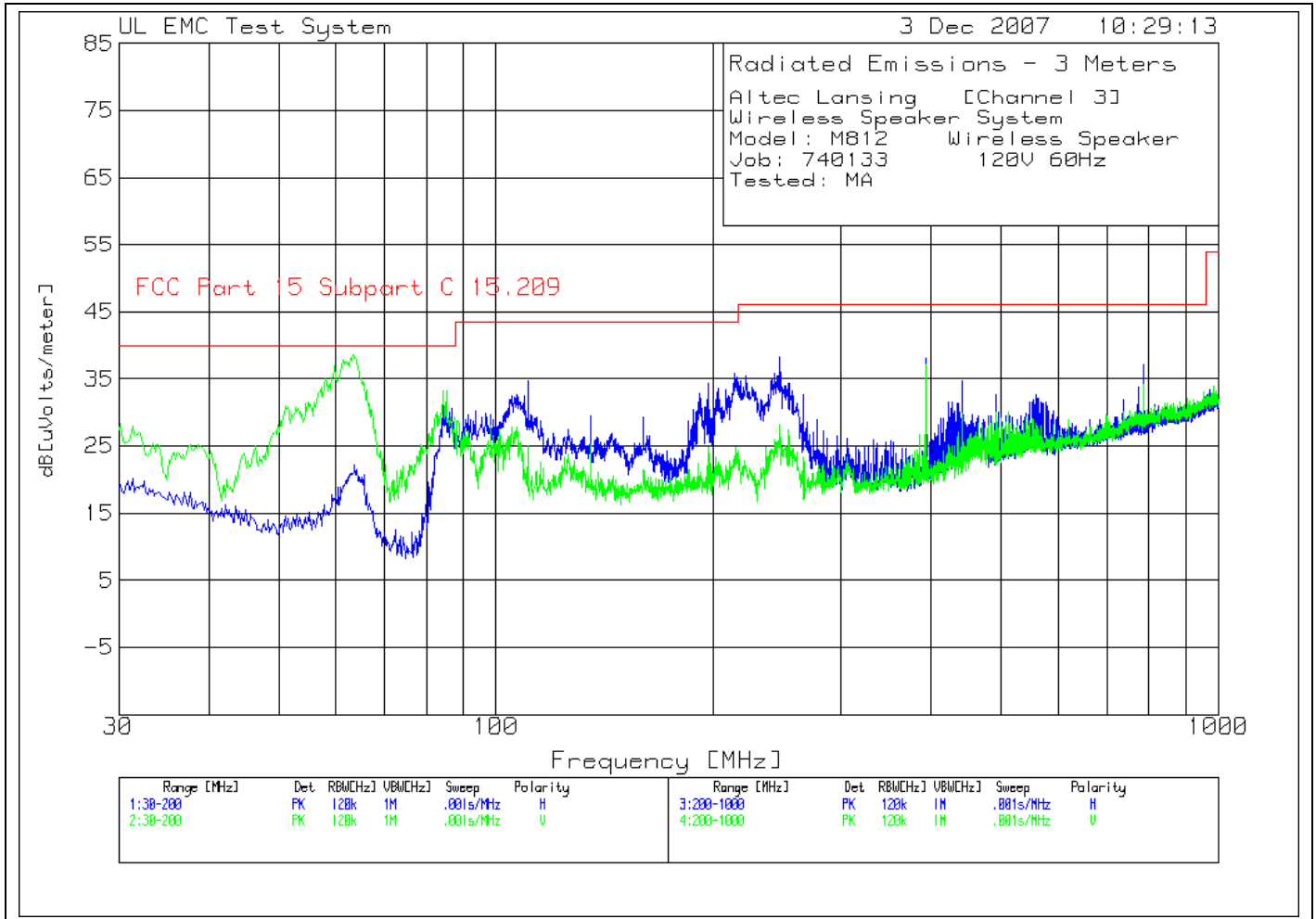


Table 37 Radiated Emissions Data Points

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

Test No.	Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
Horizontal 30 - 200MHz -----											
3	110.6607	22.35 pk	.7	11.7	34.75	43.5	-	-	-	-	-
	Azimuth:18	Height:250	Horz	Margin [dB]		-8.75	-	-	-	-	-
4	196.7668	17.27 pk	1.1	15.9	34.27	43.5	-	-	-	-	-
	Azimuth:146	Height:100	Horz	Margin [dB]		-9.23	-	-	-	-	-
Vertical 30 - 200MHz -----											
1	63.3534	32.08 pk	.4	6.2	38.68	40	-	-	-	-	-
	Azimuth:334	Height:100	Vert	Margin [dB]		-1.32	-	-	-	-	-
2	85.3053	23.74 pk	.5	9	33.24	40	-	-	-	-	-
	Azimuth:38	Height:100	Vert	Margin [dB]		-6.76	-	-	-	-	-
Horizontal 200 - 1000MHz -----											
5	214.007	23.03 pk	1.2	11.6	35.83	43.5	-	-	-	-	-
	Azimuth:248	Height:100	Horz	Margin [dB]		-7.67	-	-	-	-	-
6	247.2236	24.38 pk	1.3	12.5	38.18	46	-	-	-	-	-
	Azimuth:205	Height:100	Horz	Margin [dB]		-7.82	-	-	-	-	-
7	393.2966	20.07 pk	2	16	38.07	46	-	-	-	-	-
	Azimuth:205	Height:300	Horz	Margin [dB]		-7.93	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209
 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 112 of 159
 Model Number: M812 FCC ID: VJS-M812
 Client Name: Altec Lansing Technologies

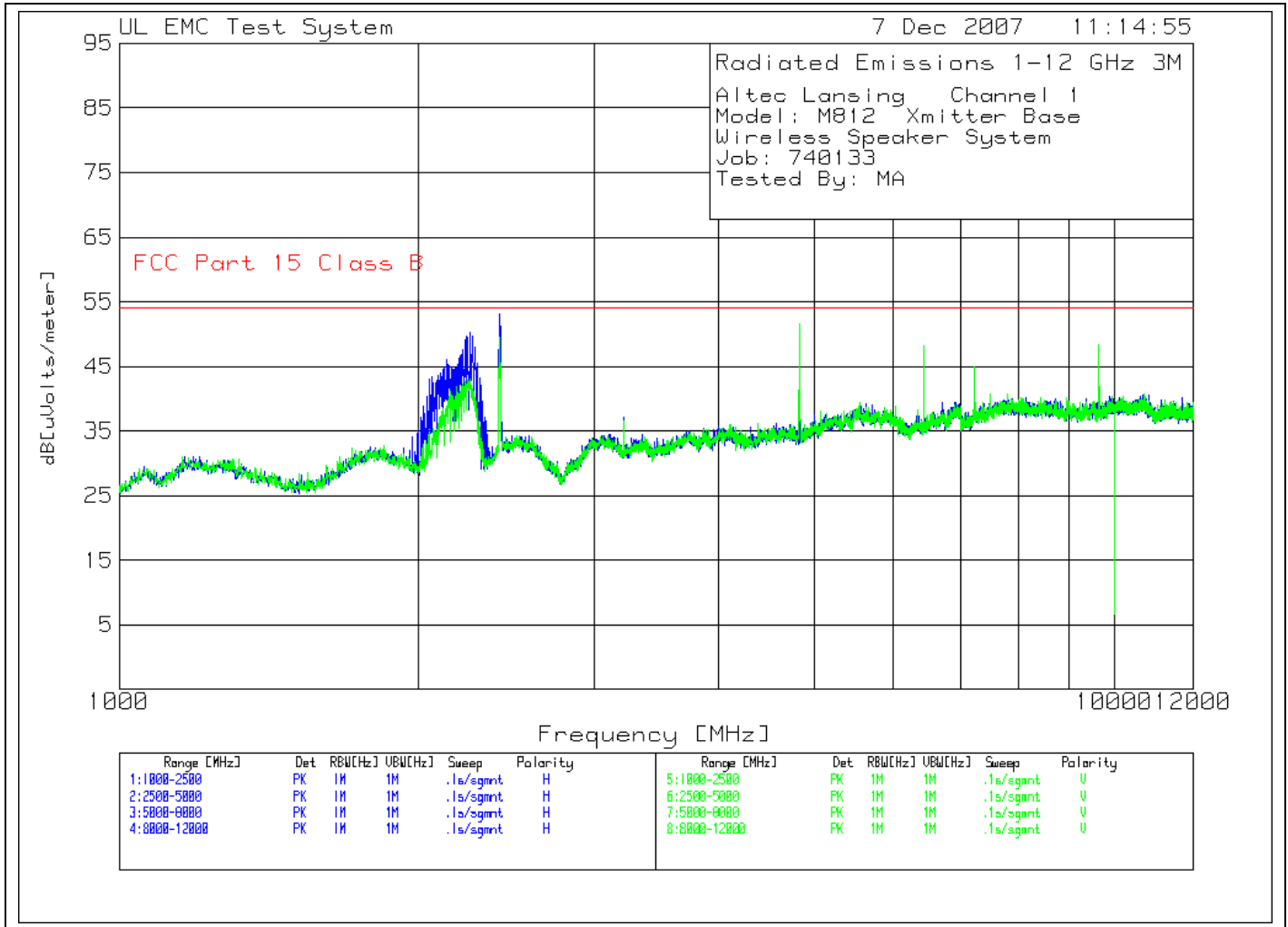
Altec Lansing [Channel 3]
 Wireless Speaker System
 Model: M812 Wireless Speaker
 Job: 740133 120V 60Hz
 Tested: MA

Test	Meter	Gain/Loss	Transducer	Level	Limit:1	2	3	4	5	6
Frequency [MHz]	Reading [dB(uV)]	Factor [dB]	Factor [dB]	dB[uVolts/meter]						
=====										
Vertical 30 - 200MHz										
63.7094	29.93 qp	.4	6.2	36.53	40	-	-	-	-	-
Azimuth: 264	Height:131	Vert		Margin [dB]:	-3.47	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209
 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

Figure 38 Radiated Emissions Graph – 1-12GHz (Transmitter Base Channel 1)



NOTE: A 2.4GHz notch filter was used in the range to exclude the fundamental.

Table 38 Radiated Emissions Data Points

Altec Lansing Channel 1
 Model: M812 Xmitter Base
 Wireless Speaker System
 Job: 740133
 Tested By: MA

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6

Horizontal 1000 - 2500MHz -----											
1	2411.411	57.32 pk	-32.7	28.6	53.22	54	-	-	-	-	-
	Azimuth:249	Height:100	Horz	Margin [dB]		-.78	-	-	-	-	-
2	2253.754	55.24 pk	-33	28.1	50.34	54	-	-	-	-	-
	Azimuth:276	Height:200	Horz	Margin [dB]		-3.66	-	-	-	-	-

Vertical 2500 - 5000MHz -----											
3	4824.883	48.49 pk	-29.9	33.1	51.69	54	-	-	-	-	-
	Azimuth:359	Height:200	Vert	Margin [dB]		-2.31	-	-	-	-	-

Vertical 5000 - 8000MHz -----											
4	6432.955	42.07 pk	-28.5	34.6	48.17	54	-	-	-	-	-
	Azimuth:353	Height:200	Vert	Margin [dB]		-5.83	-	-	-	-	-
5	7235.49	36.38 pk	-27.5	36.1	44.98	54	-	-	-	-	-
	Azimuth:54	Height:200	Vert	Margin [dB]		-9.02	-	-	-	-	-

Vertical 8000 - 12000MHz -----											
6	9646.823	38.41 pk	-28.3	38.3	48.41	54	-	-	-	-	-
	Azimuth:27	Height:200	Vert	Margin [dB]		-5.59	-	-	-	-	-

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

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Model Number: M812

FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

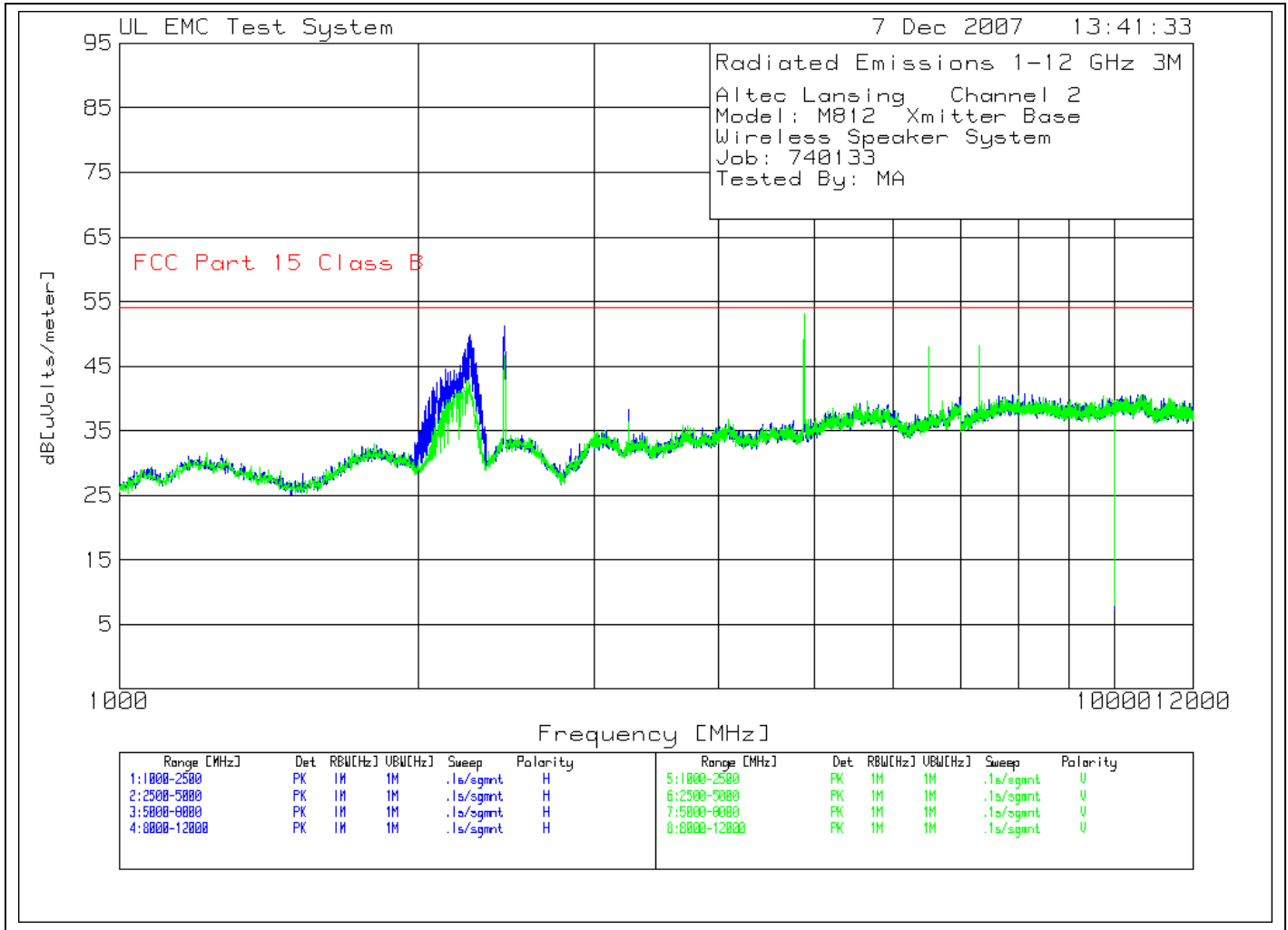
Altec Lansing Channel 1
Model: M812 Xmitter Base
Wireless Speaker System
Job: 740133
Tested By: MA

Test	Meter	Gain/Loss	Transducer	Level	Limit:1	2	3	4	5	6
Frequency	Reading	Factor	Factor	dB[uVolts/meter]						
[MHz]	[dB(uV)]	[dB]	[dB]							
=====										
Vertical 2500 - 5000MHz										
4823.8763	40.82 ave	-29.9	33.1	44.02	54	-	-	-	-	-
Azimuth: 95	Height:102	Vert		Margin [dB]:	-9.98	-	-	-	-	-
Vertical 5000 - 8000MHz										
6431.8598	37.65 ave	-28.5	34.6	43.75	54	-	-	-	-	-
Azimuth: 62	Height:163	Vert		Margin [dB]:	-10.25	-	-	-	-	-
Vertical 8000 - 12000MHz										
9647.8504	26.34 ave	-28.3	38.3	36.34	54	-	-	-	-	-
Azimuth: 219	Height:103	Vert		Margin [dB]:	-17.66	-	-	-	-	-

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

Figure 39 Radiated Emissions Graph – 1-12GHz (Transmitter Base Channel 2)



NOTE: A 2.4GHz notch filter was used in the range to exclude the fundamental.

