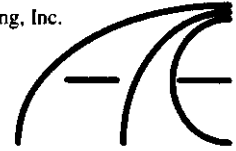


EXHIBIT 7

TEST REPORT



Atlas Compliance & Engineering, Inc.



FCC Subpart C, Class B Test Report

Paul J. Marcianti
2753 E. Broadway
Suite 101166
Mesa, AZ 85204

Product:
TalkingAd Radio
Model:
XMIT01

Test Report Number: MAR9917fmxtr_fc
Date of Report: April 30, 1999

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Atlas Compliance & Engineering, Inc.





Scope of Accreditation



American Association for Laboratory Accreditation

SCOPE OF ACCREDITATION TO ISO/IEC GUIDE 25-1990

ATLAS COMPLIANCE & ENGINEERING, INC.
726 Hidden Valley Road
Watsonville, CA 95076
Mario E. Baraona, Sr. Phone: 408 761 2223

ELECTRICAL (EMC)

Valid to: December 31, 1999

Certificate Number: 1007-01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests:

Conducted Emissions

Radiated Emissions

On materials and products related to the following:

Information Technology Equipment (ITE)

Using the following standards:

Code of Federal Regulations (CFR) 47 - FCC Method Part 15 (Radio Frequency Devices) using ANSI C63.4-1992: Methods of Measurements of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.

AS/NZS 3548-1995: Australian/New Zealand Standard Limits and Methods of Measurements of Radio Disturbance Characteristics of Information Technology Equipment

CISPR 22-1993: Limits and Methods of Measurements of Radio Disturbance Characteristics of Information Technology Equipment



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COMPLIANCE VERIFICATION REPORT 26

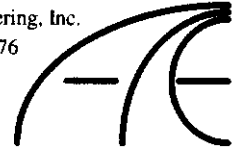
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GENERAL INFORMATION

Test Report Number: MAR9917fmxtr_fc
Date Product Tested: April 15, 1999
Date of Report: April 30, 1999
Applicant: Paul J. Marcianti
2753 E. Broadway
Suite 101166
Mesa, AZ 85204
Contact Person: Paul Marcianti
Equipment Tested: FM Transmitter
Trade Name: TalkingAd Radio
Model: XMIT01
Purpose Of Test: To demonstrate the compliance of the TalkingAd Radio with the requirements of FCC CFR 47 Part 15, Subpart C Rules and Regulations to the limits of FCC Class B Limits using the procedure stated in ANSI C63.4-1992.
Frequency Range Investigated: 450 kHz to 1000 MHz
Test Site Location: OATS
Atlas Compliance & Engineering, Inc.
726 Hidden Valley Road
Watsonville, California 95076
Test Personnel: Mario E. Baraona Sr.
EMC Engineer



EXECUTIVE TEST SUMMARY

Atlas Compliance and Engineering, Inc. was contracted by Paul J. Marcianti to test the TalkingAd Radio, a FM Transmitter, to the standards listed below. The tests were performed on samples of the equipment provided by Paul J. Marcianti. Results of the tests are summarized below.

Measurement data in Appendix B of Radiated Measurements
FCC CFR 47 Part 15 Rules and Regulations:

FCC CFR 47 Part 15 Subpart C Section 15.239(b) and (c),
Section 15.109(a) Class B Digital Device tested per
ANSI C63.4-1992 procedures

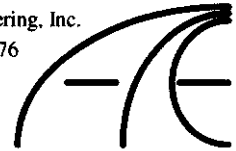
Meets all applicable requirements of FCC Class B Limits



TEST EQUIPMENT

The following list of test equipment was utilized in making the measurements contained in this report.

