ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT
CERTIFICATION TO FCC PART 15 REQUIREMENTS

for

UNINTENTIONAL RADIATOR

AUTO ALARM SYSTEM RECEIVER

MODEL: PRO-2000KD

FCC ID: BGA2KRX

REPORT NO: 01E9588

DATE: July 11, 2001

Prepared for
AUDIOVOX CORPORATION
150 MARCUS BLVD., HAUPPAUGE, N.Y. 11788 U.S.A.

Prepared by
COMPLIANCE ENGINEERING SERVICES, INC.
No. 199, CHUNG SHENG ROAD
HSIN TIEN CITY, TAIPEI, TAIWAN R.O.C.
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LAB CODE: SL2-IN-E-0005

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UL, CSA, TÜV, VDE
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TABLE OF CONTENTS

1. VERIFICATION OF COMPLIANCE 1

2. PRODUCT DESCRIPTION 2

3. TEST FACILITY 2

4. MEASUREMENT EQUIPMENT USED 2

5. TEST CONFIGURATION 3

6. TESTS CONDUCTED 3

7. RADIATED EMISSION TEST PROCEDURE 3

8. COHERENT TESTS 3

9. EQUIPMENT MODIFICATIONS 4

10. TEST CONFIGURATION PHOTOS (RADIATED EMISSION TEST) 5

TEST DATA

- Fundamental Frequency Plot
- Radiated Emission Data

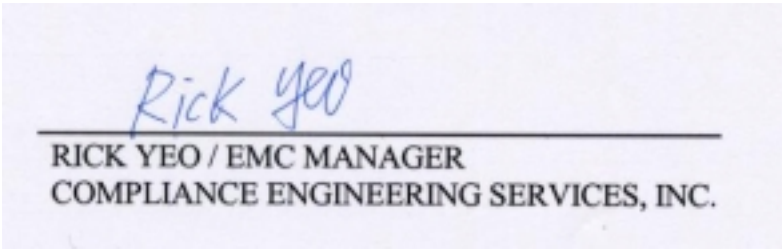
Proposed FCC ID Label..... Exhibit 1
Agent Authorization Letter..... Exhibit 2
User Manual.....……. Attachment A
Block Diagram/Schematics..... Attachment B

1. VERIFICATION OF COMPLIANCE

COMPANY NAME	:	AUDIOVOX CORPORATION 150 MARCUS BLVD., HAUPPAUGE, N.Y. 11788 U.S.A.
CONTACT PERSON	:	PAT LAVELLE / EXECUTIVE VICE PRESIDENT
TELEPHONE NO.	:	(516)231-7750
EUT DESCRIPTION	:	AUTO ALARM SYSTEM RECEIVER
MODEL NAME/NUMBER	:	PRO-2000KD
FCC ID	:	BGA2KRX
DATE TESTED	:	July 10, 2001
REPORT NUMBER	:	01E9588

TYPE OF EQUIPMENT	SECURITY EQUIPMENT (UNINTENTIONAL RADIATOR)
EQUIPMENT TYPE	302MHz SUPERREGENERATE RECEIVER
MEASUREMENT PROCEDURE	ANSI 63.4 / 1992
LIMIT TYPE	CERTIFICATION
FCC RULE	CFR 47, PART 15.109

The above equipment was tested by Compliance Engineering Services, Inc. for compliance with the requirements set forth in CFR 47, PART 15. This said equipment in the configuration described in this report shows that maximum emission levels emanating from equipment are within the compliance requirements.



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2. PRODUCT DESCRIPTION

AUDIOVOX CORPORATION, Model: PRO-2000KD is the receiving portion of a multi-purpose security device. The associated Transmitter is manufactured by AUDIOVOX CORPORATION, FCC ID: BGAOE3B.

3. TEST FACILITY

The open area test sites and conducted measurement facilities used to collect the radiated data are located at No. 199, Chung Sheng Road, Hsin Tien City, Taipei, Taiwan R.O.C. The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

The measuring instrument which was utilized in performing the tests documented herein has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment which is traceable to recognized national standards.

4. MEASUREMENT EQUIPMENT USED

Manufacturer	Model Number	Description	Cal Due Date
R&S	ESBI	EMI TEST RECEIVER (20Hz – 5GHz)	11/2001
H.P.	8648C	Signal Generator (9 KHz – 3.2 GHz)	09/2001
H.P.	8447D A	Spectrum Analyzer (9 KHz – 6.5 GHz)	05/2002
SCHWARZBECK	VULB 9160	Antenna (30-2000 MHz)	05/2002
EMCO	3115	Antenna(1 – 18 GHz)	02/2002
MITEQ	NSP2600-44	Preamplifier (1 - 26.5 GHz)	02/2002

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5. TEST CONFIGURATION

Set frequency generator to 302 MHz. EUT receiving transmission continuously. All the wires are placed on the turn table to their maximum length to simulate the worse emission conditions.