Table 39 Radiated Emissions Data Points

Altec Lansing Channel 2
 Model: M812 Xmitter Base
 Wireless Speaker System
 Job: 740133
 Tested By: MA

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
Horizontal 1000 - 2500MHz -----											
1	2438.438	55.41 pk	-32.7	28.6	51.31	54	-	-	-	-	-
	Azimuth:306	Height:100	Horz	Margin [dB]		-2.69	-	-	-	-	-
2	2253.754	54.7 pk	-33	28.1	49.8	54	-	-	-	-	-
	Azimuth:251	Height:199	Horz	Margin [dB]		-4.2	-	-	-	-	-
Horizontal 2500 - 5000MHz -----											
6	3250.5	39.75 pk	-32.1	30.6	38.25	54	-	-	-	-	-
	Azimuth:168	Height:200	Horz	Margin [dB]		-15.75	-	-	-	-	-
Vertical 2500 - 5000MHz -----											
3	4876.584	49.78 pk	-29.9	33.2	53.08	54	-	-	-	-	-
	Azimuth:56	Height:100	Vert	Margin [dB]		-.92	-	-	-	-	-
Vertical 5000 - 8000MHz -----											
4	6501.001	41.77 pk	-28.4	34.6	47.97	54	-	-	-	-	-
	Azimuth:55	Height:200	Vert	Margin [dB]		-6.03	-	-	-	-	-
5	7313.542	39.45 pk	-27.5	36.3	48.25	54	-	-	-	-	-
	Azimuth:56	Height:100	Vert	Margin [dB]		-5.75	-	-	-	-	-

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

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Model Number: M812

FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

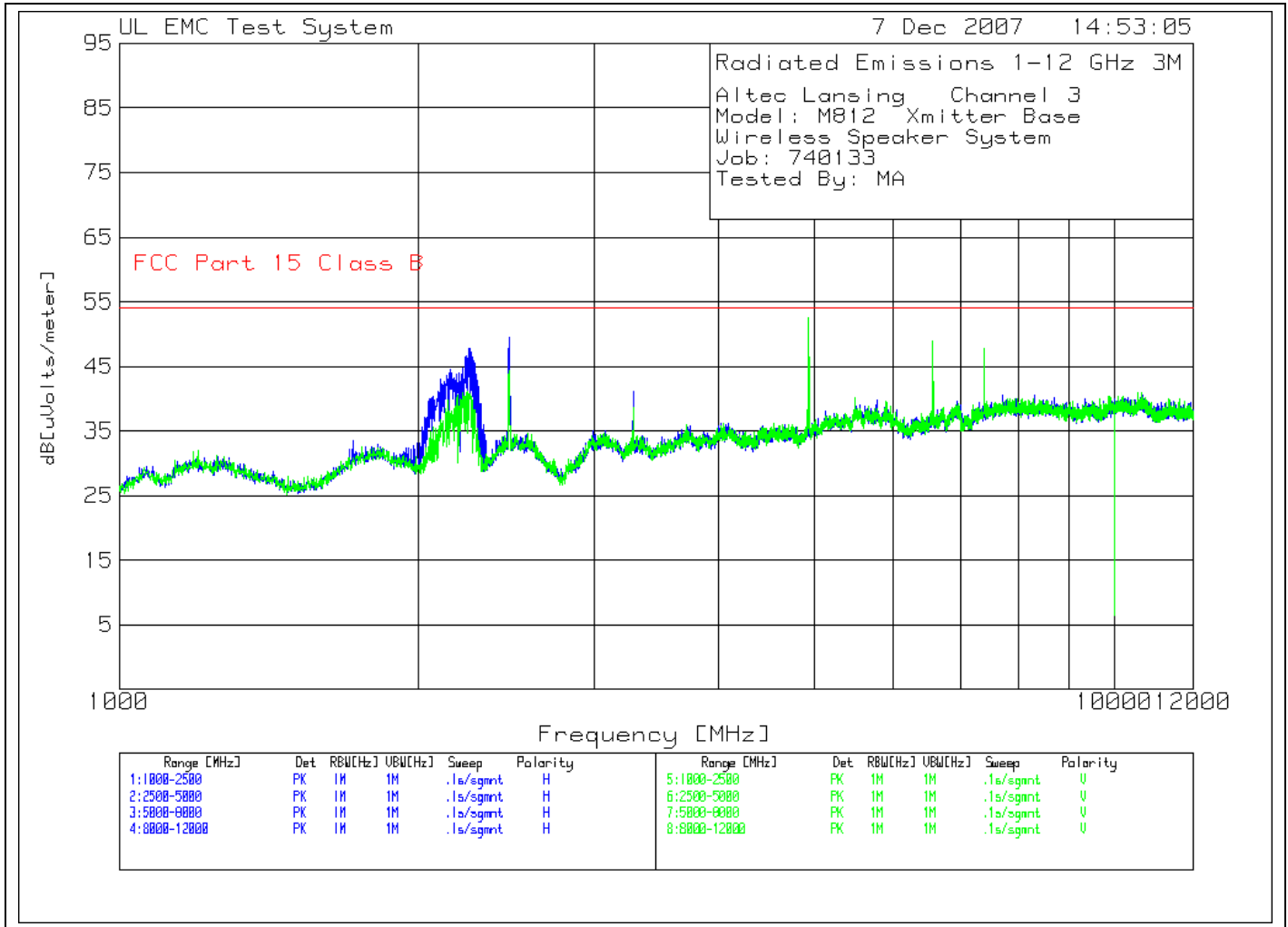
Altec Lansing Channel 2
Model: M812 Xmitter Base
Wireless Speaker System
Job: 740133
Tested By: MA

Test	Meter	Gain/Loss	Transducer	Level	Limit:1	2	3	4	5	6
Frequency	Reading	Factor	Factor	dB[uVolts/meter]						
[MHz]	[dB(uV)]	[dB]	[dB]							
=====										
Vertical 2500 - 5000MHz										
4875.9922	41.8 ave	-29.9	33.2	45.1	54	-	-	-	-	-
Azimuth: 102	Height:161	Vert		Margin [dB]:	-8.9	-	-	-	-	-
Vertical 5000 - 8000MHz										
7313.9482	27.64 ave	-27.5	36.3	36.44	54	-	-	-	-	-
Azimuth: 161	Height:103	Vert		Margin [dB]:	-17.56	-	-	-	-	-

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

Figure 40 Radiated Emissions Graph – 1-12GHz (Transmitter Base Channel 3)



NOTE: A 2.4GHz notch filter was used in the range to exclude the fundamental.

Table 40 Radiated Emissions Data Points

Altec Lansing Channel 3
 Model: M812 Xmitter Base
 Wireless Speaker System
 Job: 740133
 Tested By: MA

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6

Horizontal 1000 - 2500MHz -----											
1	2463.964	53.46 pk	-32.7	28.7	49.46	54	-	-	-	-	-
	Azimuth:27	Height:100	Horz	Margin [dB]		-4.54	-	-	-	-	-
2	2249.249	52.72 pk	-33	28.1	47.82	54	-	-	-	-	-
	Azimuth:276	Height:200	Horz	Margin [dB]		-6.18	-	-	-	-	-

Horizontal 2500 - 5000MHz -----											
3	3285.524	42.48 pk	-32	30.7	41.18	54	-	-	-	-	-
	Azimuth:276	Height:200	Horz	Margin [dB]		-12.82	-	-	-	-	-

Vertical 2500 - 5000MHz -----											
4	4928.286	49.11 pk	-29.8	33.3	52.61	54	-	-	-	-	-
	Azimuth:81	Height:100	Vert	Margin [dB]		-1.39	-	-	-	-	-

Vertical 5000 - 8000MHz -----											
5	6571.047	42.85 pk	-28.6	34.7	48.95	54	-	-	-	-	-
	Azimuth:56	Height:100	Vert	Margin [dB]		-5.05	-	-	-	-	-
6	7391.594	38.63 pk	-27.3	36.5	47.83	54	-	-	-	-	-
	Azimuth:192	Height:200	Vert	Margin [dB]		-6.17	-	-	-	-	-

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

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Model Number: M812

FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

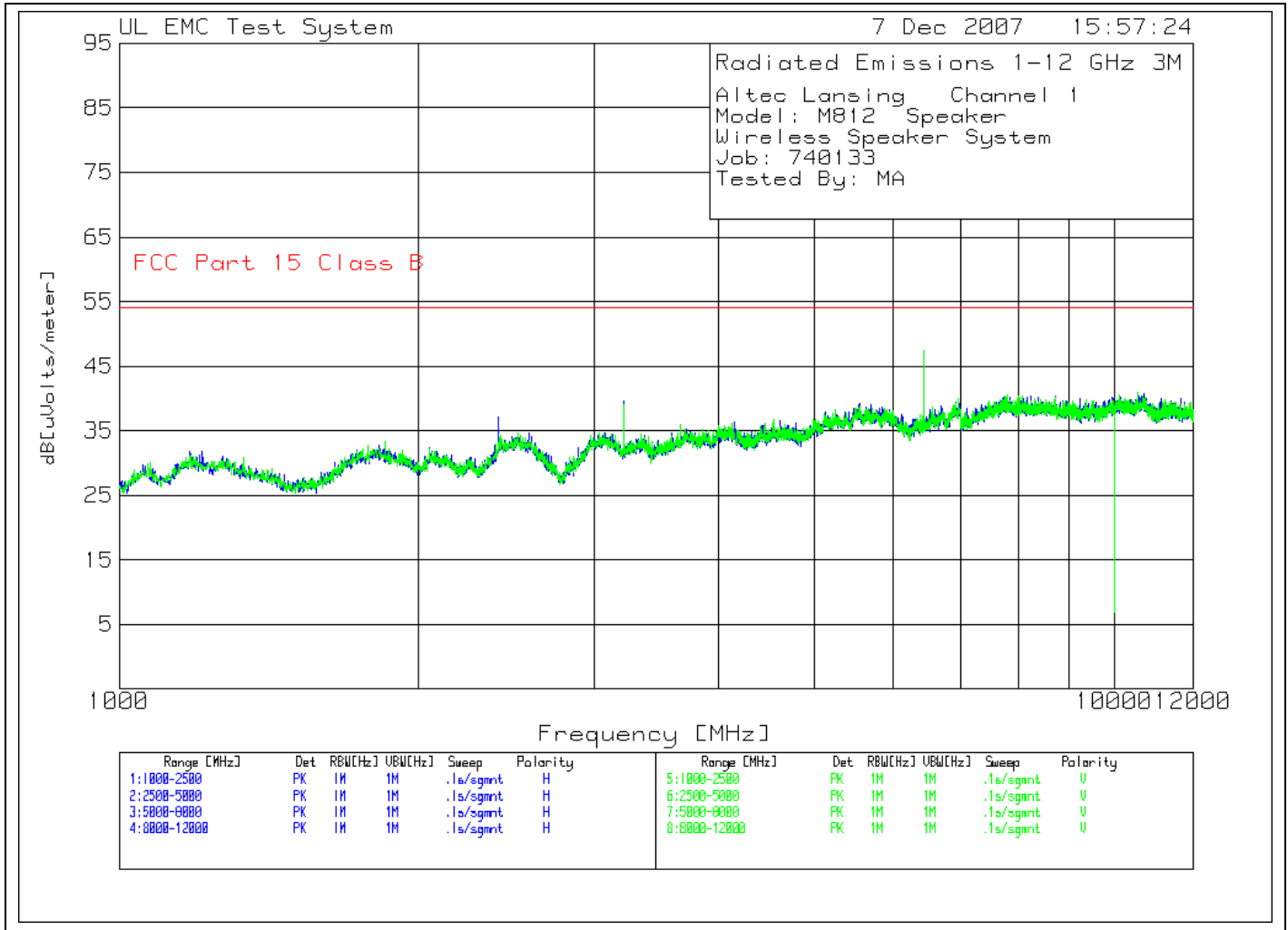
Altec Lansing Channel 3
Model: M812 Xmitter Base
Wireless Speaker System
Job: 740133
Tested By: MA

Test	Meter	Gain/Loss	Transducer	Level	Limit:1	2	3	4	5	6
Frequency	Reading	Factor	Factor	dB[uVolts/meter]						
[MHz]	[dB(uV)]	[dB]	[dB]							
=====										
Vertical 2500 - 5000MHz										
4927.8929	41.49	ave	-29.8	33.3	44.99	54	-	-	-	-
Azimuth: 96	Height:126	Vert		Margin [dB]:	-9.01		-	-	-	-
Vertical 5000 - 8000MHz										
6570.7499	44.02	ave	-28.6	34.7	50.12	54	-	-	-	-
Azimuth: 344	Height:143	Vert		Margin [dB]:	-3.88		-	-	-	-

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

Figure 41 Radiated Emissions Graph – 1-12GHz (Wireless Speaker Channel 1)



NOTE: A 2.4GHz notch filter was used in the range to exclude the fundamental.