1. EMI Test Receiver 9 kHz - 2500 MHz, Rohde & Schwarz, Model No. ESPC, S/N - 845296/024, Date Calibration due, July 6, 1999, Calibration Cycle 1 year.
2. Pre amp, Hewlett Packard, Model No. 8447D, S/N - 2944A08506, Date Calibration due, June 25, 1999, Calibration Cycle 1 year.
3. Pre amp, Schaffner/Chase, Model No. CPA9231A, S/N - 3259, Date Calibration due, January 18, 2000, Calibration Cycle 1 year.
4. BiLog Antenna, Chase Electronics Limited, Model No. CBL6141, S/N - 4034, Date Calibration due, March 18, 2000, Calibration Cycle 1 year.
5. Biconical Antenna, A.H. Systems, Model No. SAS 200/540, S/N - 272, Date Calibration due, January 26, 2000, Calibration Cycle 1 year.
6. Log Periodic Antenna, A.H. Systems, Model No. SAS 200/512, S/N - 061, Date Calibration due, January 27, 2000, Calibration Cycle 1 year.
7. Double Ridge Guide Horn Antenna, EMCO, Model No. 3115, S/N - 3340, Date Calibration due - January 23, 2000, Calibration Cycle 1 year.
8. LISN, Solar Electronic, Model No. 8012-50-R-24-BNC, Date Calibration due, January 18, 2000, Calibration Cycle 1 year.
9. LISN, EMCO, Model No. 3825/2, S/N - 9007-1683, Date Calibration due, January 18, 2000, Calibration Cycle 1 year.
10. LISN, EMCO, Model No. 4825/2, S/N - 1088, Date Calibration due, August 18, 1999, Calibration Cycle 1 year.
11. Temperature and Humidity meter, OMEGA Engineering, Model No. RH-20-F, S/N - 200-97-082591, Date Calibration due - January 27, 2000, Calibration Cycle 1 year.



TEST CONFIGURATION

Customer: Paul J. Marcianti
Test Date: April 15, 1999
Specification: FCC CFR 47 Part 15, Subpart C Class B Limits, ANSI C63.4-1992 Methods

EUT Description / Note

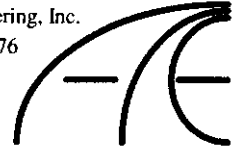
The EUT, a FM Transmitter, was tested in the middle of the turntable with the antenna in either the horizontal or vertical orthogonal position to show worst case emissions. The product derives its clocks from the 4 MHz on-board oscillator.

EUT Support Program

The EUT and all support equipment were exercised in all operating modes for determination of worse case emission under typical operations. It was continuously transmitting a test pattern. Data reported for conducted and radiated emissions reflects worse case conditions.

EUT Modifications For Compliance

There were no modifications performed on the EUT. The test results state the emission levels of the EUT in the condition as it was received on April 15, 1999.



EUT Support Devices

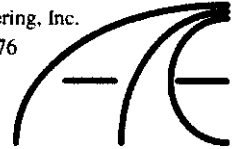
Table 1 - Support Equipment Used For Test

Model:	Description:	S/N	FCC ID#
28B2024-0A0	Steward Ferrite Clamp	n/a	n/a
4000T	AT&T Component Telephone Power Supply, Class 2, 120 VAC input, 12 VDC 200 ma	n/a	n/a

I/O Ports and Cables

Table 2 - Host Port Termination's

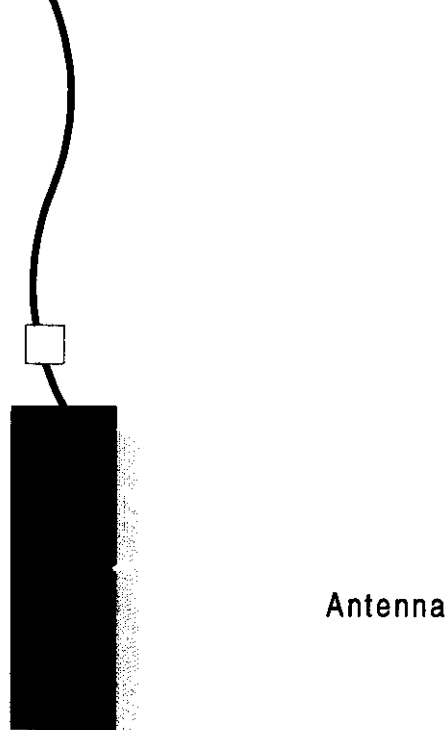
I/O Port	Cable Type	Length	Connector	Termination
Power Pack	Unshielded TwinLead, Ferrite Bead	7 FT	2-prong, IEC	Power Mains



EQUIPMENT BLOCK DIAGRAM

Following is the block diagram of the test setup. Refer to TEST CONFIGURATION pages for port connections and information.

