FCC PART 15, SUBPART C
TEST REPORT

for

FM AUDIO TRANSMITTER
M/N: FMTRNS01
FCC ID: IKQFMTRNS01

Prepared for

SCOSCHE INDUSTRIES INC.
1550 PACIFIC AVENUE
OXNARD, CA 93033

Prepared by:

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Approved by:

RUBY A. HALL

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2337 TROUTDALE DRIVE
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DATE: FEBRUARY 18, 2005

	REPORT BODY	APPENDICES					TOTAL
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1	Plot Map And Layout of Test Site

GENERAL REPORT SUMMARY

This electromagnetic emission report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced in any form except in full, without the written permission of Compatible Electronics.

This report must not be used to claim product endorsement by NVLAP, NIST or any other agency of the U.S. Government.

Device Tested: FM Audio Transmitter
Model Number: FMTRNS01
SN: Sample 1

Product Description: This is an FM Audio Transmitter.

Modifications: The EUT was not modified during the testing.

Manufacturer: Scosche Industries Inc.
1550 Pacific Avenue
Oxnard, CA 93033

Test Date: February 15, 2005

Test Specifications: EMI requirements
FCC CFR Title 47, Part 15 Subpart A, B and C sections 15.31 (e), 15.109, 15.205, 15.209 and 15.239
Test Procedure: ANSI C63.4: 2003.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz - 30 MHz.	This is a DC powered device that does not plug into AC Mains therefore this test was deemed unnecessary.
2	Radiated RF Emissions, 9 kHz – 1000 MHz.	Complies with the limits of FCC CFR Title 47, Part 15 Subpart C 15.205, 15.209 and 15.239 and the requirements of 15.31(e).

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the FM Audio Transmitter Model Number: FMTRNS01. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4: 2003. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the specification limits defined in FCC CFR Title 47, Part 15 Subpart A (15.31e), Subpart B, 15.109 Subpart C 15.205, 15.209 and 15.239.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The EMI tests described herein were performed at the test facility of Compatible Electronics, 2337 Troutdale Drive, Agoura, California 91301.

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

Scosche Industries Inc.

Jack DeBiasio	Project Manager

Compatible Electronics Inc.

Andre D. Khan	Test Technician
Reynald O. Ramirez	Sr. Test Engineer
Ruby A. Hall	Lab Manager

2.4 Date Test Sample was Received

The test sample was received on February 15, 2005.

2.5 Disposition of the Test Sample

The test sample remains at Compatible Electronics Inc.

2.6 Abbreviations and Acronyms

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

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network

3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this EMI Test Report.

SPEC	TITLE
FCC CFR Title 47, Part 15 Subpart C.	FCC Rules – Intentional Radiators.
CISPR 16 1993	Specification for radio disturbance and immunity measuring apparatus and methods.
ANSI C63.4 2003	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz.