Job Number: 740133 File Number: MC8319
 Model Number: M812 FCC ID: VJS-M812
 Client Name: Altec Lansing Technologies

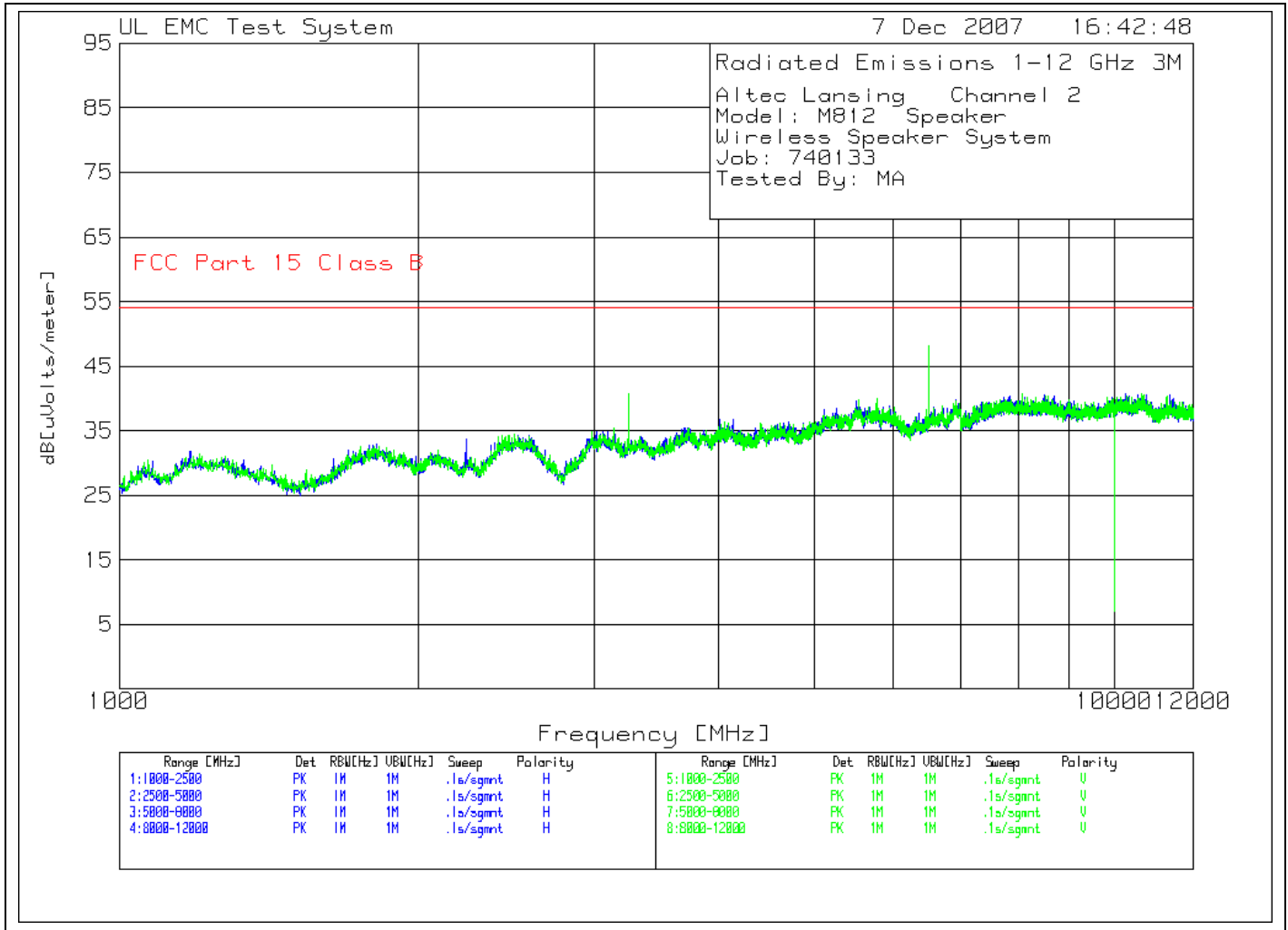
Table 41 Radiated Emissions Data Points

Altec Lansing Channel 1
 Model: M812 Speaker
 Wireless Speaker System
 Job: 740133
 Tested By: MA

Test No.	Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
Horizontal 1000 - 2500MHz -----											
1	2405.405	41.39 pk	-32.8	28.5	37.09	54	-	-	-	-	-
	Azimuth:249	Height:99	Horz	Margin [dB]		-16.91	-	-	-	-	-
Horizontal 2500 - 5000MHz -----											
2	3215.477	41.25 pk	-32.1	30.5	39.65	54	-	-	-	-	-
	Azimuth:110	Height:100	Horz	Margin [dB]		-14.35	-	-	-	-	-
Horizontal 5000 - 8000MHz -----											
5	6432.955	38.74 pk	-28.5	34.6	44.84	54	-	-	-	-	-
	Azimuth:305	Height:200	Horz	Margin [dB]		-9.16	-	-	-	-	-
Horizontal 8000 - 12000MHz -----											
6	10693.347	29.22 pk	-27.2	38.7	40.72	54	-	-	-	-	-
	Azimuth:1	Height:200	Horz	Margin [dB]		-13.28	-	-	-	-	-
Vertical 2500 - 5000MHz -----											
3	3215.477	40.56 pk	-32.1	30.5	38.96	54	-	-	-	-	-
	Azimuth:353	Height:101	Vert	Margin [dB]		-15.04	-	-	-	-	-
Vertical 5000 - 8000MHz -----											
4	6430.954	41.26 pk	-28.5	34.6	47.36	54	-	-	-	-	-
	Azimuth:338	Height:200	Vert	Margin [dB]		-6.64	-	-	-	-	-

LIMIT 1: FCC Part 15 Class B
 LIMIT 2: NONE
 LIMIT 3: NONE

Figure 42 Radiated Emissions Graph – 1-12GHz (Wireless Speaker Channel 2)



NOTE: A 2.4GHz notch filter was used in the range to exclude the fundamental.

Table 42 Radiated Emissions Data Points

Altec Lansing Channel 2
 Model: M812 Speaker
 Wireless Speaker System
 Job: 740133
 Tested By: MA

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6

Horizontal 1000 - 2500MHz -----											
1	2231.231	38.77 pk	-33.1	28	33.67	54	-	-	-	-	-
	Azimuth:82	Height:100	Horz	Margin [dB]		-20.33	-	-	-	-	-

Horizontal 2500 - 5000MHz -----											
3	3250.5	41.38 pk	-32.1	30.6	39.88	54	-	-	-	-	-
	Azimuth:137	Height:101	Horz	Margin [dB]		-14.12	-	-	-	-	-

Horizontal 5000 - 8000MHz -----											
4	6501.001	39.55 pk	-28.4	34.6	45.75	54	-	-	-	-	-
	Azimuth:333	Height:200	Horz	Margin [dB]		-8.25	-	-	-	-	-

Vertical 2500 - 5000MHz -----											
2	3250.5	42.18 pk	-32.1	30.6	40.68	54	-	-	-	-	-
	Azimuth:248	Height:100	Vert	Margin [dB]		-13.32	-	-	-	-	-

Vertical 5000 - 8000MHz -----											
5	6501.001	41.91 pk	-28.4	34.6	48.11	54	-	-	-	-	-
	Azimuth:339	Height:200	Vert	Margin [dB]		-5.89	-	-	-	-	-

Vertical 8000 - 12000MHz -----											
6	10649.325	29.13 pk	-27.1	38.7	40.73	54	-	-	-	-	-
	Azimuth:62	Height:200	Vert	Margin [dB]		-13.27	-	-	-	-	-

LIMIT 1: FCC Part 15 Class B
 LIMIT 2: NONE
 LIMIT 3: NONE

Job Number: 740133

File Number: MC8319

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Model Number: M812

FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

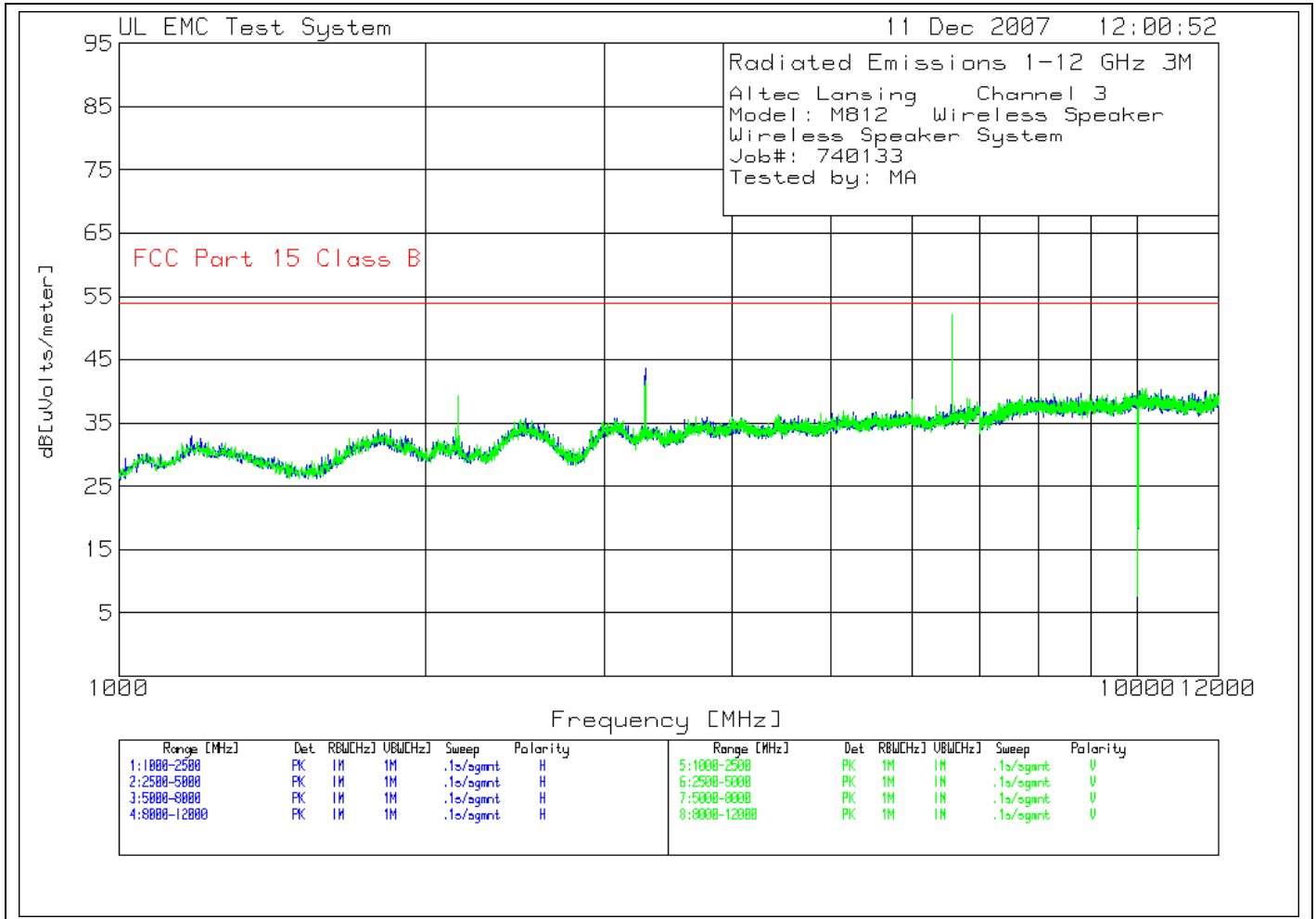
Altec Lansing Channel 2
Model: M812 Speaker
Wireless Speaker System
Job: 740133
Tested By: MA

Test	Meter	Gain/Loss	Transducer	Level	Limit:1	2	3	4	5	6
Frequency [MHz]	Reading [dB(uV)]	Factor [dB]	Factor [dB]	dB[uVolts/meter]						
=====										
Vertical 5000 - 8000MHz										
6501.3621	44.18	ave	-28.4	34.6	50.38	54	-	-	-	-
Azimuth: 340	Height:168	Vert		Margin [dB]:	-3.62		-	-	-	-

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

Figure 43 Radiated Emissions Graph – 1-12GHz (Wireless Speaker Channel 3)



NOTE: A 2.4GHz notch filter was used in the range to exclude the fundamental.

Table 43 Radiated Emissions Data Points

Altec Lansing Channel 3
 Model: M812 Wireless Speaker
 Wireless Speaker System
 Job#: 740133
 Tested by: MA

Test No.	Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6

Horizontal 2500 - 5000MHz -----											
1	3285.524	48.65 pk	-35.8	30.7	43.55	54	-	-	-	-	-
	Azimuth:27	Height:101	Horz	Margin [dB]		-10.45	-	-	-	-	-

Horizontal 5000 - 8000MHz -----											
5	6571.047	47.75 pk	-34.2	34.7	48.25	54	-	-	-	-	-
	Azimuth:334	Height:199	Horz	Margin [dB]		-5.75	-	-	-	-	-

Vertical 1000 - 2500MHz -----											
2	2154.655	47.68 pk	-36.1	27.8	39.38	54	-	-	-	-	-
	Azimuth:248	Height:100	Vert	Margin [dB]		-14.62	-	-	-	-	-

Vertical 2500 - 5000MHz -----											
3	3285.524	46.69 pk	-35.8	30.7	41.59	54	-	-	-	-	-
	Azimuth:303	Height:199	Vert	Margin [dB]		-12.41	-	-	-	-	-

Vertical 5000 - 8000MHz -----											
4	6571.047	51.58 pk	-34.2	34.7	52.08	54	-	-	-	-	-
	Azimuth:318	Height:199	Vert	Margin [dB]		-1.92	-	-	-	-	-

Vertical 8000 - 12000MHz -----											
6	10097.049	35.87 pk	-34.2	38.9	40.57	54	-	-	-	-	-
	Azimuth:222	Height:199	Vert	Margin [dB]		-13.43	-	-	-	-	-