6. TESTS CONDUCTED

CFR 47, 15.109 RADIATED EMISSION TESTS	CONDUCTED AT 3 METERS

7. RADIATED EMISSION TEST PROCEDURE

The EUT and all other support equipment are placed on a wooden table 80 cm above the ground screen. Antenna to EUT distance is 3 meters. During the test, the table is rotated 360 degrees to maximize emissions and the antenna is positioned from 1 to 4 meters above the ground screen to further maximize emissions. The antenna is polarized in both vertical and horizontal positions.

Monitor the frequency range of interest at a fixed antenna height and EUT azimuth. Frequency span should be small enough to easily differentiate between broadcast stations and intermittent ambients. Rotate EUT 360 degrees to maximize emissions received from EUT. If emission increases by more than 1 dB, or if another emission appears that is greater by 1 dB, return to azimuth where maximum occurred and perform additional cable manipulation to further maximize received emission.

Move antenna up and down to further maximize suspected highest amplitude signal. If emission increased by 1 dB or more, or if another emission appears that is greater by 1dB or more, return to antenna height where maximum signal was observed and manipulate cables to produce highest emissions, noting frequency and amplitude.

8. COHERENT TESTS

During Radiated Emission Tests, H.P. signal generator model no: 8648C (9K – 3.2G Hz) was used to radiate unmodulated CW signal to EUT at 302 MHz. Please refer to radiated radiate emission plots and data for the highest readings.

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9. EQUIPMENT MODIFICATIONS

To achieve compliance to FCC section 15.109, the following change(s) were made during compliance testing:

NOT APPLICABLE

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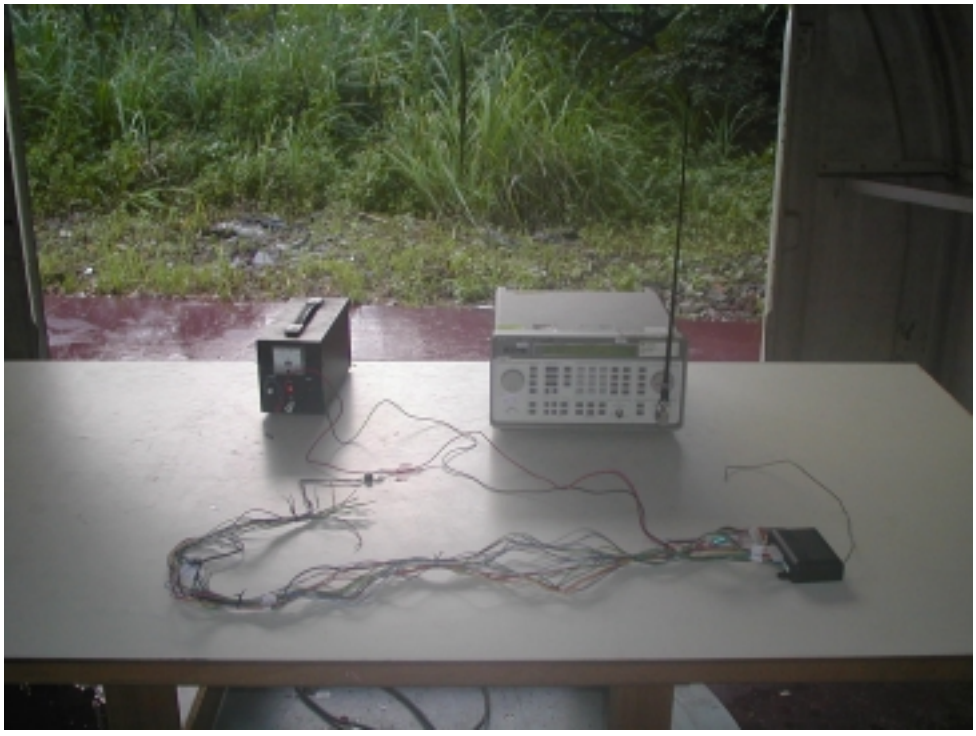
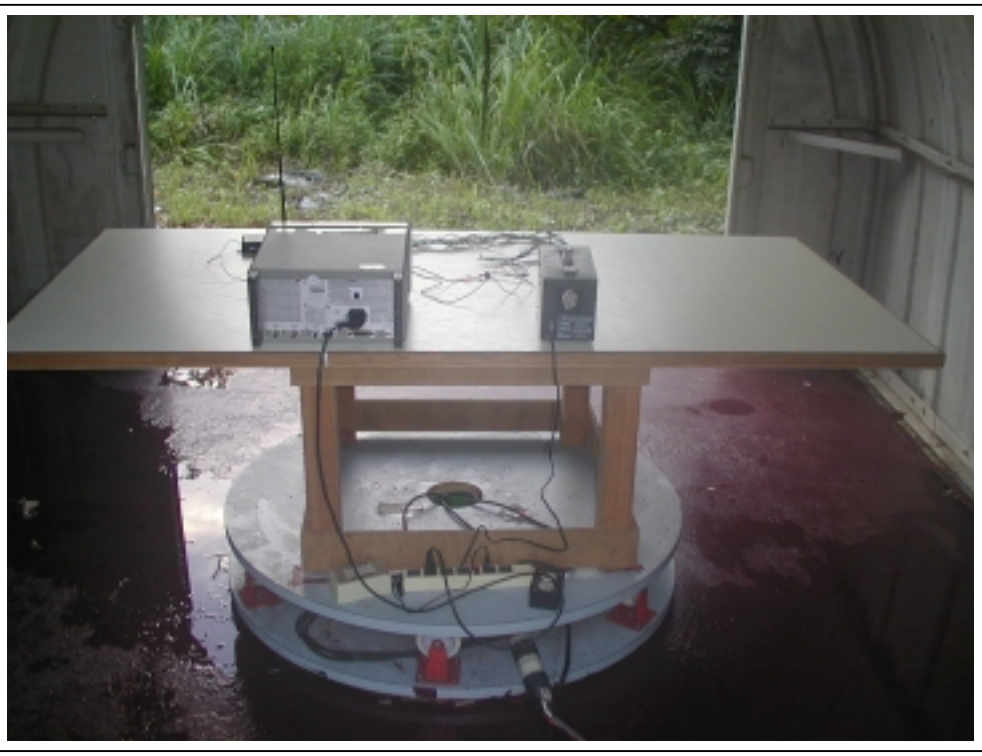
10. TEST CONFIGURATION PHOTOS (Radiated Emission Test)