Figure 1 - Equipment Setup Diagram



**EUT: TalkingAd Radio
FM Transmitter**



APPENDIX A: EUT Setup and Requirements



Radiated Emissions

The equipment under test (EUT) and the peripherals listed were setup in a manner that represented their normal use. The equipment was operated at the rated (nominal) operating voltage and typical load conditions for which it was designed. Any special conditions required for the EUT to operate normally are identified in the comments that accompany Table 4 for radiated emission, and Table 5 for conducted emissions. Additionally a complete description of all ports and I/O cables is included in the configuration page.

During radiated emission testing, the EUT was placed on a nonconductive rotating table .8 meter above the conductive grid. The nonconductive table dimensions were 1 meter deep by 1.5 meters wide at .8 meter high. This configuration is typical for radiated emission testing of tabletop devices.

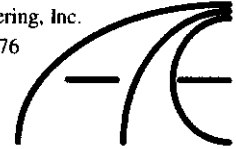
Conducted Emission

During conducted emission testing the EUT was located on a wooden test bench measuring .8 meter high, 1 meter deep, and 1.5 meters in width. The EUT was placed on the wooden test bench surface. Conducted emission testing is performed with the test bench on the top of the metal turntable and by placing the metal frame of the LISN on top of the conductive horizontal ground plane.

The metal plane used for conducted emission testing was grounded to the earth through the green wire safety ground and ground rods installed around the test site. Power to the EUT was provided from a filter grounded to the metal plane, and the LISN was also grounded to the plane. Power to all support equipment was provided from a second LISN placed on the metal plane. All other objects were kept a minimum of 1 meter away from the EUT during the conducted test.

EUT Configuration

The AC power line and I/O cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available I/O ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produces maximum emission. This configuration was precisely noted in the test report photographs and diagrams. I/O cables were of the type and length specified in the individual requirements. If the length could be varied, the length that produced maximum emissions was selected. Where there are multiple I/O ports all of the same type, connecting a cable to just one of the ports is sufficient if it can be shown that additional cables would not significantly affect the results.



If the length of cable between pieces of equipment, and the manufacturer did not provide specifications on their spacing, the interval between different pieces of equipment was about 10 centimeters.

If the length of cable between pieces of equipment was longer than necessary, all excessive cable was bundled with 30-40 cm lengths in a serpentine fashion. If the cable could not be bundled in this fashion, it was arranged so as not to come within 40 cm of the ground plane. For more detail on the disposition of the cables during the test, refer to the information contained in the configuration page and on worst case photographs shown on the test setup pages.

Test Methods

The test procedure stated in **ANSI C63.4-1992** was used to collect the test data. The radiated and conducted emission data of the EUT was taken with the Rohde & Schwarz EMI Test Receiver. Incorporating the application of correction factors for distance, antenna, cable loss, and amplifier gain, the data was reduced as shown in the Sample Calculations. The corrected data was then compared to the **FCC Class B** emission limits to determine compliance.

Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized. Preliminary testing may be performed in an anechoic chamber to identify all frequencies produced by the test system. Due to the anomalies of the chamber, which can lead to significant errors in amplitude measurements, all final measurements are performed on the open area test site. Final emissions are maximized on the open area test site.



Sample Calculations

An example of how the EMI Test Receiver reading is converted using correction factors is given for the six highest emissions recorded in Table 4 and 6. For radiated emissions in dB μ V/m, the EMI Test Receiver reading in dB μ V is corrected by using the following formula:

$$\begin{aligned} &\text{Meter Reading (dB}\mu\text{V)} \\ &+ \text{Antenna Factor (dB)} \\ &+ \text{Cable Loss (dB)} \\ &- \text{Pre-amplifier Gain (dB)} \\ &= \text{Corrected Reading (dB}\mu\text{V/m)} \end{aligned}$$

This reading is then compared to the applicable specification limits and the difference will determine compliance. For conducted emissions, no correction factors are needed when a 50 μ H LISN is used.

Measurement Uncertainty

Measurement uncertainty is caused by random effects and imperfect correction of systematic effects. The measurement uncertainties stated were calculated in accordance with the requirements of NIST Technical Note 1297 with a confidence level of 95%.