LIMIT 1: FCC Part 15 Class B
 LIMIT 2: NONE
 LIMIT 3: NONE

Job Number: 740133

File Number: MC8319

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Model Number: M812

FCC ID: VJS-M812

Client Name: Altec Lansing Technologies

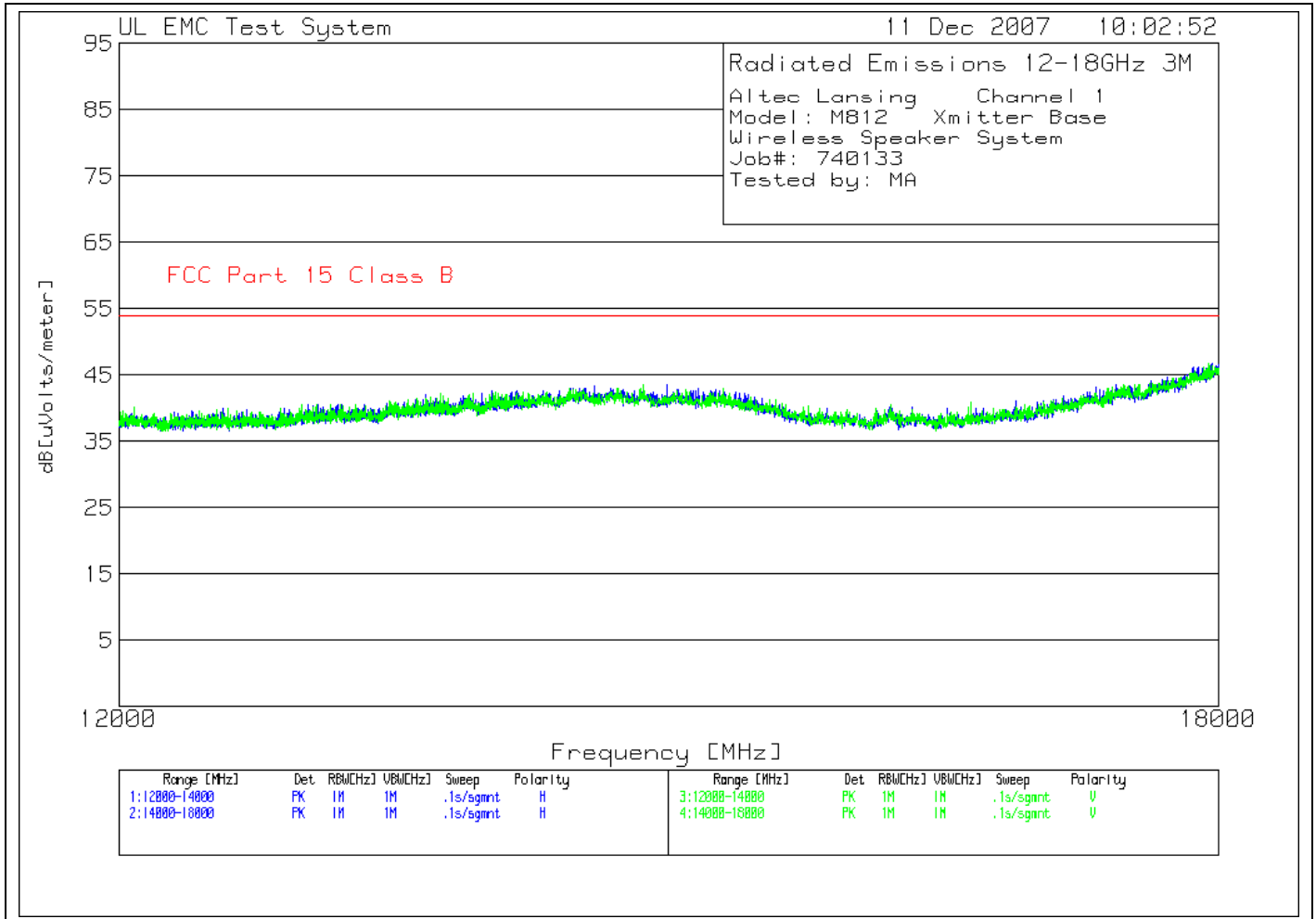
Altec Lansing Channel 3
Model: M812 Wireless Speaker
Wireless Speaker System
Job#: 740133
Tested by: MA

Test	Meter	Gain/Loss	Transducer	Level	Limit:1	2	3	4	5	6
Frequency	Reading	Factor	Factor	dB[uVolts/meter]						
[MHz]	[dB(uV)]	[dB]	[dB]							
=====										
Horizontal 5000 - 8000MHz										
6570.7059	46.32	ave	-34.2	34.7	46.82	54	-	-	-	-
Azimuth: 317		Height:114		Horz		Margin [dB]:	-7.18	-	-	-
Vertical 5000 - 8000MHz										
6570.5792	51.95	ave	-34.2	34.7	52.45	54	-	-	-	-
Azimuth: 336		Height:154		Vert		Margin [dB]:	-1.55	-	-	-

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

Figure 44 Radiated Emissions Graph – 12-18GHz (Transmitter Base Channel 1)



NOTE: A 2.4GHz notch filter was used in the range to exclude the fundamental.

Table 44 Radiated Emissions Data Points

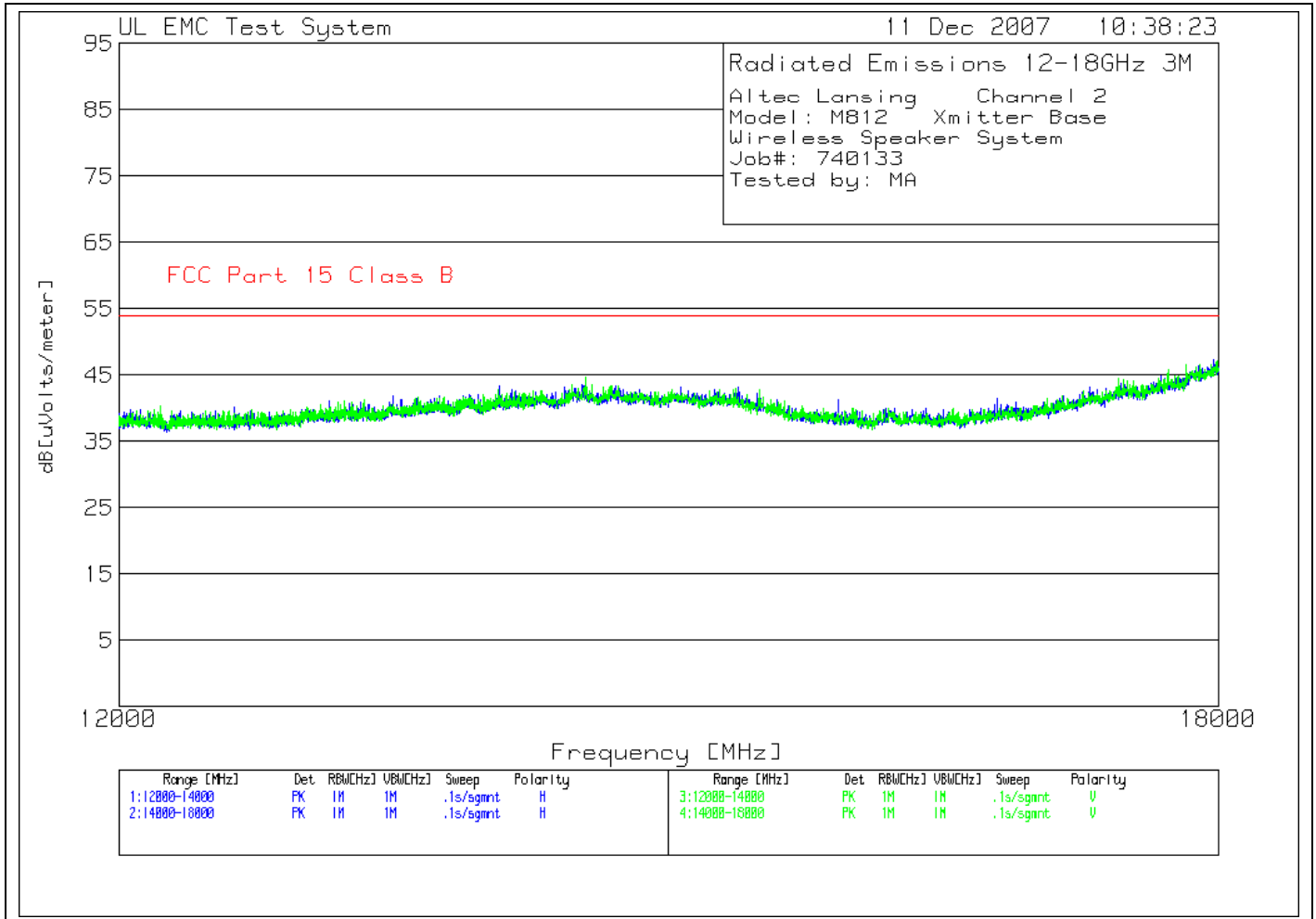
Altec Lansing Channel 1
 Model: M812 Xmitter Base
 Wireless Speaker System
 Job#: 740133
 Tested by: MA

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
Horizontal 14000 - 18000MHz -----											
1	17959.98	31.56 pk	-30.5	45.7	46.76	54	-	-	-	-	-
	Azimuth:217	Height:199	Horz	Margin [dB]		-7.24	-	-	-	-	-
2	17419.71	31.75 pk	-30.6	42.2	43.35	54	-	-	-	-	-
	Azimuth:134	Height:199	Horz	Margin [dB]		-10.65	-	-	-	-	-
3	14688.344	33.65 pk	-31.4	41.4	43.65	54	-	-	-	-	-
	Azimuth:217	Height:101	Horz	Margin [dB]		-10.35	-	-	-	-	-
Vertical 14000 - 18000MHz -----											
4	17931.966	31.96 pk	-30.7	45.5	46.76	54	-	-	-	-	-
	Azimuth:2	Height:199	Vert	Margin [dB]		-7.24	-	-	-	-	-
5	17307.654	32.02 pk	-30.5	41.7	43.22	54	-	-	-	-	-
	Azimuth:2	Height:101	Vert	Margin [dB]		-10.78	-	-	-	-	-
6	14560.28	32.78 pk	-30.9	41.6	43.48	54	-	-	-	-	-
	Azimuth:71	Height:199	Vert	Margin [dB]		-10.52	-	-	-	-	-

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

Figure 45 Radiated Emissions Graph – 12-18GHz (Transmitter Base Channel 2)



NOTE: A 2.4GHz notch filter was used in the range to exclude the fundamental.

Table 45 Radiated Emissions Data Points

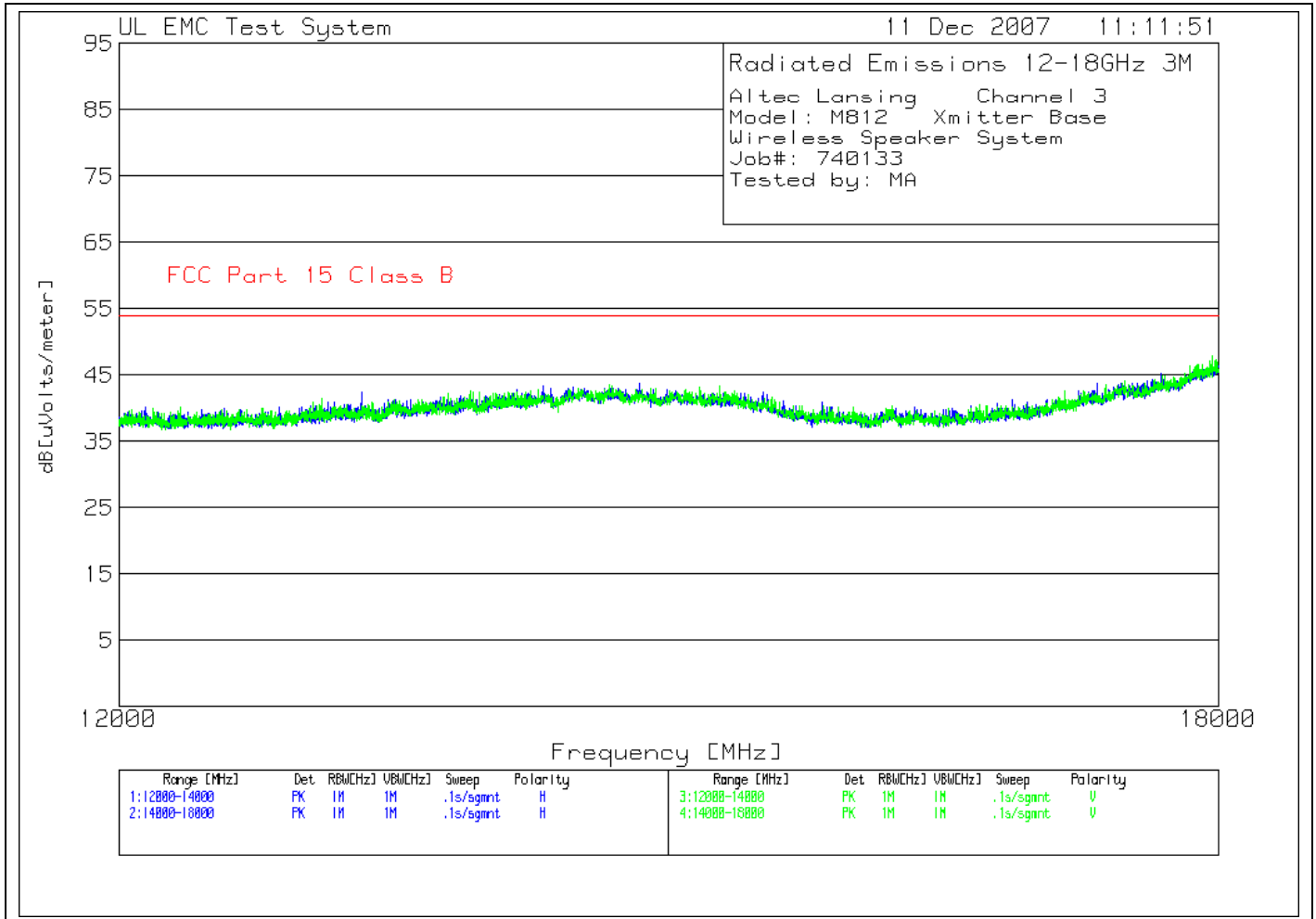
Altec Lansing Channel 2
 Model: M812 Xmitter Base
 Wireless Speaker System
 Job#: 740133
 Tested by: MA

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
Horizontal 14000 - 18000MHz -----											
1	17963.982	32.11 pk	-30.5	45.7	47.31	54	-	-	-	-	-
	Azimuth:295	Height:199	Horz	Margin [dB]		-6.69	-	-	-	-	-
2	17163.582	32.6 pk	-30.6	41.1	43.1	54	-	-	-	-	-
	Azimuth:91	Height:101	Horz	Margin [dB]		-10.9	-	-	-	-	-
6	15076.538	33.85 pk	-31.2	40.6	43.25	54	-	-	-	-	-
	Azimuth:358	Height:101	Horz	Margin [dB]		-10.75	-	-	-	-	-
Vertical 14000 - 18000MHz -----											
3	17783.892	32.97 pk	-30.8	44.5	46.67	54	-	-	-	-	-
	Azimuth:221	Height:199	Vert	Margin [dB]		-7.33	-	-	-	-	-
4	17669.835	32.89 pk	-30.8	43.7	45.79	54	-	-	-	-	-
	Azimuth:248	Height:101	Vert	Margin [dB]		-8.21	-	-	-	-	-
5	14256.128	34.27 pk	-31	41.4	44.67	54	-	-	-	-	-
	Azimuth:7	Height:199	Vert	Margin [dB]		-9.33	-	-	-	-	-

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 - denotes average log detection

Figure 46 Radiated Emissions Graph – 12-18GHz (Transmitter Base Channel 3)



NOTE: A 2.4GHz notch filter was used in the range to exclude the fundamental.