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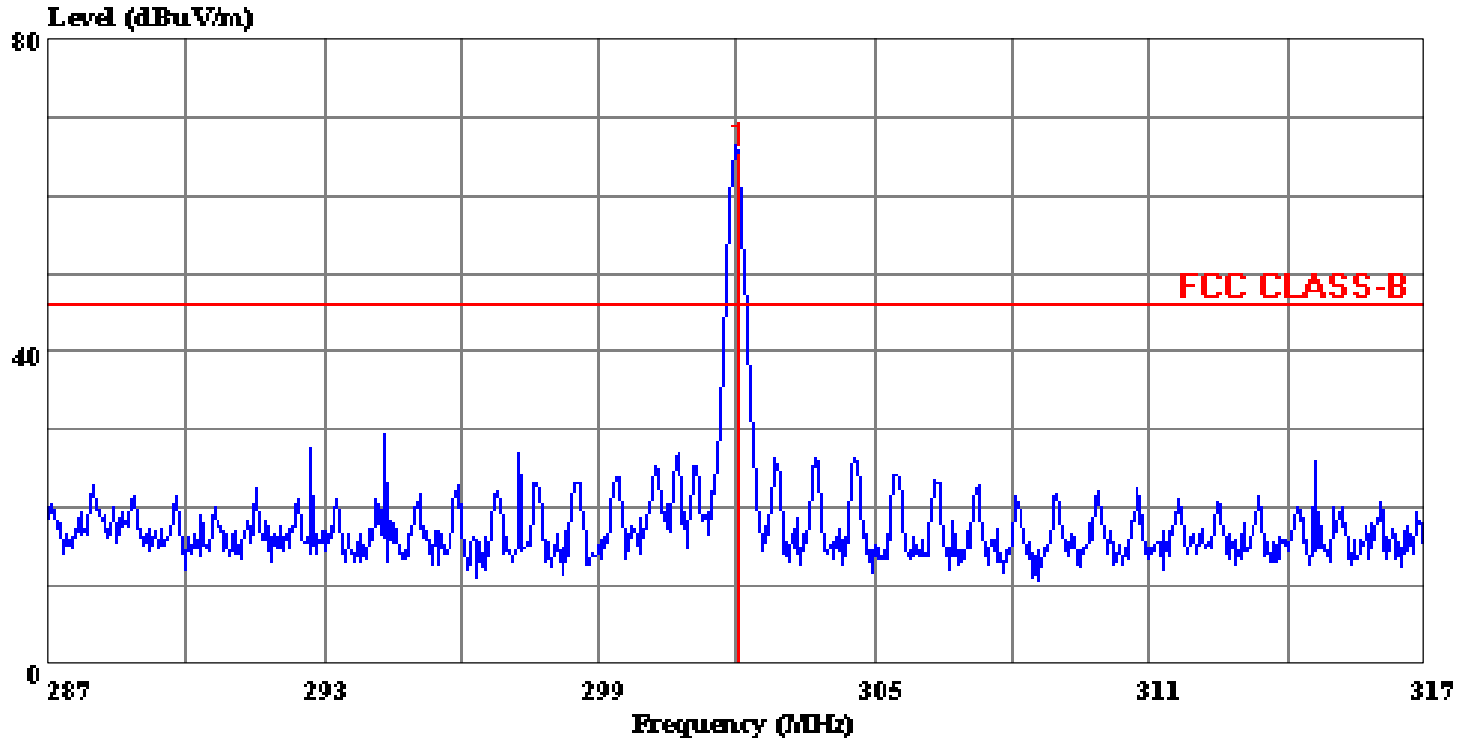