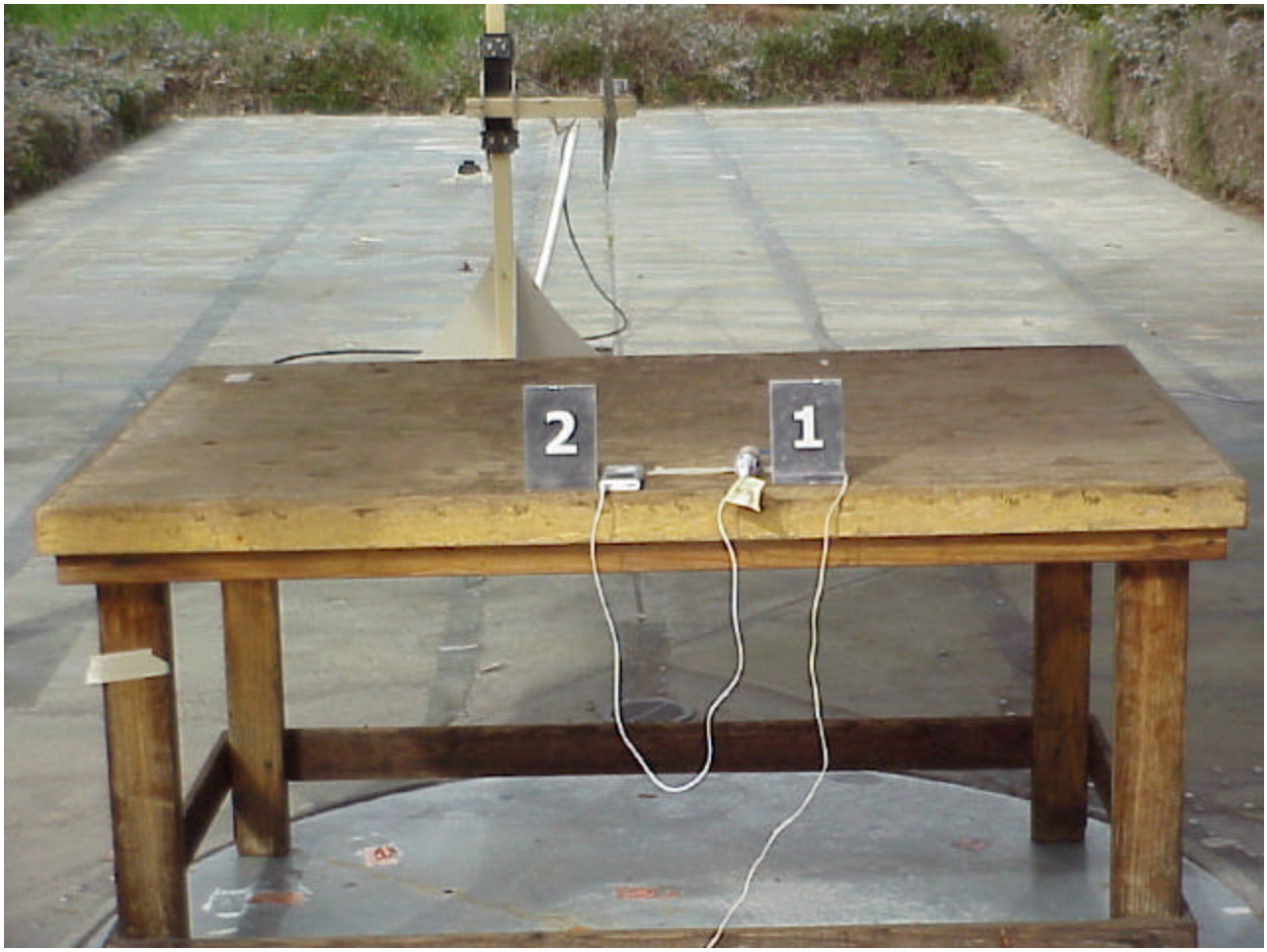
4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - EMI

The EUT was set-up in a tabletop configuration. The EUT was connected to an iPod via the headphone port. The input signal was adjusted to the maximum output that the EUT will allow. The EUT was continuously transmitting in this mode throughout the test. The output was monitored through a radio which was located with the test equipment inside the lab. The EUT transmitting antenna is a fixed element; which connects directly to the PCB board.

The highest emissions were found when the EUT was running in the above configuration. The cables were moved to maximize the emissions. The final radiated data was taken in this mode of operation. All initial investigations were performed with the spectrum analyzer in manual mode scanning the frequency range continuously. The cables were bundled and routed as shown in the photographs in Appendix D.

4.1.1 Photograph of Test Configuration - EMI



4.1.2 Cable Construction and Termination

Cable 1 This is a 1 meter unshielded round cable that connects the EUT to the iPod. The cable is hardwired into the EUT and has a 3.5 mm stereo jack at the iPod end.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

#	EQUIPMENT TYPE	MANUFACTURER	MODEL	SERIAL NUMBER
1	FM AUDIO TRANSMITTER (EUT)	SCOSCHE INDUSTRIES INC.	PN: FMTRNS01	S/N: SAMPLE 1 FCC ID: IKQFMTRNS01
2	I-POD	APPLE	A1051	S/N: 4U452WKMPFW

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
Spectrum Analyzer	Hewlett Packard	8566B	2729A04566	Dec. 24, 2004	Dec. 24, 2005
Quasi-Peak Adapter	Hewlett Packard	85650A	2521A00682	Dec. 24, 2004	Dec. 24, 2005
Preamplifier	Com Power	CPPA-103	161068	Dec. 07, 2004	Dec. 07, 2005
Loop Antenna	Com Power	AL-130	17067	Mar. 24, 2004	Mar. 24, 2005
Biconical Antenna	Com Power	AB-100	01535	Jan. 13, 2005	Jan. 13, 2006
Log Periodic Antenna	Com Power	AL-100	01116	Dec. 28, 2004	Dec. 28, 2005
Antenna Mast	Com Power	AM-400	N/A	N/A	N/A
Turntable	Com Power	TTW-595	N/A	N/A	N/A
Computer	Hewlett Packard	Pavilion 4530	US91912022	N/A	N/A
Printer	Hewlett Packard	C6427B	MY066160TW	N/A	N/A
Radiated Emissions Test Software	Compatible Electronics	Vcap1A	2.3	N/A	N/A

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1.2 of this report for EMI test location.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was not grounded.