Table 46 Radiated Emissions Data Points

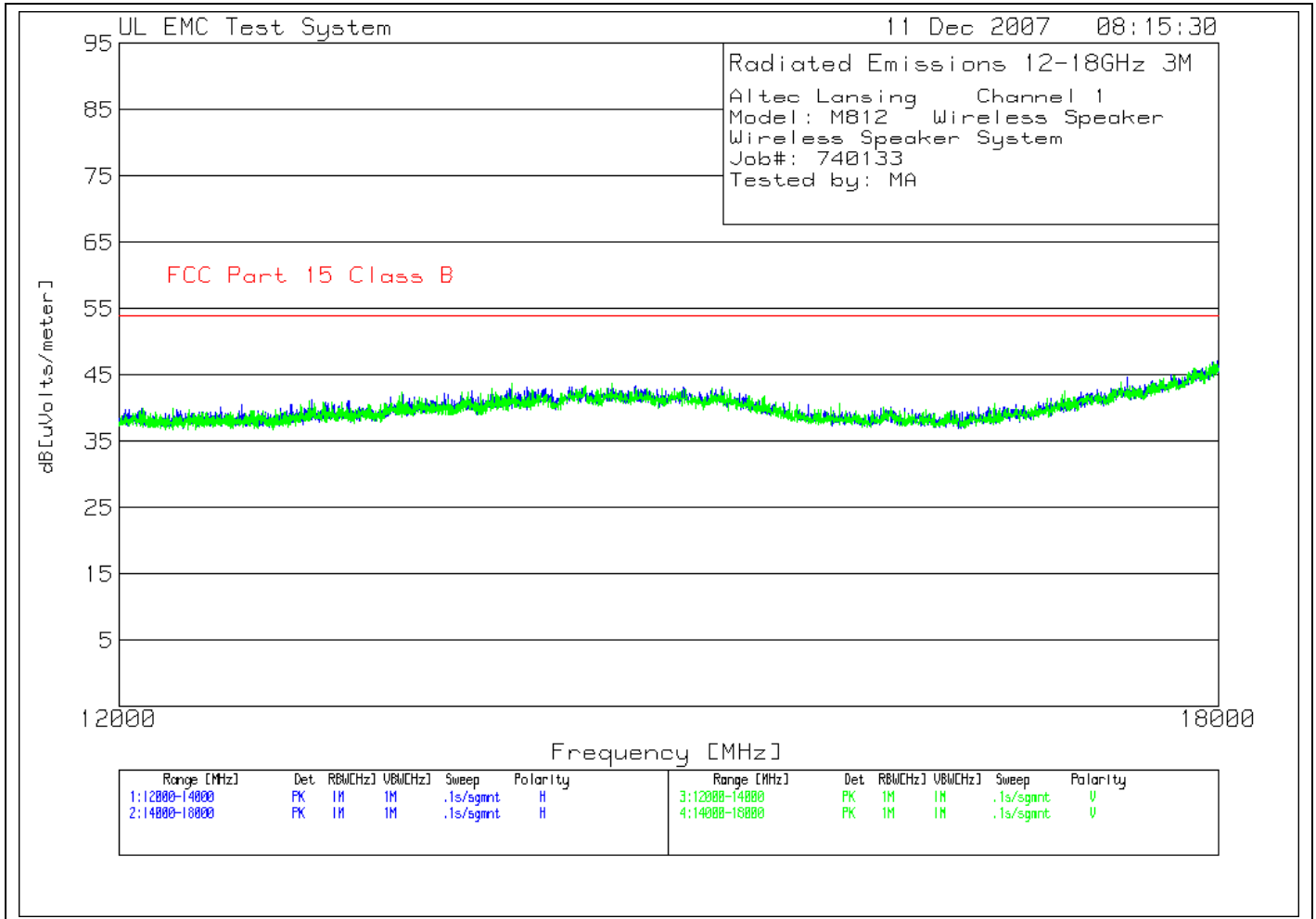
Altec Lansing Channel 3
 Model: M812 Xmitter Base
 Wireless Speaker System
 Job#: 740133
 Tested by: MA

Test No.	Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
Horizontal 14000 - 18000MHz -----											
1	17621.811	32.59 pk	-30.8	43.4	45.19	54	-	-	-	-	-
	Azimuth:358	Height:199	Horz	Margin [dB]		-8.81	-	-	-	-	-
2	17213.607	33.19 pk	-30.7	41.3	43.79	54	-	-	-	-	-
	Azimuth:353	Height:199	Horz	Margin [dB]		-10.21	-	-	-	-	-
5	14538.269	33.23 pk	-31	41.6	43.83	54	-	-	-	-	-
	Azimuth:221	Height:101	Horz	Margin [dB]		-10.17	-	-	-	-	-
6	15216.608	33.71 pk	-31.2	39.9	42.41	54	-	-	-	-	-
	Azimuth:358	Height:199	Horz	Margin [dB]		-11.59	-	-	-	-	-
Vertical 14000 - 18000MHz -----											
3	17955.978	32.75 pk	-30.5	45.7	47.95	54	-	-	-	-	-
	Azimuth:101	Height:199	Vert	Margin [dB]		-6.05	-	-	-	-	-
4	17855.928	32.28 pk	-30.7	45	46.58	54	-	-	-	-	-
	Azimuth:220	Height:101	Vert	Margin [dB]		-7.42	-	-	-	-	-
7	14378.189	32.88 pk	-30.8	41.5	43.58	54	-	-	-	-	-
	Azimuth:18	Height:199	Vert	Margin [dB]		-10.42	-	-	-	-	-

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 - denotes average log detection

Figure 47 Radiated Emissions Graph – 12-18GHz (Wireless Speaker Channel 1)



NOTE: A 2.4GHz notch filter was used in the range to exclude the fundamental.

Table 47 Radiated Emissions Data Points

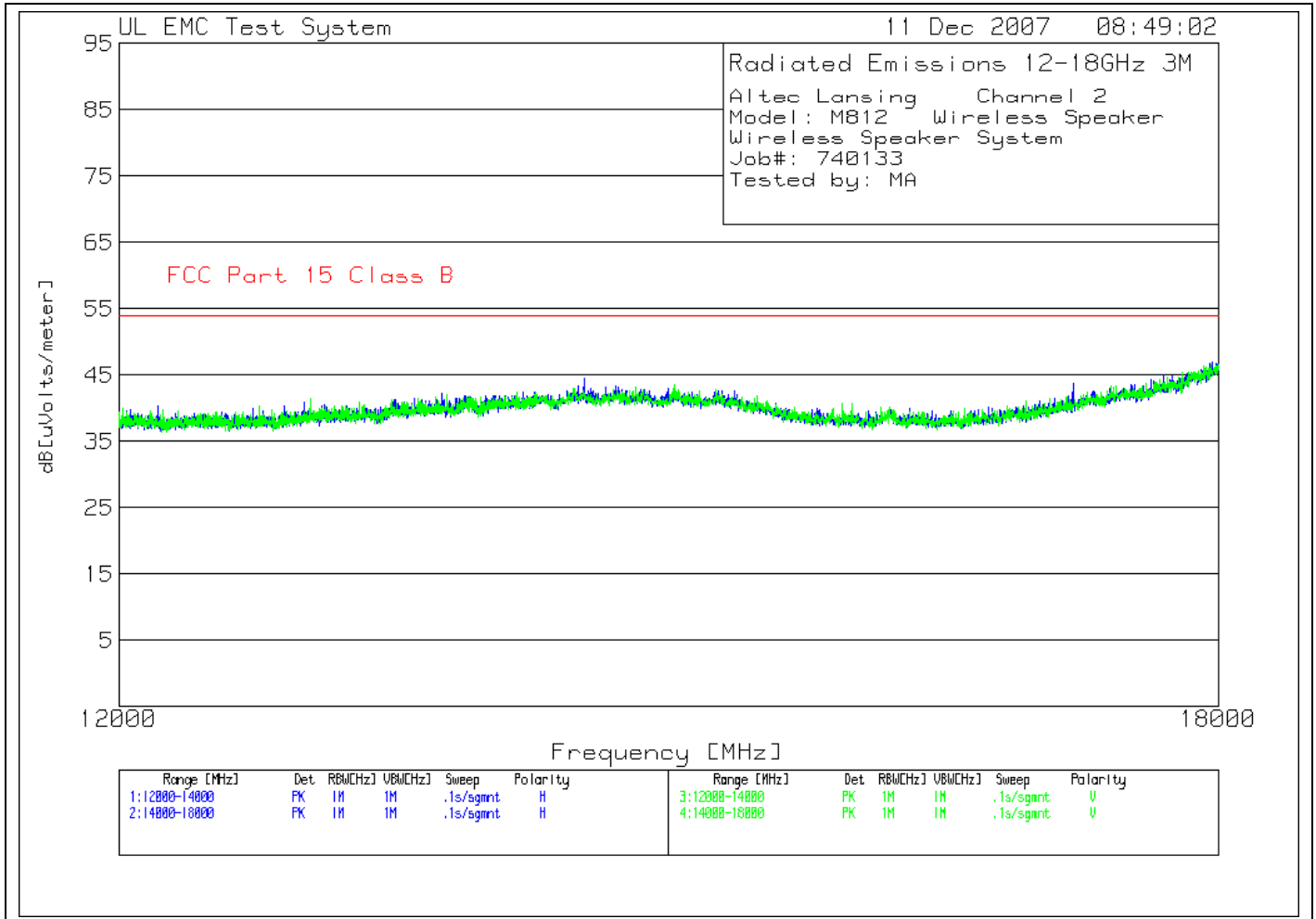
Altec Lansing Channel 1
 Model: M812 Wireless Speaker
 Wireless Speaker System
 Job#: 740133
 Tested by: MA

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
Horizontal 14000 - 18000MHz -----											
4	14992.496	33.52 pk	-31.3	41	43.22	54	-	-	-	-	-
	Azimuth:1	Height:201	Horz	Margin [dB]		-10.78	-	-	-	-	-
5	17987.994	31.62 pk	-30.3	45.9	47.22	54	-	-	-	-	-
	Azimuth:238	Height:201	Horz	Margin [dB]		-6.78	-	-	-	-	-
6	17113.557	32.27 pk	-30.8	40.9	42.37	54	-	-	-	-	-
	Azimuth:6	Height:101	Horz	Margin [dB]		-11.63	-	-	-	-	-
Vertical 12000 - 14000MHz -----											
3	13976.988	32.92 pk	-31.2	41	42.72	54	-	-	-	-	-
	Azimuth:276	Height:101	Vert	Margin [dB]		-11.28	-	-	-	-	-
Vertical 14000 - 18000MHz -----											
1	17421.711	31.8 pk	-30.6	42.2	43.4	54	-	-	-	-	-
	Azimuth:354	Height:101	Vert	Margin [dB]		-10.6	-	-	-	-	-
2	17711.856	31.75 pk	-30.8	44	44.95	54	-	-	-	-	-
	Azimuth:138	Height:101	Vert	Margin [dB]		-9.05	-	-	-	-	-

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

Figure 48 Radiated Emissions Graph – 12-18GHz (Wireless Speaker Channel 2)



NOTE: A 2.4GHz notch filter was used in the range to exclude the fundamental.

Table 48 Radiated Emissions Data Points

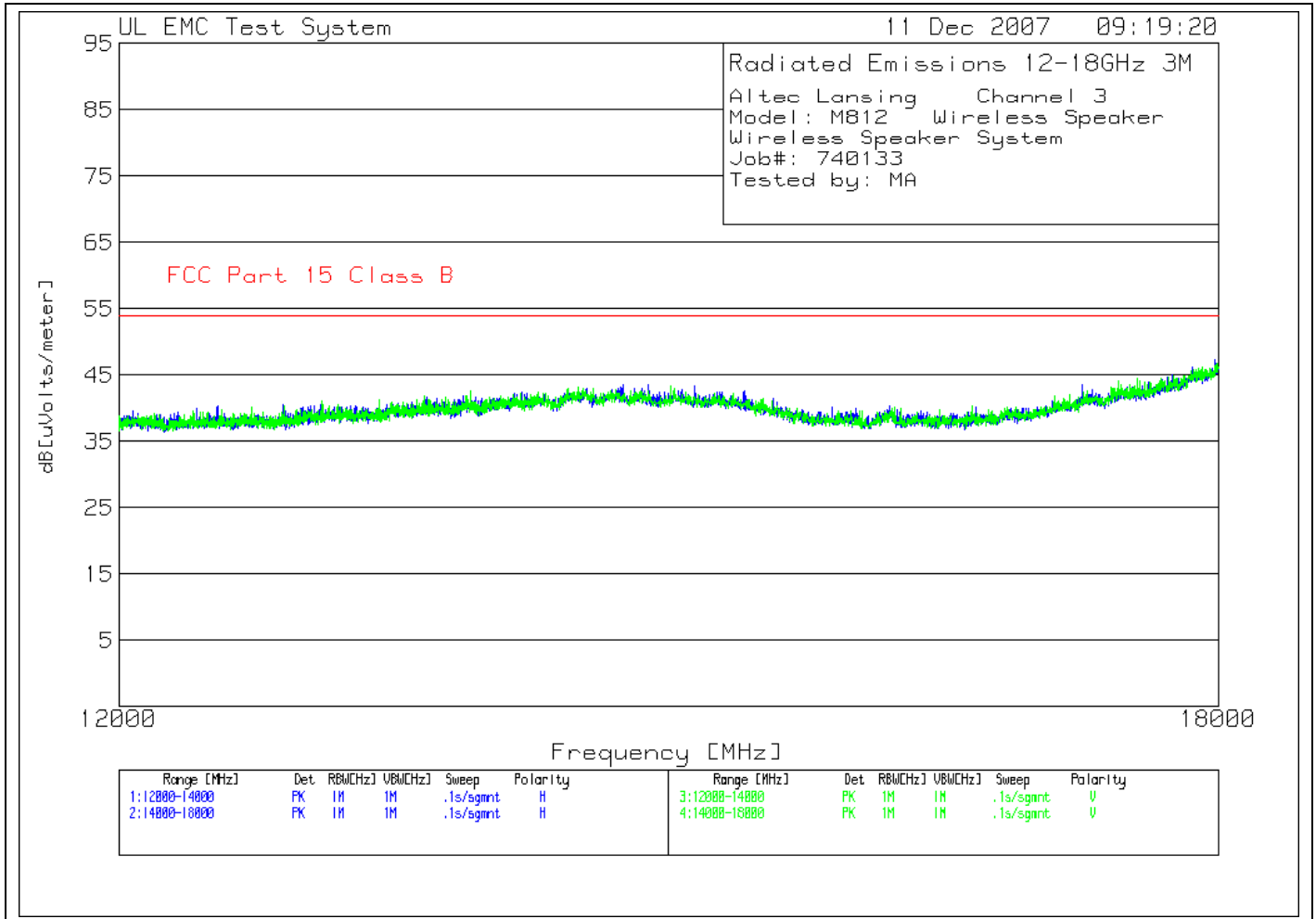
Altec Lansing Channel 2
 Model: M812 Wireless Speaker
 Wireless Speaker System
 Job#: 740133
 Tested by: MA

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
=====											
Horizontal 12000 - 14000MHz -----											
1	13990.995	32.52 pk	-31.1	41	42.42	54	-	-	-	-	-
	Azimuth:331	Height:199	Horz	Margin [dB]	-11.58	-	-	-	-	-	-
Horizontal 14000 - 18000MHz -----											
2	14248.124	34.17 pk	-30.9	41.3	44.57	54	-	-	-	-	-
	Azimuth:106	Height:101	Horz	Margin [dB]	-9.43	-	-	-	-	-	-
3	17059.53	34.03 pk	-31	40.7	43.73	54	-	-	-	-	-
	Azimuth:358	Height:199	Horz	Margin [dB]	-10.27	-	-	-	-	-	-
4	17959.98	31.79 pk	-30.5	45.7	46.99	54	-	-	-	-	-
	Azimuth:245	Height:101	Horz	Margin [dB]	-7.01	-	-	-	-	-	-
Vertical 14000 - 18000MHz -----											
5	17901.951	31.84 pk	-30.8	45.3	46.34	54	-	-	-	-	-
	Azimuth:331	Height:101	Vert	Margin [dB]	-7.66	-	-	-	-	-	-
6	17303.652	32.19 pk	-30.5	41.7	43.39	54	-	-	-	-	-
	Azimuth:358	Height:101	Vert	Margin [dB]	-10.61	-	-	-	-	-	-
7	14732.366	33.41 pk	-31.2	41.4	43.61	54	-	-	-	-	-
	Azimuth:6	Height:199	Vert	Margin [dB]	-10.39	-	-	-	-	-	-

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

Figure 49 Radiated Emissions Graph – 12-18GHz (Wireless Speaker Channel 3)



NOTE: A 2.4GHz notch filter was used in the range to exclude the fundamental.