Total Uncertainty at 95% confidence probability = ± 3.4 dB

Radiated Emission Testing (Electric Field)

For radiated emissions testing, scans in the frequency range of 30 MHz to 1000 MHz were made stepping every 50 kHz. Each frequency was measured using the peak detector at a bandwidth of 120 kHz for 10 msec. All readings within 10 dB of the limits were recorded, and those emissions were then measured using the CISPR quasi-peak detector at a bandwidth of 120 kHz for a 2-second measurement time.

During the primary radiated scan, the EUT was powered up and operating in its defined test mode. The frequency range of 30 MHz to 300 MHz was then scanned with the Biconical antenna located from 1 to 4 meters above the ground plane in the horizontal and vertical polarity. The test distance is stated in the report of measurement data. During these scans, the turntable was rotated and all peaks, which were at or near the limits, were recorded. Next the frequency range of 300 to 1000 MHz was scanned in the same manner, with a log periodic antenna, and the peaks recorded. Lastly, scans of the FM band from 88 to 110 MHz and all the strong local ambient frequencies were made, using a reduced resolution bandwidth. Care was taken to ensure that no frequencies were



missed within the FM and TV bands, an analysis was performed to determine if the signals that were at or near the limit were caused by an ambient transmission. If unable to determine by analysis, the equipment was powered down to make the final determination if the EUT was the source of the emission.

For the final radiated emission measurements any frequency within 6 dB μ V of the limit was manually made. The turntable was rotated as needed. Comparison with the previously recorded measurements was then made. Using the peak readings from both scans as a guide, the test engineer then maximizes the readings with respect to the table rotation, antenna height and configuration of the peripherals and cables. The EUT components and cables were moved in a typical arrangement to produce the maximum emission. The final emission measurement was taken incorporating the CISPR quasi-peak detector of the EMI Test Receiver. Figures and photographs showing the final worst case configuration of the EUT are contained in the test setup page. The results of the radiated emissions test are shown in Table 6.

Conducted Emission Testing

For conducted emissions testing a scan of the frequency band 150 kHz to 30 MHz was made stepping every 5 kHz. Each frequency was measured at a bandwidth of 10 kHz for 20 msec. Due to the narrow specification of a 6 dB drop, the 10 kHz bandwidth meets the requirements of CISPR 16, band B (150 kHz to 30 MHz) and VDE 0876 as well as of various military standards that require tolerances of 10% for a 10 kHz measurement bandwidth. All readings within 15 dB of the limits were recorded, and those emissions were then measured using the CISPR quasi-peak detector at a bandwidth of 10 kHz for a 2 second measurement time. All emissions within 6 dB of the limit were examined with additional measurements to ensure compliance with the stated limits. The results of the conducted emissions test are shown in Tables 7 and 8 and Figures 2 and 3.

For the conducted emissions testing the EMCO LISN, Model No. 3825/2, was used for the EUT and the Solar Electronic LISN, Model No. 8012-50-R-24-BNC, was used for the support equipment. The LISNs were placed on the ground plane of the open area test site in accordance with ANSI C63.4-1992.



FCC PART 15 CLASS B LIMITS

Subpart C, 15.239 RADIATED LIMITS

Frequency MHz	Limit dB μ V/m	Limit μ V/m
88-108	48	250

3 METER DISTANCE RADIATED LIMITS

Frequency MHz	Limit dB μ V/m	Limit μ V/m
30-88	40	100
88-216	43.5	150
216-960	46	200
Above 960	54	500

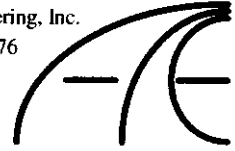
POWER LINE CONDUCTED LIMITS

Frequency MHz	Limit dB μ V	Limit μ V
.45-30	48	250

NOTE

1. The lower limit shall apply at the transition frequencies.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closest point of any part of the device or system.

Atlas Compliance & Engineering, Inc.
142 North Milpitas Blvd. #376
Milpitas, CA 95035
Phone 831.761.2223
Fax 831.761.3223



APPENDIX B: Measurement Data



Report Of Measurements Radiated Data

The following table reports the results of the radiated measurements for the TalkingAd Radio.