7. TEST PROCEDURES

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

7.1 RF Emissions

7.1.1 Conducted Emissions Test

The Spectrum Analyzer was used as a measuring meter along with the quasi-peak adapter. The data was collected with the Spectrum Analyzer in the peak detect mode with the "Max Hold" feature activated. The quasi-peak was used only where indicated in the data sheets. A 10 dB attenuation pad was used for the protection of the Spectrum Analyzer input stage, and the Spectrum Analyzer offset was adjusted accordingly to read the actual data measured. The LISN output was read by the Spectrum Analyzer. The output of the second LISN was terminated by a 50 ohm termination. The effective measurement bandwidth used for the conducted emissions test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The initial test data was taken in manual mode while scanning the frequency ranges of 150 kHz to 1.6 MHz, 1.6 MHz to 5 MHz and 5 MHz to 30 MHz. The conducted emissions from the EUT were maximized for operating mode as well as cable placement. Once a predominant frequency (within 12 dB of the limit) was found, it was more closely examined with the spectrum analyzer span adjusted to 1 MHz.

The EUT is DC powered and does not connect to AC Mains therefore this test was deemed unnecessary.

7.1.2 Radiated Emissions Test

The spectrum analyzer was used as a measuring meter along with a quasi-peak adapter. A Preamplifier was used to increase the sensitivity of the instrument. The Spectrum Analyzer was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer records the highest measured reading over all the sweeps. This final reading is then recorded into the a Computer data recording program, which takes into account the cable loss, amplifier gain and antenna factors, so that a true reading is compared to the true limit. The quasi-peak was used only for those readings, which are marked accordingly on the data sheets. The effective measurement bandwidth used for the radiated emissions test was according to the frequency measured (200 Hz for 9kHz-150kHz, 9 kHz for 0.150kHz-30MHz and 120 kHz for 30-1000MHz).

Broadband loop, biconical and log periodic antennas were used as transducers during the measurement. The loop antenna was used from 9 kHz to 30 MHz, the biconical antenna was used from 30 MHz to 300 MHz and the log periodic antenna was used from 300 MHz to 1000 MHz. The frequency spans were wide (30 MHz to 88 MHz, 88 MHz to 216 MHz, 216 to 300 MHz and 300 MHz to 1 GHz) during preliminary investigations. The final data was taken with a frequency span of 1 MHz. Furthermore, the frequency span was reduced during the preliminary investigations as deemed necessary.

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength).

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a test distance of 3 meters to obtain final test data. The final test data is located in Appendix E.

7.1.3 RF Emissions Test Results

The fundamental and up to the 10th harmonic emissions are within the specifications.

SCOSCHE INDUSTRIES INC.
FM Audio Transmitter

RADIATED EMISSIONS – SPURIOUS

The Frequency Band from 9 kHz to 1 GHz was specifically scanned. Please see data in Appendix E.

RF Energy from the EUT at 3 meters (µV/m) is below the limits in the following ranges listed below.

0.090-0.110	<70	16.69475-16.69525	<70
0.495-0.505	<70	16.80425-16.80475	<70
2.1735-2.1905	<70	25.5-25.67	<70
4.125-4.128	<70	37.5-38.25	<100
4.17725-4.17775	<70	73-74.6	<100
4.20725-4.20775	<70	74.8-75.2	<100
6.215-6.218	<70	108-121.94	<100
6.26775-6.26825	<70	123-138	<150
6.31175-6.31225	<70	149.9-150.05	<150
8.291-8.294	<70	156.52-156.52	<150
8.362-8.366	<70	162.01-167.17	<150
8.37625-8.38675	<70	167.72-173.2	<150
8.41425-8.41475	<70	240-285	<200
12.29-12.293	<70	322-335.4	<200
12.51975-12.52025	<70	399.9-410	<200
12.57675-12.57725	<70	608-614	<200
13.36-13.41	<70	960-1240	<500
16.42-16.423	<70		

RADIATED EMISSION – BAND EDGE 15.239 (a)

The emission from the lowest and highest channel of the EUT lies within the bandwidth of 88-108MHz. See Appendix E for the plots.