Table 49 Radiated Emissions Data Points

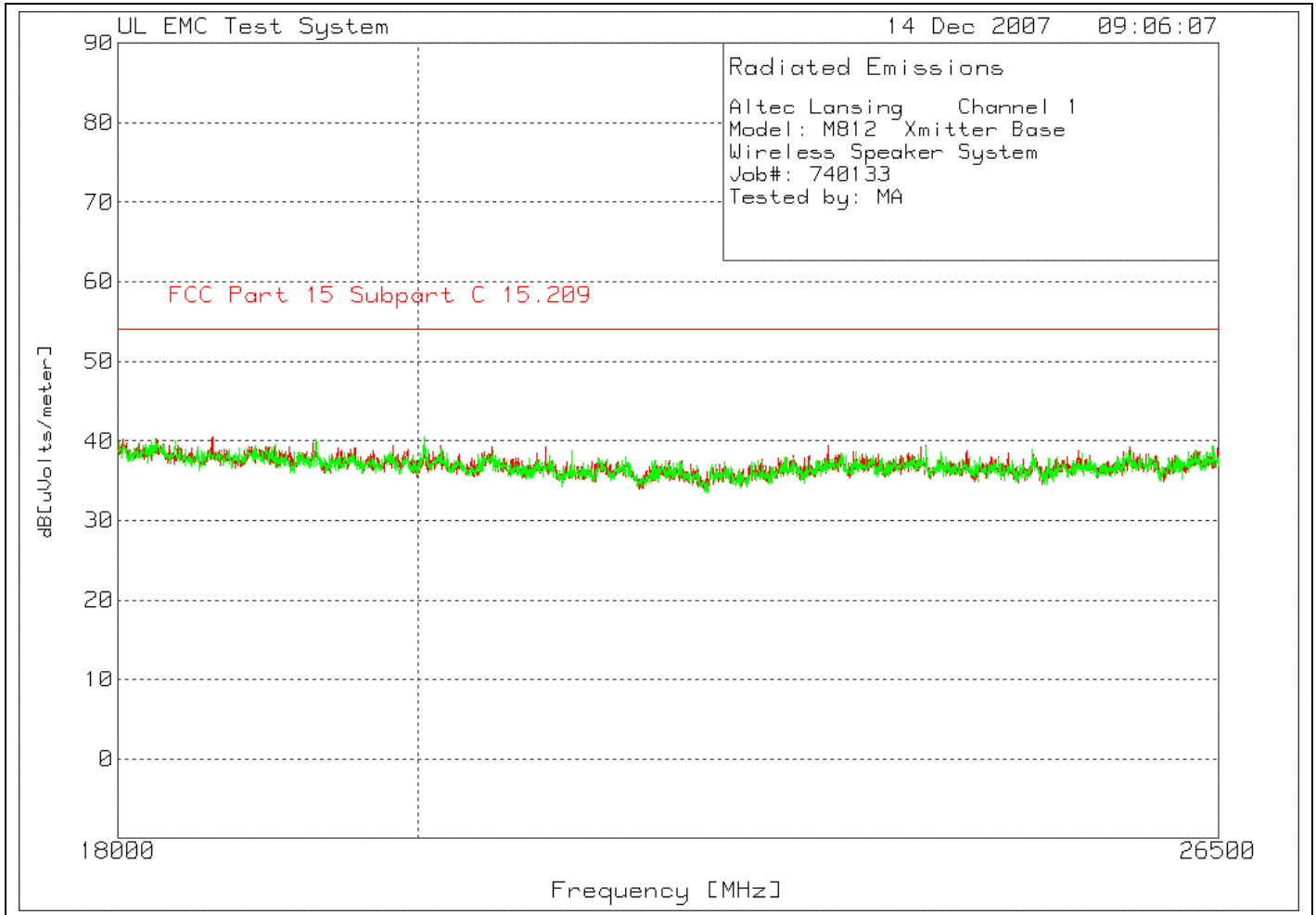
Altec Lansing Channel 3
 Model: M812 Wireless Speaker
 Wireless Speaker System
 Job#: 740133
 Tested by: MA

No.	Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
Horizontal 14000 - 18000MHz -----											
1	17975.988	31.93 pk	-30.4	45.8	47.33	54	-	-	-	-	-
	Azimuth:358	Height:199	Horz	Margin [dB]		-6.67	-	-	-	-	-
2	17119.56	33.4 pk	-30.7	40.9	43.6	54	-	-	-	-	-
	Azimuth:273	Height:199	Horz	Margin [dB]		-10.4	-	-	-	-	-
6	14840.42	33.46 pk	-31.3	41.2	43.36	54	-	-	-	-	-
	Azimuth:106	Height:199	Horz	Margin [dB]		-10.64	-	-	-	-	-
Vertical 14000 - 18000MHz -----											
3	17889.945	31.72 pk	-30.8	45.2	46.12	54	-	-	-	-	-
	Azimuth:106	Height:199	Vert	Margin [dB]		-7.88	-	-	-	-	-
4	17349.675	32.59 pk	-30.4	41.9	44.09	54	-	-	-	-	-
	Azimuth:353	Height:199	Vert	Margin [dB]		-9.91	-	-	-	-	-
5	14706.353	33.32 pk	-31.3	41.4	43.42	54	-	-	-	-	-
	Azimuth:78	Height:199	Vert	Margin [dB]		-10.58	-	-	-	-	-

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 - denotes average log detection

Figure 50 Radiated Emissions Graph – 18-26.5GHz (Transmitter Base Channel 1)



NOTE: A 2.4GHz notch filter was used in the range to exclude the fundamental.

Table 50 Radiated Emissions Data Points

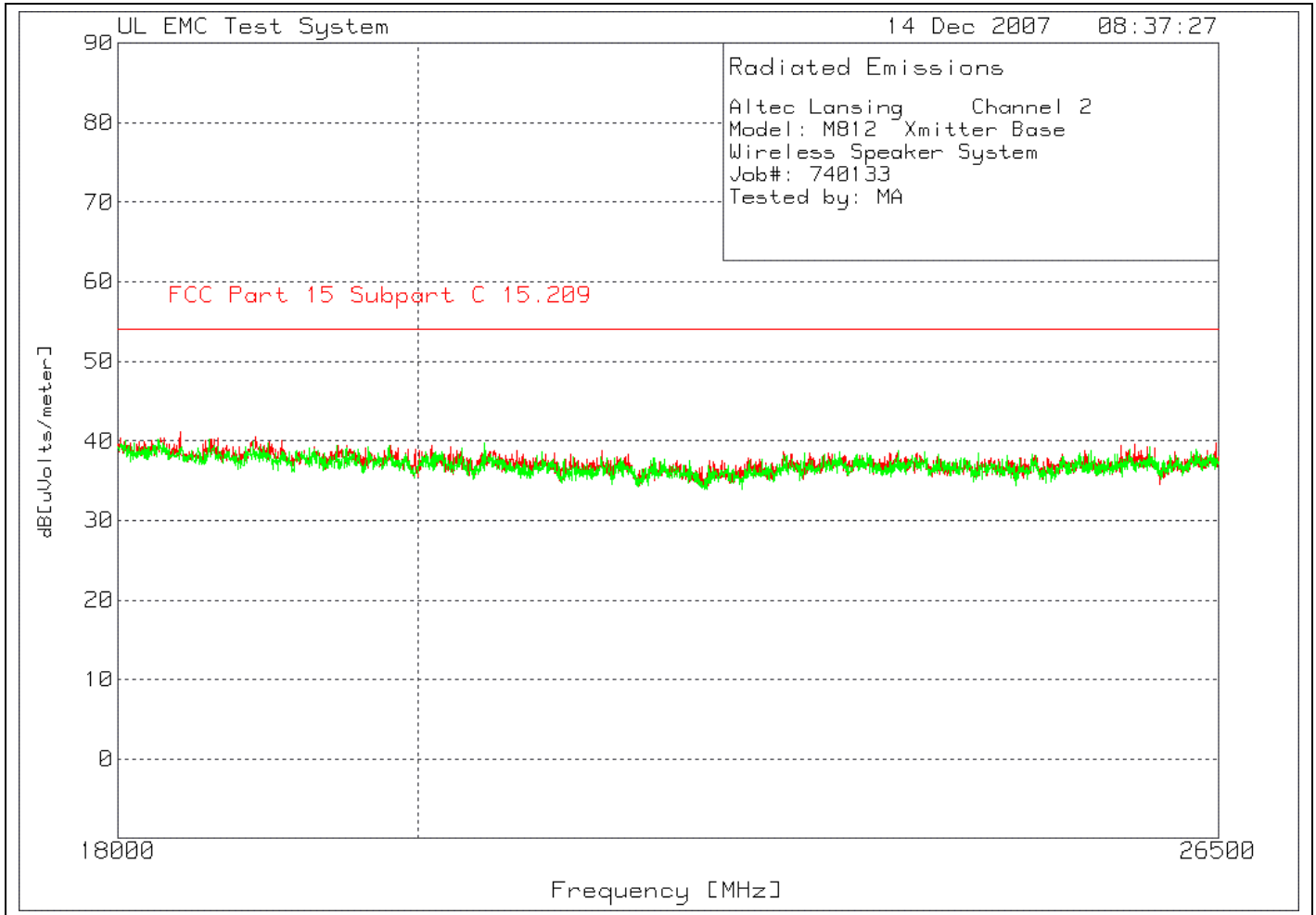
Altec Lansing Channel 1
 Model: M812 Xmitter Base
 Wireless Speaker System
 Job#: 740133
 Tested by: MA

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
=====											
18-26.5GHz 18000 - 26500MHz -----											
1	18608.844	53.93 pk	-53.53	40.2	40.6	54	-	-	-	-	-
	Azimuth:6	Height:99	Horz	Margin [dB]		-13.4	-	-	-	-	-
2	20918.367	52.1 pk	-53.15	40.3	39.25	54	-	-	-	-	-
	Azimuth:51	Height:99	Horz	Margin [dB]		-14.75	-	-	-	-	-
3	23102.041	51.09 pk	-52	40.4	39.49	54	-	-	-	-	-
	Azimuth:188	Height:200	Horz	Margin [dB]		-14.51	-	-	-	-	-
4	23914.966	50.88 pk	-51.81	40.4	39.47	54	-	-	-	-	-
	Azimuth:188	Height:200	Horz	Margin [dB]		-14.53	-	-	-	-	-
=====											
18-26.5GHz 18000 - 26500MHz -----											
5	26442.177	51.1 pk	-52.24	40.5	39.36	54	-	-	-	-	-
	Azimuth:24	Height:101	Vert	Margin [dB]		-14.64	-	-	-	-	-
6	24823.129	50.4 pk	-51.83	40.4	38.97	54	-	-	-	-	-
	Azimuth:225	Height:150	Vert	Margin [dB]		-15.03	-	-	-	-	-
7	21108.844	51.74 pk	-53.32	40.3	38.72	54	-	-	-	-	-
	Azimuth:137	Height:150	Vert	Margin [dB]		-15.28	-	-	-	-	-
8	20047.619	54.09 pk	-53.82	40.3	40.57	54	-	-	-	-	-
	Azimuth:339	Height:199	Vert	Margin [dB]		-13.43	-	-	-	-	-
9	19295.918	53.86 pk	-53.92	40.3	40.24	54	-	-	-	-	-
	Azimuth:328	Height:101	Vert	Margin [dB]		-13.76	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209
 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 - denotes average log detection

Figure 51 Radiated Emissions Graph – 18-26.5GHz (Transmitter Base Channel 2)



NOTE: A 2.4GHz notch filter was used in the range to exclude the fundamental.

Table 51 Radiated Emissions Data Points

Altec Lansing Channel 2
 Model: M812 Xmitter Base
 Wireless Speaker System
 Job#: 740133
 Tested by: MA

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6

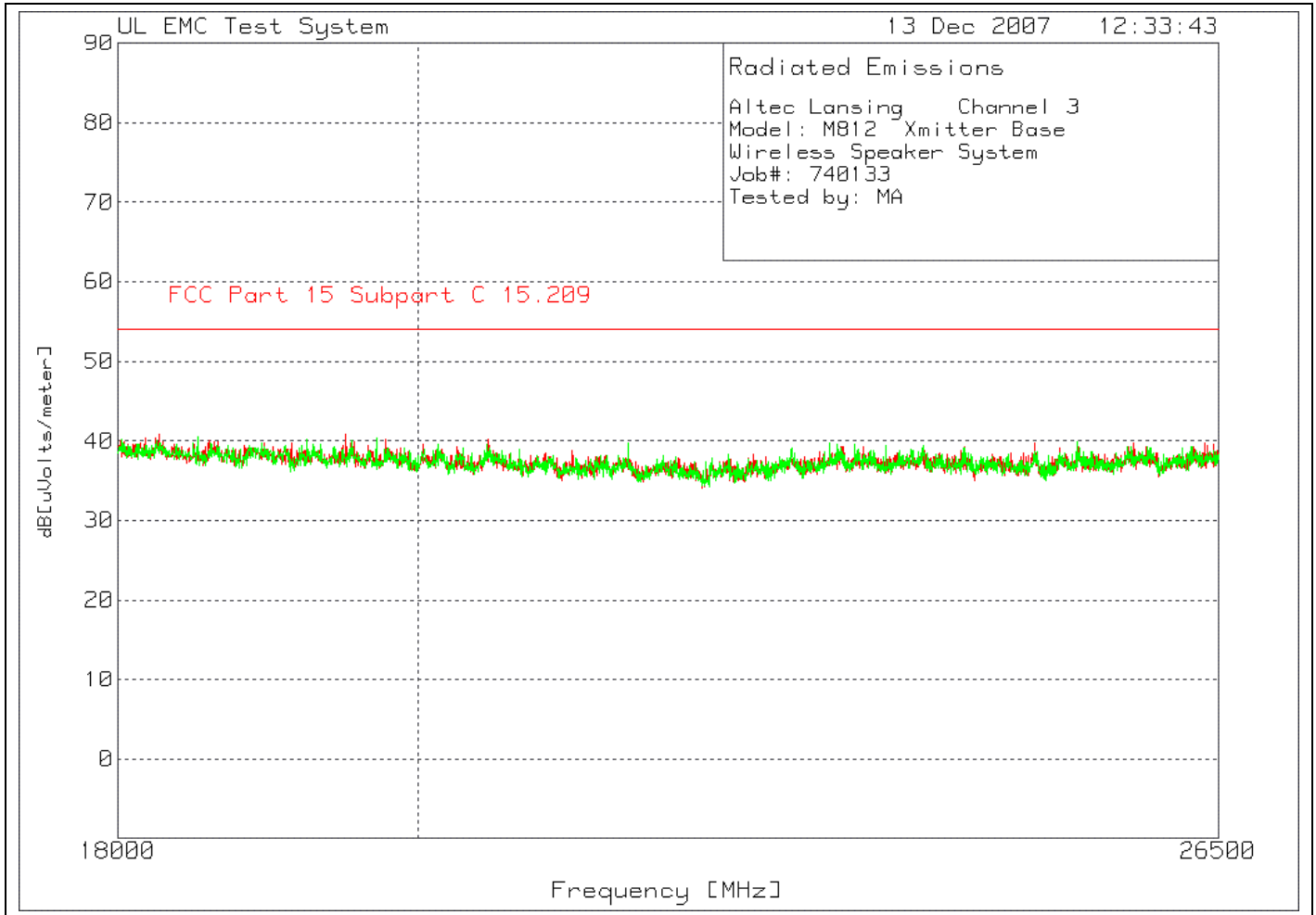
18-26.5GHz 18000 - 26500MHz -----											
1	18397.959	55.56 pk	-54.55	40.2	41.21	54	-	-	-	-	-
	Azimuth:203	Height:99	Horz	Margin [dB]		-12.79	-	-	-	-	-
2	20227.891	53.08 pk	-54.04	40.3	39.34	54	-	-	-	-	-
	Azimuth:223	Height:99	Horz	Margin [dB]		-14.66	-	-	-	-	-
3	25602.041	50.62 pk	-51.65	40.5	39.47	54	-	-	-	-	-
	Azimuth:203	Height:150	Horz	Margin [dB]		-14.53	-	-	-	-	-
4	26476.19	51.35 pk	-52.07	40.5	39.78	54	-	-	-	-	-
	Azimuth:336	Height:150	Horz	Margin [dB]		-14.22	-	-	-	-	-