(CCS D-Site)

Trace: 1 Ref Trace:

Condition: VERTICAL
Report No. : 01E9588
Test Engr. : VINCE CHIANG
Company   : AUDIOVOX CORPORATION
EUT   : PRO-2000KD
Test Config : EUT / DC POWER / S.G.
Type of Test: FCC 15.109
Mode of Op. : RECEIVER MODE

		Freq	Read Level
		MHz	dBuV
1	*	302.030	75.86

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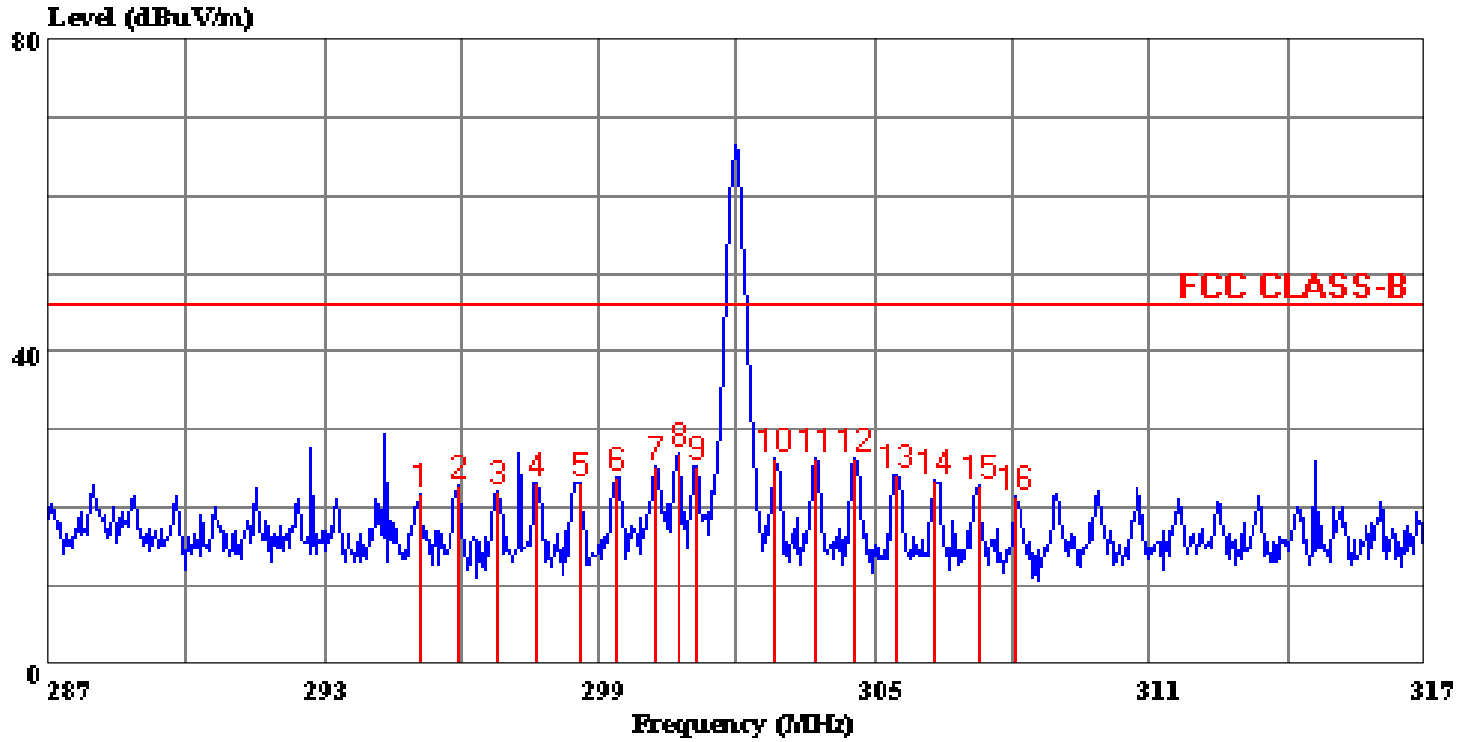