Table 3 - Six Highest Radiated Emission Levels

Frequency MHz	QP Level dBμV	QP Limit dBμV	Margin dB	Azimuth, Height	Antenna, Polarization
108.1 Fund.	41.98	48.00	-6.02	0, 3.0M	BiLog, H
108.1 Fund.	40.42	48.00	-7.58	30, 1.2M	BiLog, V
88.3 Fund.	24.80	48.00	-23.20	67.5, 1.2M	BiLog, H
216.25	19.27	46.00	-26.73	90, 1.7M	BiLog, H
88.33 Fund.	20.99	48.00	-27.01	112.5, 1.2M	BiLog, V
250.35	16.38	46.00	-29.62	230, 1M	BiLog, V

Test Method: C63.4-1992

Spec Limit: FCC Class B

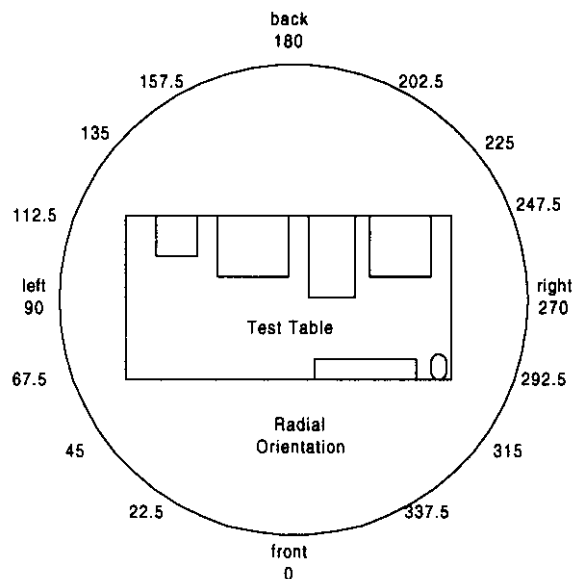
Test Distance: 3 Meters

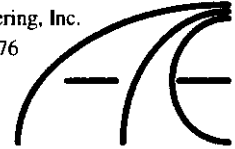
Height in meters, Azimuth in degrees.

Polarization: V = vertical, H = horizontal

Fund. = Fundamental Frequency

COMMENTS: System continuously running. Ambient temperature 83° F and relative humidity of 69% RH.





Report Of Measurements Conducted Data

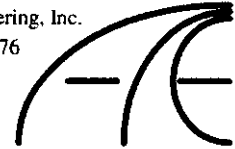
The following table reports the results of the conducted measurements for the TalkingAd Radio.

Table 4 - Six Highest Conducted Emission Levels

Frequency MHz	QP Level dBμV	QP Limit dBμV	Margin dB	Phase	PE Termination
0.54	16.28	48.00	-31.72	N	gnd
0.51	15.57	48.00	-32.43	L1	gnd
0.74	14.87	48.00	-33.13	L1	gnd
0.67	14.73	48.00	-33.27	N	gnd
1.08	14.47	48.00	-33.53	L1	gnd
0.765	14.08	48.00	-33.92	N	gnd

Test Method: C63.4-1992
 Spec Limit: FCC Class B
 Note: L1 = Hot side
 N = Neutral side

COMMENTS: System continuously running, power source 120 VAC. Ambient temperature 67° F and relative humidity of 41%.