18-26.5GHz 18000 - 26500MHz -----											
5	23683.673	50.24 pk	-51.86	40.4	38.78	54	-	-	-	-	-
	Azimuth:104	Height:150	Vert	Margin [dB]		-15.22	-	-	-	-	-
6	24353.741	49.77 pk	-51.69	40.4	38.48	54	-	-	-	-	-
	Azimuth:35	Height:100	Vert	Margin [dB]		-15.52	-	-	-	-	-
7	25863.946	50.07 pk	-51.34	40.5	39.23	54	-	-	-	-	-
	Azimuth:6	Height:100	Vert	Margin [dB]		-14.77	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209
 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 - denotes average log detection

Figure 52 Radiated Emissions Graph – 18-26.5GHz (Transmitter Base Channel 3)



NOTE: A 2.4GHz notch filter was used in the range to exclude the fundamental.

Table 52 Radiated Emissions Data Points

Altec Lansing Channel 3
 Model: M812 Xmitter Base
 Wireless Speaker System
 Job#: 740133
 Tested by: MA

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6

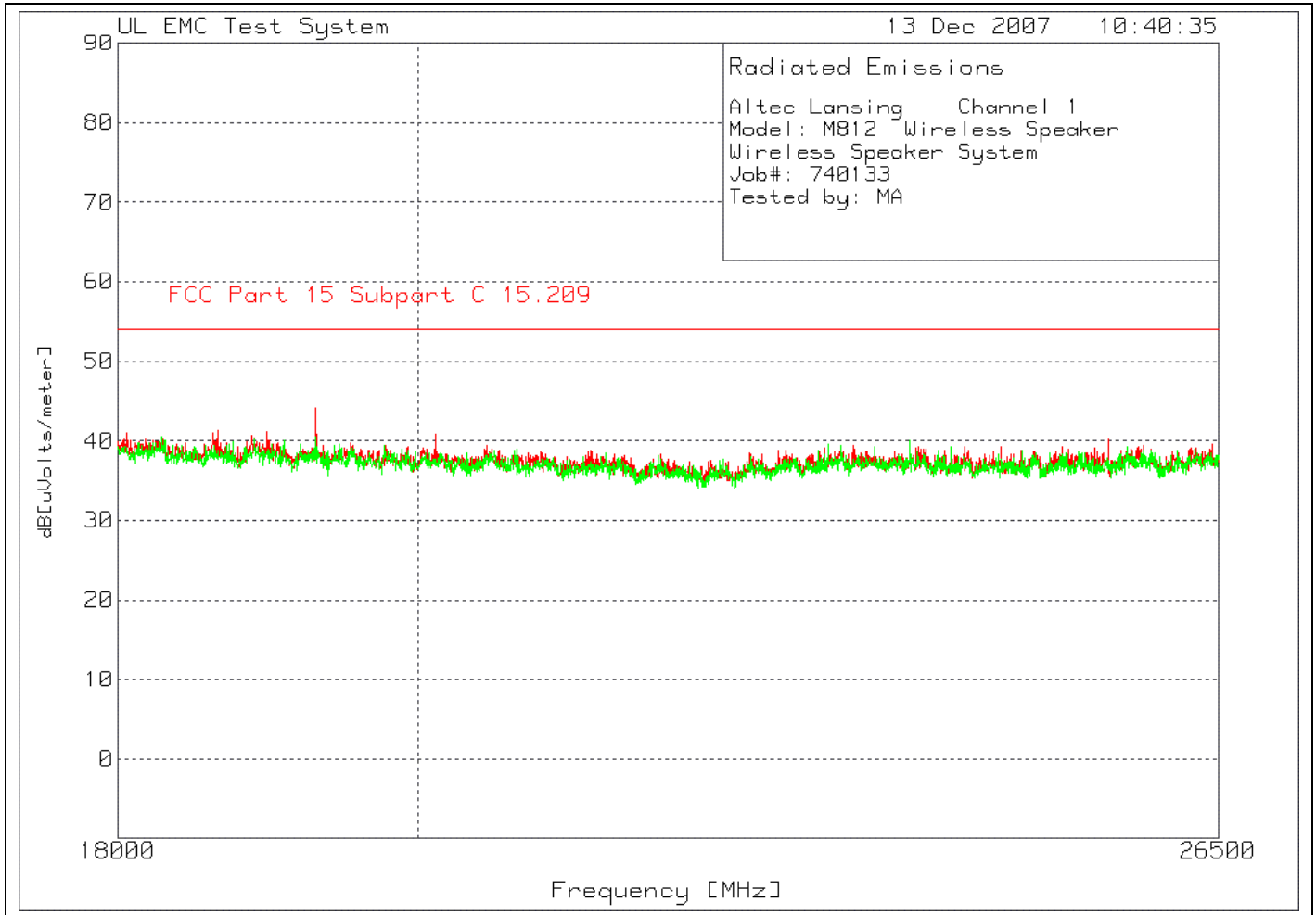
18-26.5GHz 18000 - 26500MHz -----											
1	19500	55.1 pk	-54.56	40.3	40.84	54	-	-	-	-	-
	Azimuth:203	Height:99	Horz	Margin [dB]		-13.16	-	-	-	-	-
2	20503.401	53.23 pk	-53.28	40.3	40.25	54	-	-	-	-	-
	Azimuth:92	Height:150	Horz	Margin [dB]		-13.75	-	-	-	-	-
3	24846.939	50.75 pk	-51.43	40.4	39.72	54	-	-	-	-	-
	Azimuth:69	Height:99	Horz	Margin [dB]		-14.28	-	-	-	-	-
4	25717.687	51.31 pk	-52.12	40.5	39.69	54	-	-	-	-	-
	Azimuth:353	Height:200	Horz	Margin [dB]		-14.31	-	-	-	-	-

18-26.5GHz 18000 - 26500MHz -----											
5	23115.646	51.45 pk	-52.08	40.4	39.77	54	-	-	-	-	-
	Azimuth:103	Height:199	Vert	Margin [dB]		-14.23	-	-	-	-	-
6	21534.014	52.03 pk	-52.53	40.3	39.8	54	-	-	-	-	-
	Azimuth:358	Height:101	Vert	Margin [dB]		-14.2	-	-	-	-	-
7	23574.83	51.13 pk	-52.06	40.4	39.47	54	-	-	-	-	-
	Azimuth:237	Height:199	Vert	Margin [dB]		-14.53	-	-	-	-	-
8	18513.605	54.58 pk	-54.3	40.2	40.48	54	-	-	-	-	-
	Azimuth:325	Height:101	Vert	Margin [dB]		-13.52	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209
 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 - denotes average log detection

Figure 53 Radiated Emissions Graph – 18-26.5GHz (Wireless Speaker Channel 1)



NOTE: A 2.4GHz notch filter was used in the range to exclude the fundamental.

Table 53 Radiated Emissions Data Points

Altec Lansing Channel 1
 Model: M812 Wireless Speaker
 Wireless Speaker System
 Job#: 740133
 Tested by: MA

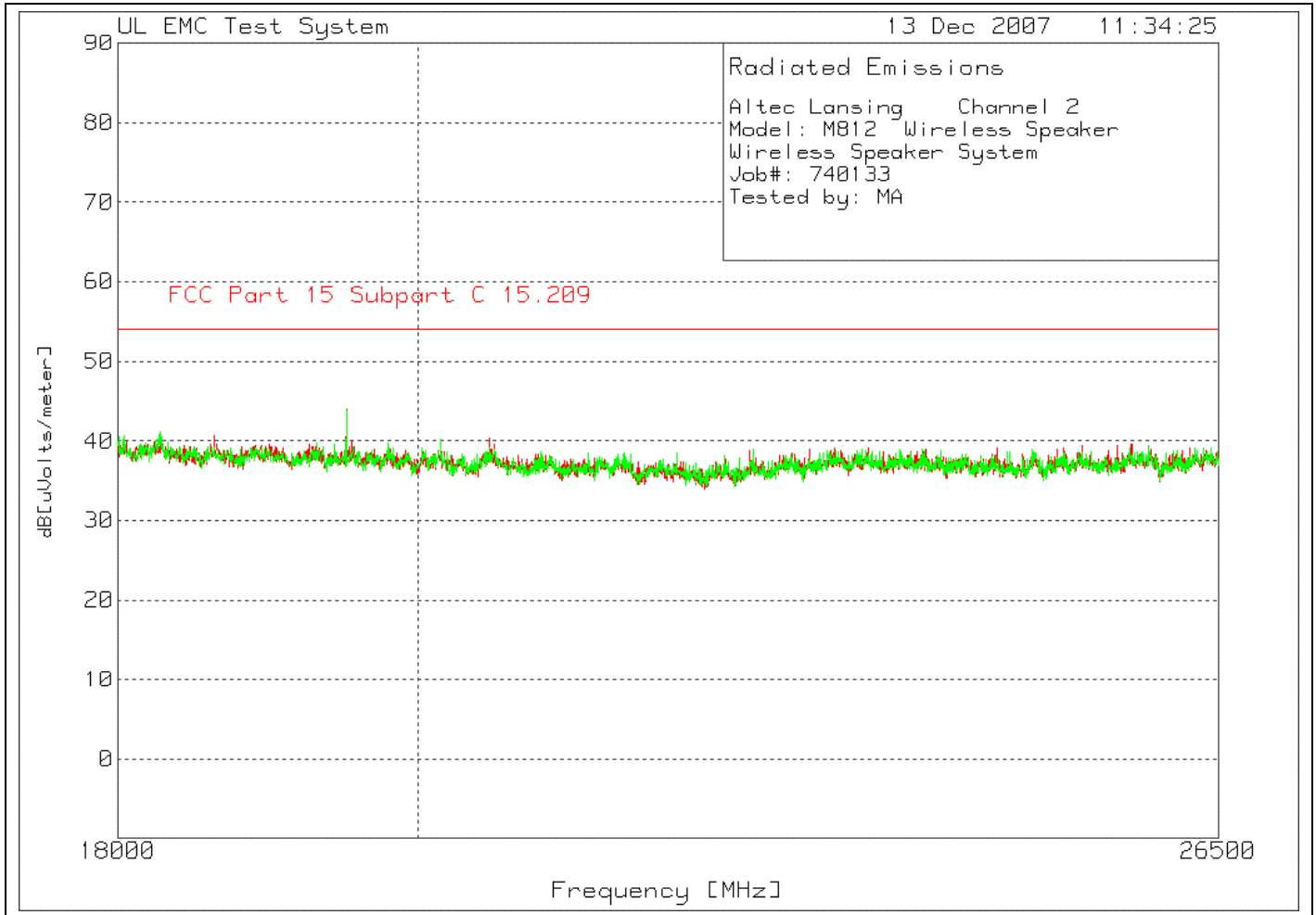
No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
=====											
18-26.5GHz 18000 - 26500MHz -----											
1	19295.918	57.7 pk	-53.92	40.3	44.08	54	-	-	-	-	-
	Azimuth:188	Height:150	Horz	Margin [dB]		-9.92	-	-	-	-	-
2	18639.456	55.03 pk	-53.9	40.2	41.33	54	-	-	-	-	-
	Azimuth:120	Height:99	Horz	Margin [dB]		-12.67	-	-	-	-	-
3	20122.449	54.72 pk	-54.26	40.3	40.76	54	-	-	-	-	-
	Azimuth:135	Height:150	Horz	Margin [dB]		-13.24	-	-	-	-	-
4	25493.197	51.34 pk	-51.71	40.5	40.13	54	-	-	-	-	-
	Azimuth:291	Height:99	Horz	Margin [dB]		-13.87	-	-	-	-	-

18-26.5GHz 18000 - 26500MHz -----											
5	23772.109	51.38 pk	-51.79	40.4	39.99	54	-	-	-	-	-
	Azimuth:92	Height:150	Vert	Margin [dB]		-14.01	-	-	-	-	-
6	23102.041	51.15 pk	-52	40.4	39.55	54	-	-	-	-	-
	Azimuth:6	Height:200	Vert	Margin [dB]		-14.45	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209
 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 - denotes average log detection

Figure 54 Radiated Emissions Graph – 18-26.5GHz (Wireless Speaker Channel 2)



NOTE: A 2.4GHz notch filter was used in the range to exclude the fundamental.