(CCS D-Site)

Trace: 1 Ref Trace:

Condition: VERTICAL
Report No. : 01E9588
Test Engr. : VINCE CHIANG
Company : AUDIOVOX CORPORATION
EUT : PRO-2000KD
Test Config : EUT / DC POWER / S.G.
Type of Test: FCC 15.109
Mode of Op. : RECEIVER MODE

Page: 1

	Freq	Read Level	Probe Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB	
1	295.070	32.06	13.12	2.73	26.25	21.66	46.00	-24.34	Peak
2	295.910	33.30	13.14	2.74	26.25	22.92	46.00	-23.08	Peak
3	296.810	32.59	13.16	2.74	26.25	22.24	46.00	-23.76	Peak
4	297.620	33.63	13.17	2.74	26.25	23.30	46.00	-22.70	Peak
5	298.580	33.68	13.19	2.75	26.25	23.37	46.00	-22.63	Peak
6	299.360	34.19	13.21	2.75	26.25	23.90	46.00	-22.10	Peak
7	300.230	35.71	13.23	2.75	26.26	25.44	46.00	-20.56	Peak
8	300.710	37.34	13.24	2.75	26.26	27.07	46.00	-18.93	Peak
9	301.100	35.61	13.25	2.75	26.26	25.35	46.00	-20.65	Peak
10	302.840	36.63	13.29	2.76	26.27	26.40	46.00	-19.60	Peak
11	303.740	36.45	13.31	2.76	26.28	26.24	46.00	-19.76	Peak
12	304.580	36.48	13.33	2.76	26.29	26.28	46.00	-19.72	Peak
13	305.450	34.49	13.35	2.76	26.29	24.32	46.00	-21.68	Peak
14	306.320	33.68	13.37	2.77	26.30	23.52	46.00	-22.48	Peak
15	307.250	33.12	13.39	2.77	26.30	22.98	46.00	-23.02	Peak
16	308.060	31.75	13.41	2.77	26.31	21.62	46.00	-24.38	Peak