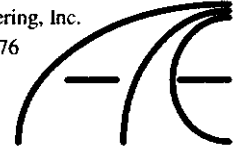


Radiated Data for FCC Class B

Paul J. Marcianti
 Product – TalkingAd Radio
 Model –XMIT01

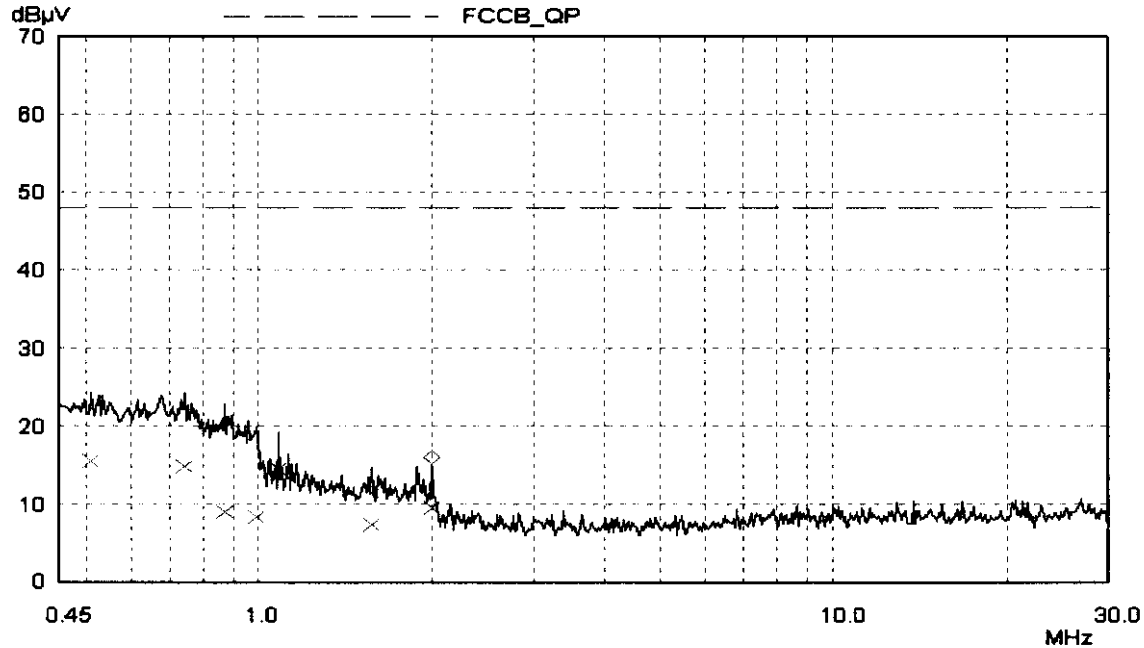
Table 5 - Radiated Data

Frequency MHz	QP Level dB μ V	QP Limit dB μ V	Margin dB	Azimuth, Height	Antenna, Polarization
88.3 Fund.	24.80	48.00	-23.20	67.5, 1.2M	BiLog, H
108.1 Fund.	41.98	48.00	-6.02	0, 3.0M	BiLog, H
216.25	19.27	46.00	-26.73	90, 1.7M	BiLog, H
88.33 Fund.	20.99	48.00	-27.01	112.5, 1.2M	BiLog, V
108.1 Fund.	40.42	48.00	-7.58	30, 1.2M	BiLog, V
216.23	14.80	46.00	-31.20	112.5, 1M	BiLog, V
250.35	16.38	46.00	-29.62	230, 1M	BiLog, V



Conducted Data for FCC Class B - Line 1

Figure 2 - Line 1 Scan



Scan Settings:

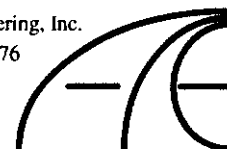
Start Freq.	Stop Freq.	Step	IF BW	Detector	Scan-Time	Atten.	Op. Range
150kHz	30MHz	5kHz	10kHz	PK	20msec	Auto	60dB