Table 54 Radiated Emissions Data Points

Altec Lansing Channel 2
 Model: M812 Wireless Speaker
 Wireless Speaker System
 Job#: 740133
 Tested by: MA

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6

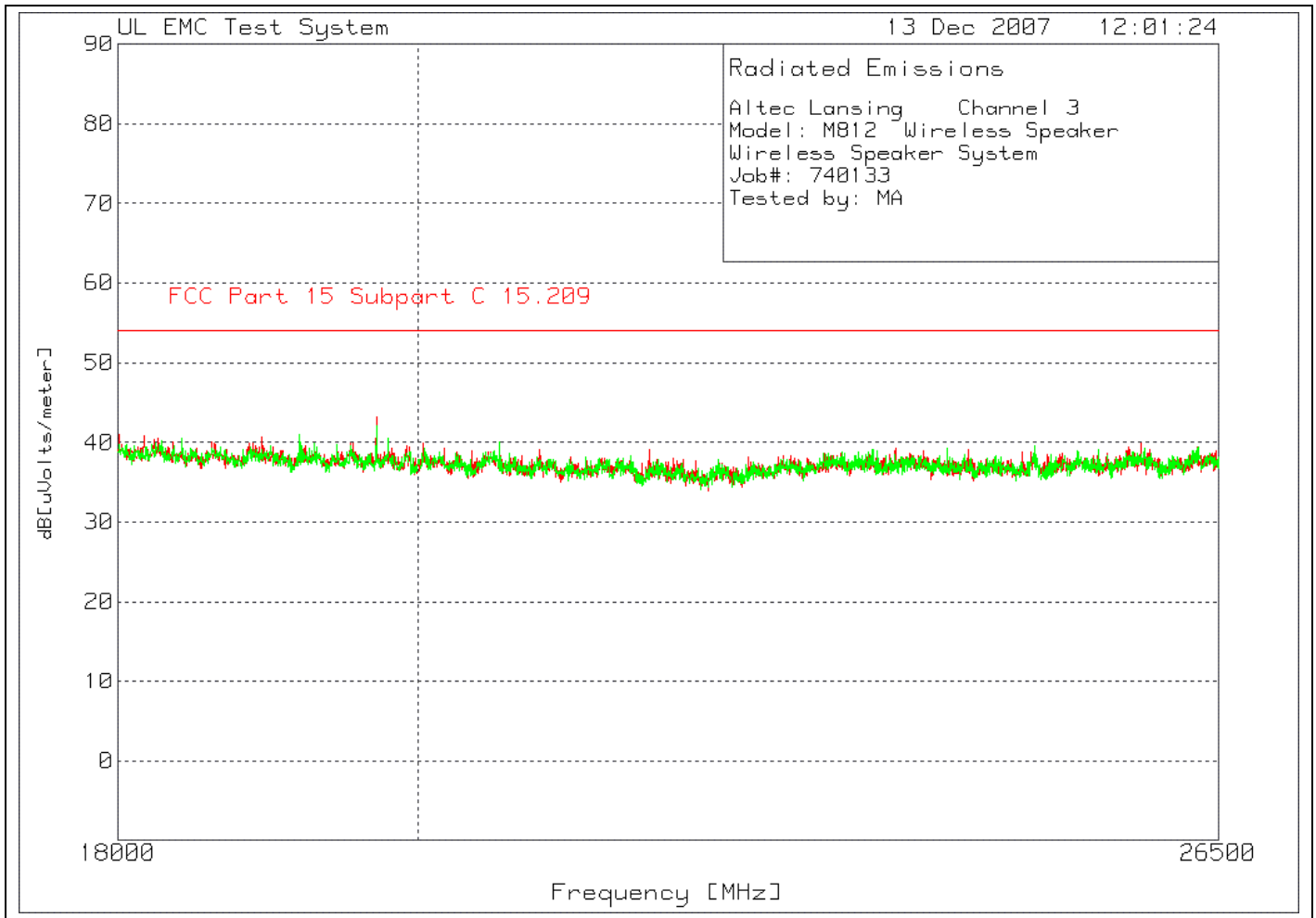
18-26.5GHz 18000 - 26500MHz											
1	19503.401	58.25 pk	-54.52	40.3	44.03	54	-	-	-	-	-
	Azimuth:17	Height:200	Horz	Margin [dB]		-9.97	-	-	-	-	-
6	20510.204	53.37 pk	-53.38	40.3	40.29	54	-	-	-	-	-
	Azimuth:203	Height:150	Horz	Margin [dB]		-13.71	-	-	-	-	-
7	18619.048	54.02 pk	-53.55	40.2	40.67	54	-	-	-	-	-
	Azimuth:188	Height:99	Horz	Margin [dB]		-13.33	-	-	-	-	-
8	22952.381	50.95 pk	-52.37	40.4	38.98	54	-	-	-	-	-
	Azimuth:86	Height:99	Horz	Margin [dB]		-15.02	-	-	-	-	-
9	25571.429	50.49 pk	-51.52	40.5	39.47	54	-	-	-	-	-
	Azimuth:52	Height:200	Horz	Margin [dB]		-14.53	-	-	-	-	-

18-26.5GHz 18000 - 26500MHz											
2	19503.401	58.07 pk	-54.52	40.3	43.85	54	-	-	-	-	-
	Azimuth:138	Height:100	Vert	Margin [dB]		-10.15	-	-	-	-	-
3	18272.109	54.65 pk	-53.71	40.2	41.14	54	-	-	-	-	-
	Azimuth:35	Height:150	Vert	Margin [dB]		-12.86	-	-	-	-	-
4	20163.265	53.31 pk	-53.47	40.3	40.14	54	-	-	-	-	-
	Azimuth:158	Height:100	Vert	Margin [dB]		-13.86	-	-	-	-	-
5	22503.401	51.07 pk	-52.53	40.4	38.94	54	-	-	-	-	-
	Azimuth:271	Height:200	Vert	Margin [dB]		-15.06	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209
 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 - denotes average log detection

Figure 55 Radiated Emissions Graph – 18-26.5GHz (Wireless Speaker Channel 3)



NOTE: A 2.4GHz notch filter was used in the range to exclude the fundamental.

Table 55 Radiated Emissions Data Points

Altec Lansing Channel 3
 Model: M812 Wireless Speaker
 Wireless Speaker System
 Job#: 740133
 Tested by: MA

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6

18-26.5GHz	18000	-	26500MHz	-----							
1	19710.884	57.74 pk	-54.85	40.3	43.19	54	-	-	-	-	-
	Azimuth:354	Height:150	Horz	Margin [dB]		-10.81	-	-	-	-	-
2	18935.374	54.24 pk	-53.83	40.2	40.61	54	-	-	-	-	-
	Azimuth:353	Height:200	Horz	Margin [dB]		-13.39	-	-	-	-	-
3	21700.68	51.56 pk	-52.74	40.3	39.12	54	-	-	-	-	-
	Azimuth:7	Height:150	Horz	Margin [dB]		-14.88	-	-	-	-	-
4	25789.116	50.79 pk	-51.43	40.5	39.86	54	-	-	-	-	-
	Azimuth:188	Height:150	Horz	Margin [dB]		-14.14	-	-	-	-	-

18-26.5GHz	18000	-	26500MHz	-----							
5	19710.884	56.65 pk	-54.85	40.3	42.1	54	-	-	-	-	-
	Azimuth:354	Height:101	Vert	Margin [dB]		-11.9	-	-	-	-	-
6	19187.075	54.95 pk	-54.13	40.2	41.02	54	-	-	-	-	-
	Azimuth:1	Height:101	Vert	Margin [dB]		-12.98	-	-	-	-	-
7	20581.633	53.2 pk	-53.52	40.3	39.98	54	-	-	-	-	-
	Azimuth:225	Height:150	Vert	Margin [dB]		-14.02	-	-	-	-	-
8	24846.939	50.62 pk	-51.43	40.4	39.59	54	-	-	-	-	-
	Azimuth:69	Height:199	Vert	Margin [dB]		-14.41	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209
 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 - denotes average log detection

4.8 Test Conditions and Results – Restricted Bands

Test Description	The EUT is verified to produce only spurious emissions in the bands listed below. Where spurious emissions exist they must comply with the general limits from 47 CFR Part 15, Section 15.209.		
Basic Standard	FCC Part 15, Subpart C, 15.205		

Results from measurements are examined to ensure that no spurious emission in a restricted band (below) exceeds the general limits in Section 15.209. The restricted bands from Section 15.205 are:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(3)

All spurious emissions, including harmonics falling within restricted bands were observed to meet the general limits of 15.209.

4.9 Test Conditions and Results – Effective Radiated Power (ERP)

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 meters. 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, 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. Following the field strength measurements, substitute power measurements were conducted.	
Basic Standard	FCC Part 15, Subpart C, 15.247	
	Frequency range	Measurement Point
Fully configured sample scanned over the following frequency range	2412MHz	3 meter measurement distance
	2436MHz	3 meter measurement distance
	2463MHz	3 meter measurement distance
Limits		
1 Watt		

Table 56 Effective Radiated Power EUT Configuration Settings

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

Table 57 Effective Radiated Power Results

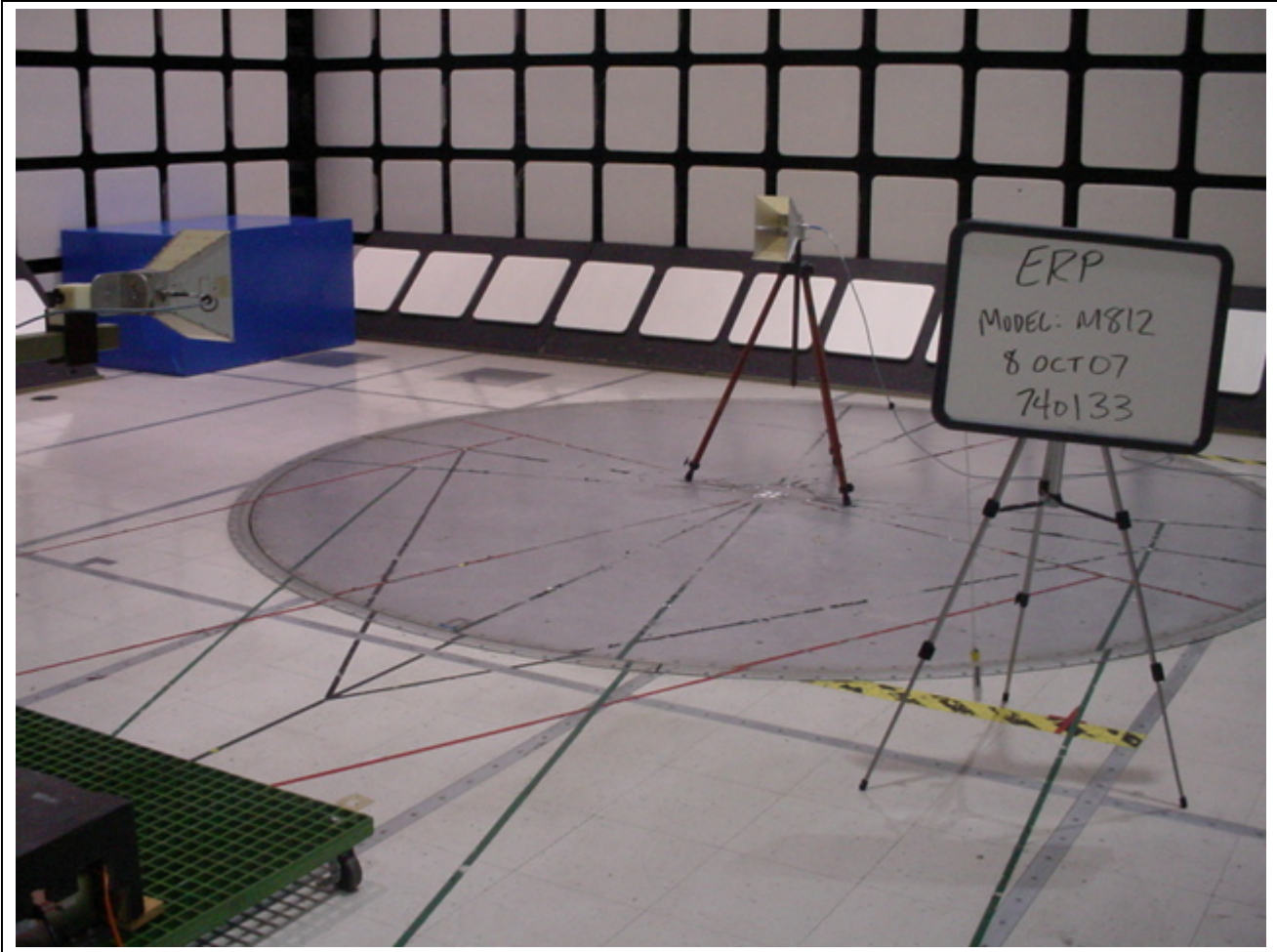
Refer to Section 4.4 for maximized peak power measurement. Maximized substitution data provided below.

Antenna Polarity	Frequency MHz	Sig Gen dBm	Ant Gain dBi	Total losses dB	Eirp dBm	Eirp mW
V	2411	7.9	9.20	-6.20	10.90	12.302687708124
V	2438	7.5	9.20	-6.20	10.50	11.220184543020
V	2464	5.3	9.20	-6.20	8.30	6.760829753920
H	2411	13	9.20	-6.20	16.00	39.810717055350
H	2437	12.7	9.20	-6.20	15.70	37.153522909717
H	2463	10.9	9.20	-6.20	13.90	24.547089156850

Table 58 Effective Radiated Power Test Equipment

Test Equipment Used			
Description	Manufacturer	Model	Identifier
EMI Receiver	Rohde & Schwarz	ESI26	ME5B-081
Signal Generator	IFR	2031	ME5A-775
Horn Antenna	EMCO	3115	ME5A-766
Horn Antenna	EMCO	RGA-180	ME5-565
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

Figure 56 Test setup for Effective Radiated Power



Appendix A

Accreditations and Authorizations



NVLAP Lab code: 100255-0

NVLAP: Recognized under the National Voluntary Laboratory Accreditation Program (NVLAP) for satisfactory compliance with criteria established in Title 15, Part 285 Code of Federal Regulations. These criteria encompass the requirements of ISO/IEC EN17025 and the relevant requirements of ISO 9002 (ANSI/ASQC Q92-1987) as suppliers of calibration or test results. For a full scope listing see <http://ts.nist.gov/ts/htdocs/210/214/scopes/1002550.htm>



FCC: Details of the measurement facilities used for these tests have been filed with the Federal Communications Commission's Laboratory in Columbia, Maryland (Ref. No. 91040).



Industry Canada Industrie Canada

Industry of Canada: Accredited by Industry Canada for performance of radiated measurements. Our test site complies with RSP 100, Issue 7, Section 3.3. File #: IC 2181



VCCI: Accepted as an Associate Member to the VCCI. The measurement facilities detailed in this test report have been registered in accordance with Regulations for Voluntary Control Measures, Article 8. Registration Nos.: (Radiated Emissions) R-797, (Conducted Emissions) C-832, C-833, C-834 and (Conducted Emissions - Telecommunications Ports) T-160.



ICASA: ICASA (Independent Communications Authority of South Africa) has appointed UL as a Designated Test Laboratory to test Telecommunications equipment for type approval in compliance with CISPR 22 to assist in fulfilling its mandate under section 54(1) of the Telecommunications Act, 1996 (Act 103 of 1996).



NIST/CAB: Validated by the European Commission as a U.S. Conformity Assessment Body (CAB) of the U.S.-EU Mutual Recognition Agreement (MRA) for the Electromagnetic Compatibility - Council Directive 89/336/EEC, Article 10 (2). Also validated for the Telecommunication Equipment-Council Directive 99/5/EC, Annex III and IV, Identification Number: 0983.

NIST/CAB: Provisioned to act as a U.S. Conformity Assessment Body (CAB) under Appendix B, Phase I Procedures, of the Asia Pacific Economic Cooperation (APEC) MRA between the American Institute in Taiwan (AIT) and the United States. Our laboratory is considered qualified to test equipment subject to the applicable EMC regulations of the Chinese Taipei Bureau of Standards, Metrology and Inspection (BSMI) which require testing to CNS 13438 (CISPR 22).

NIST/CAB: Recognized by the Infocomm Development Authority of Singapore (IDA) under the Asia Pacific Economic Cooperation Mutual Recognition Agreement (APEC MRA). Our laboratory is provisionally designated to act as a Conformity Assessment Body (CAB) under Appendix B, Phase I Procedures, of the APEC MRA. Our scope of designation includes IDA TS EMC (CISPR 22), IEC 61000-4-2, -4-3, -4-4, -4-5, and -4-6