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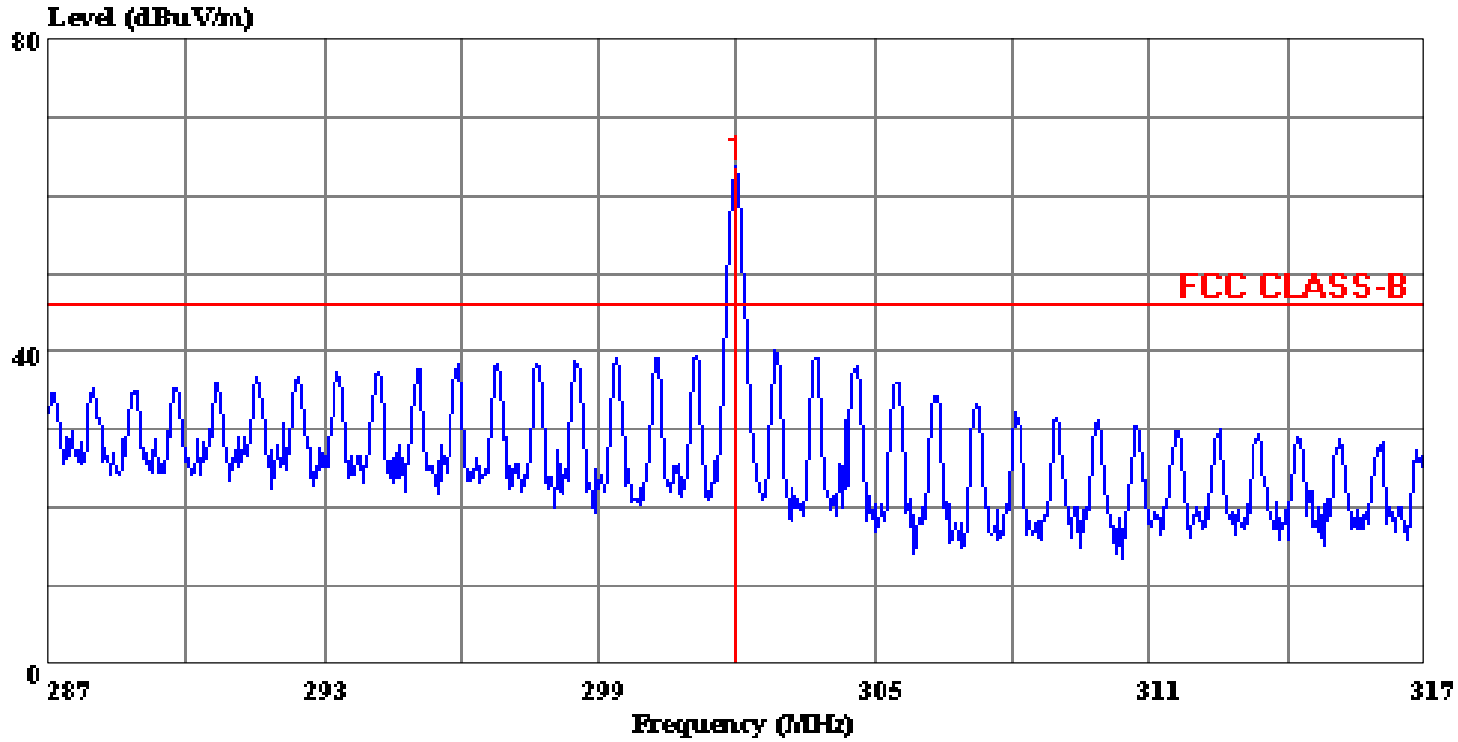

(CCS D-Site)

Trace: 2 Ref Trace:

Condition: HORIZONTAL
Report No. : 01E9588
Test Engr. : VINCE CHIANG
Company : AUDIOVOX CORPORATION
EUT : PRO-2000KD
Test Config : EUT / DC POWER / S.G.
Type of Test: FCC 15.109
Mode of Op. : RECEIVER MODE