Blue Trace: Peak Measurement

Final Measurement: X = QP @ 2sec

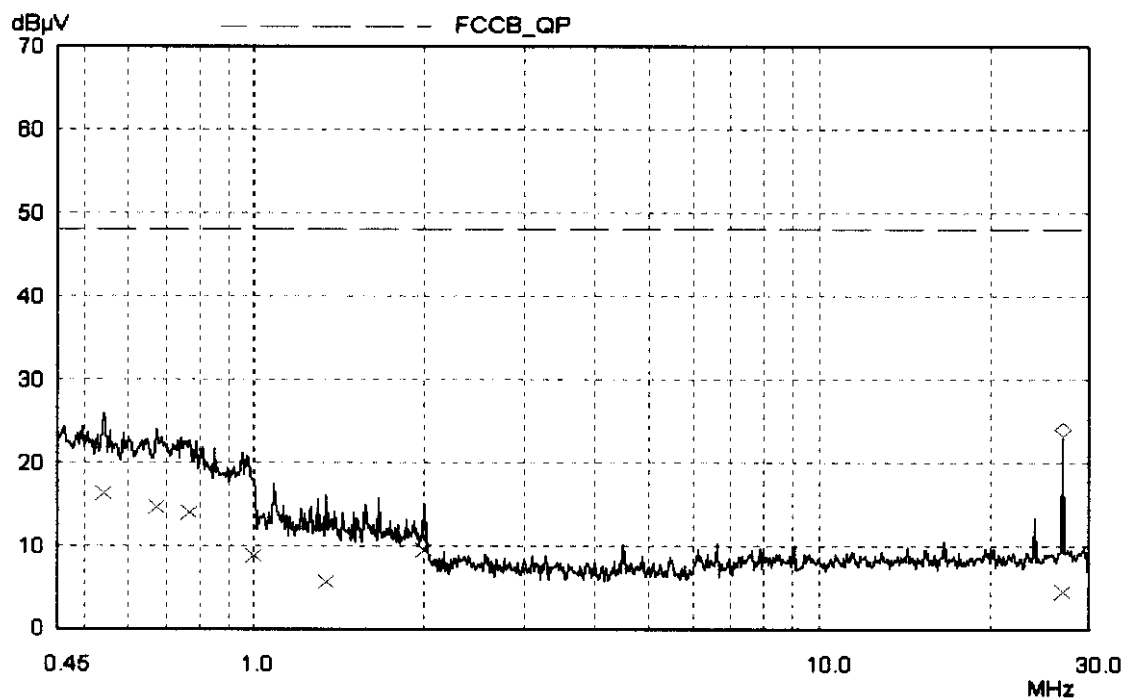
Table 6 - Line 1 Scan Data

Freq. MHz	QP Level dBμV	QP Limit dBμV	Margin dB	Phase	PE
0.51	15.57	48.00	-32.43	L1	gnd
0.74	14.87	48.00	-33.13	L1	gnd
0.87	9.01	48.00	-38.99	L1	gnd
0.99	8.35	48.00	-39.65	L1	gnd
1.08	14.47	48.00	-33.53	L1	gnd
1.57	7.30	48.00	-40.70	L1	gnd
2.0	9.51	48.00	-38.49	L1	gnd



Conducted Data for FCC Class B - Neutral

Figure 3 - Neutral Scan



Scan Settings:

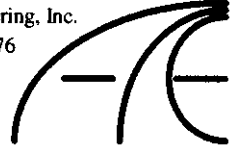
Start Freq.	Stop Freq.	Step	IF BW	Detector	Scan-Time	Atten.	Op. Range
150kHz	30MHz	5kHz	10kHz	PK	20msec	Auto	60dB

Blue Trace: Peak Measurement, Green Trace: Average Measurement

Final Measurement: X = QP @ 2sec

Table 7 - Neutral Scan Data

Freq. MHz	QP Level dBμV	QP Limit dBμV	Margin dB	Phase	PE
0.54	16.28	48.00	-31.72	N	gnd
0.67	14.73	48.00	-33.27	N	gnd
0.765	14.08	48.00	-33.92	N	gnd
0.995	8.81	48.00	-39.19	N	gnd
1.335	5.67	48.00	-42.33	N	gnd
2.0	9.45	48.00	-38.55	N	gnd
27.025	4.53	48.00	-43.47	N	gnd



COMPLIANCE VERIFICATION REPORT

TEST CERTIFICATE

APPLICANT: Paul J. Marcianti
2753 E. Broadway
Suite 101166
Mesa, AZ 85204

Trade Name: TalkingAd Radio

Model: XMIT01

I HEREBY CERTIFY THAT:

The measurements shown in this report were made in accordance with the procedures indicated and that the energy emitted by this equipment, as received, was found to be within the FCC Class B limits. Additionally, it should be noted that the results in this report apply only to the items tested, as identified herein.

I FURTHER CERTIFY THAT:

On the basis of the measurements taken at the test site, the equipment tested is capable of operation in compliance with the requirements set forth in FCC CFR 47 Part 15 Rules and Regulations.

On this Date: April 30, 1999

Mario E. Baraona Sr.
Atlas Compliance & Engineering, Inc.

Printed Name

Signature

Paul J. Marcianti Representative