		Freq	Read Level
		MHz	dBuV
1	*	301.970	73.91

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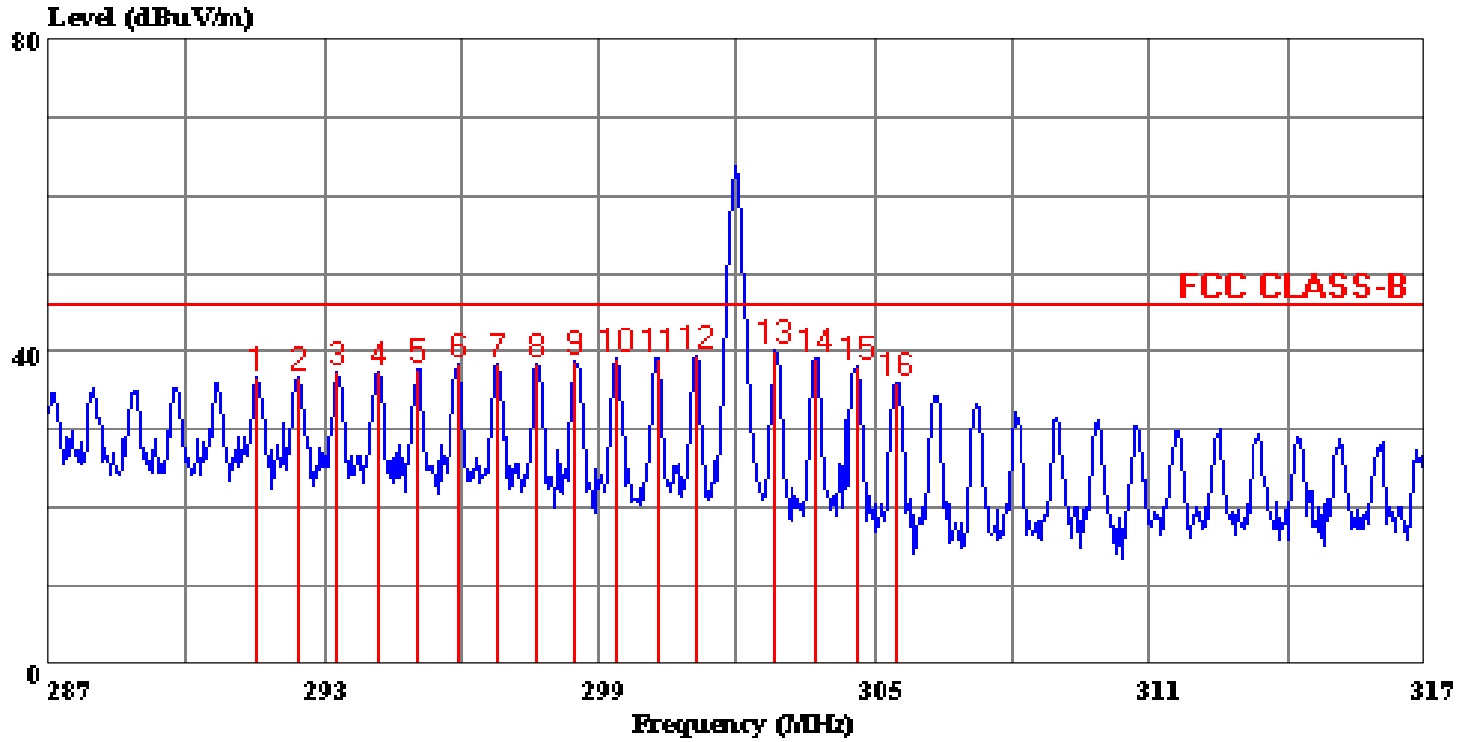
Data#: 6 File#: 9588d.emi Date: 2001-07-10 Time: 15:56:16



(CCS D-Site)

Trace: 2 Ref Trace:

Condition: HORIZONTAL
Report No. : 01E9588
Test Engr. : VINCE CHIANG
Company : AUDIOVOX CORPORATION
EUT : PRO-2000KD
Test Config : EUT / DC POWER / S.G.
Type of Test: FCC 15.109
Mode of Op. : RECEIVER MODE

	Freq	Read Level	Probe Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB	
1	291.560	47.24	13.05	2.72	26.26	36.76	46.00	-9.24	Peak
2	292.430	47.22	13.07	2.72	26.26	36.75	46.00	-9.25	Peak
3	293.300	47.70	13.09	2.73	26.26	37.26	46.00	-8.74	Peak
4	294.170	47.93	13.11	2.73	26.26	37.51	46.00	-8.49	Peak
5	295.040	48.26	13.12	2.73	26.25	37.86	46.00	-8.14	Peak
6	295.910	48.82	13.14	2.74	26.25	38.44	46.00	-7.56	Peak
7	296.780	48.82	13.16	2.74	26.25	38.46	46.00	-7.54	Peak
8	297.650	48.89	13.17	2.74	26.25	38.56	46.00	-7.44	Peak
9	298.490	49.05	13.19	2.75	26.25	38.73	46.00	-7.27	Peak
10	299.360	49.45	13.21	2.75	26.25	39.16	46.00	-6.84	Peak
11	300.260	49.48	13.23	2.75	26.26	39.20	46.00	-6.80	Peak
12	301.130	49.91	13.25	2.75	26.26	39.65	46.00	-6.35	Peak
13	302.840	50.39	13.29	2.76	26.27	40.16	46.00	-5.84	Peak
14	303.740	49.50	13.31	2.76	26.28	39.29	46.00	-6.71	Peak
15	304.610	48.33	13.33	2.76	26.29	38.14	46.00	-7.86	Peak
16	305.450	46.18	13.35	2.76	26.29	36.00	46.00	-10.00	Peak

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CCS D-Site

Condition: HORIZONTAL
Report No. : 01E9588
Test Engr. : VINCE CHIANG
Company : AUDIOVOX CORPORATION
EUT : PRO-2000KD
Test Config : EUT / DC POWER / S.G.
Type of Test: FCC 15.109
Mode of Op. : 6 Worst Datas

	Freq	Read Level	Probe Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB	
1	298.490	49.05	13.19	2.75	26.25	38.73	46.00	-7.27	Peak
2	299.360	49.45	13.21	2.75	26.25	39.16	46.00	-6.84	Peak
3	300.260	49.48	13.23	2.75	26.26	39.20	46.00	-6.80	Peak
4	301.130	49.91	13.25	2.75	26.26	39.65	46.00	-6.35	Peak
5	302.840	50.39	13.29	2.76	26.27	40.16	46.00	-5.84	Peak
6	303.740	49.50	13.31	2.76	26.28	39.29	46.00	-6.71	Peak

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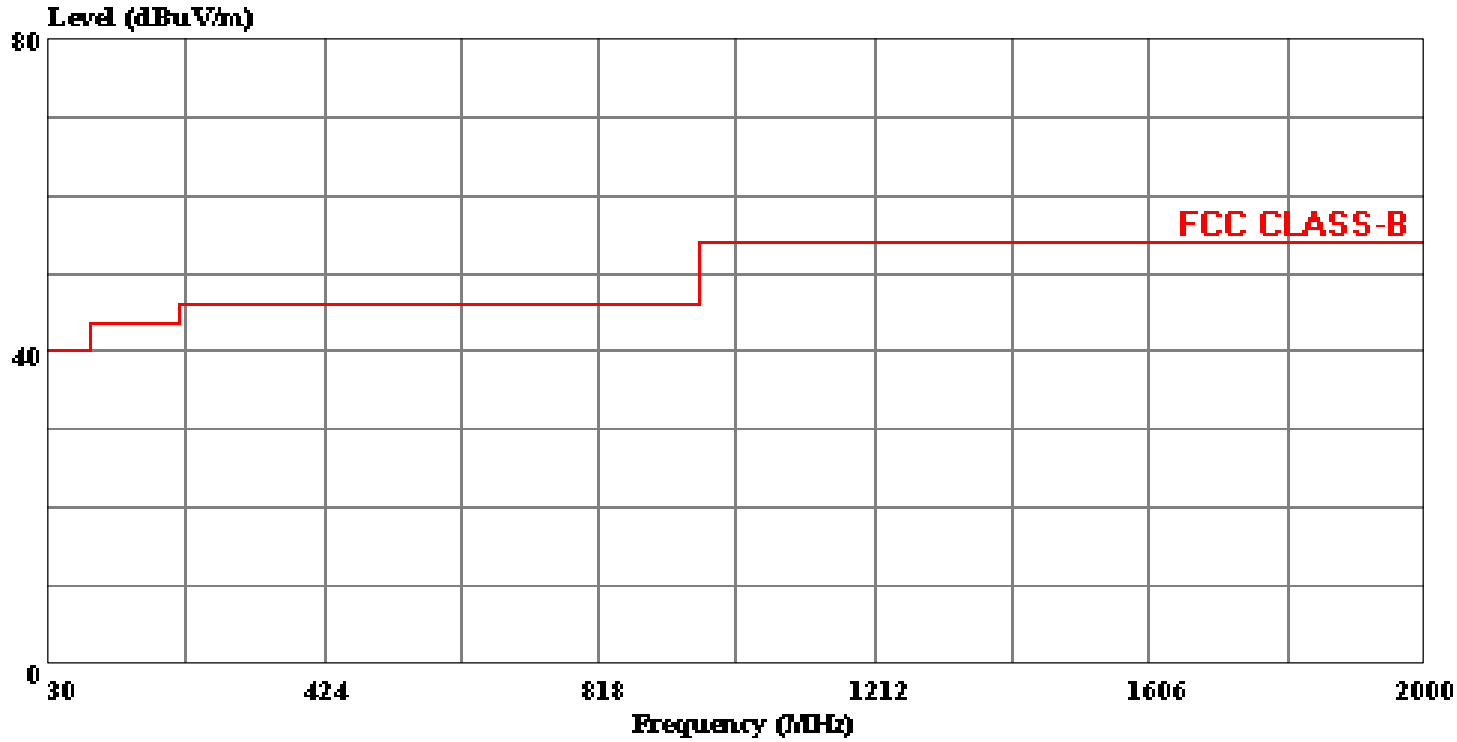

(CCS D-Site)

Trace: Ref Trace:

Report No. : 01E9588
Test Engr. : VINCE CHIANG
Company : AUDIOVOX CORPORATION
EUT : PRO-2000KD
Test Config : EUT / DC POWER / S.G.
Type of Test: FCC CLASS B
Mode of Op. : RECEIVER MODE
: NO OTHER EMISSIONS WERE FOUND WITHIN
: 20 dB BELOW THE LIMITS FROM 30-2000MHz