RADIATED EMISSION – OCCUPIED BANDWIDTH

The 26 dB bandwidth of the first channel (88.1 MHz) is 163.9 kHz, the second channel (88.3 MHz) is 154.7 kHz, the third channel (88.5 MHz) is 134.1 kHz and the fourth channel (88.7 MHz) is 135.1 kHz. See Appendix E for the plots.

7.1.4 Sample Calculations

A correction factor for the antenna, cable and a distance factor (if any) must be applied to the meter reading before a true field strength reading can be obtained. This Corrected Meter Reading is then compared to the specification limit in order to determine compliance with the limits.

The equation can be derived in the following manner:

Specification limit (μV/m) log x 20 = Specification Limit in dBuV

(Specification distance / test distance) log x 40 = distance factor

Note: When using an Active Antenna, the Antenna factor shall be subtracted due to the combination of the internal amplification and antenna loss. At lower frequencies the cable loss is negligible.

OR

Corrected Meter Reading = meter reading + F – A + C

where: F = antenna factor
A= amplifier gain
C = cable loss

The correction factors for the antenna and the amplifier gain are attached in Appendix D of this report. The data sheets are attached in Appendix E.

The distance factor D is 0 when the test is performed at the required specification distance.

8. TEST PROCEDURE DEVIATIONS

There were no deviations from the test procedures.

9. CONCLUSIONS

The FM Audio Transmitter Model Number: FMTRNS01 meets all of the requirements of the FCC CFR, Title 47, Part 15 Subpart A, Section 15.31(e), Subpart B 15.109, Subpart C 15.205, 15.207, 15.209 and 15.239.

APPENDIX A

LABORATORY ACCREDITATIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS

NVLAP CODES 200063-0, 200528-0, 200527-0

For US, Canada, Australia/New Zealand, Taiwan and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025 an ISO 9002 equivalent. Please follow the link to the NIST site for each of our facilities NVLAP certificate and scope of accreditation.

Silverado/Lake Forest Division: http://ts.nist.gov/ts/htdocs/210/214/scopes/2005270.htm
Brea Division: http://ts.nist.gov/ts/htdocs/210/214/scopes/2005280.htm
Agoura Division: http://ts.nist.gov/ts/htdocs/210/214/scopes/2000630.htm

Compatible Electronics has been accredited by ANSI and appointed by the FCC to serve as a Telecommunications Certification Body (TCB). Compatible Electronics ANSI TCB listing can be found at: http://www.ansi.org/public/ca/ansi_cp.html

Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for EMC under the US/EU Mutual Recognition Agreement (MRA). Compatible Electronics NIST US/EU CAB listing can be found at: http://ts.nist.gov/ts/htdocs/210/gsig/emc-cabs-mar02.pdf

Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for Taiwan/BSMI under the US/APEC (Asia-Pacific Economic Cooperation) Mutual Recognition Agreement (MRA). Compatible Electronics NIST US/APEC CAB listing can be found at: http://ts.nist.gov/ts/htdocs/210/gsig/apec/bsmi-cabs-may02.pdf

World Wide Market Access with Nemko

Compatible Electronics has been validated by NEMKO against ISO/IEC 17025 under the NEMKO EMC Laboratory Authorization (ELA) program to all EN standards required by the European Union (EU) EMC Directive 89/336/EEC. Please follow the link to the Compatible Electronics' web site for each of our facilities NEMKO ELA certificate and scope of accreditation. http://www.celectronics.com/certs.htm

We are also certified/listed for IT products by the following country/agency:

Compatible Electronics VCCI listing can be found at:
http://www.vcci.or.jp/vcci_e/member/tekigo/setsubi_index_id.html

Just type "Compatible Electronics" into the Keyword search box.

Compatible Electronics FCC listing can be found at:
https://gullfoss2.fcc.gov/prod/oet/index_ie.html

Just type "Compatible Electronics" into the Test Firms search box.

Industry Canada / Industrie Canada

Compatible Electronics IC listing can be found at:
http://spectrum.ic.gc.ca/~cert/labs/oats_lab_c_e.html

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

There were no modifications made to the EUT during the test.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

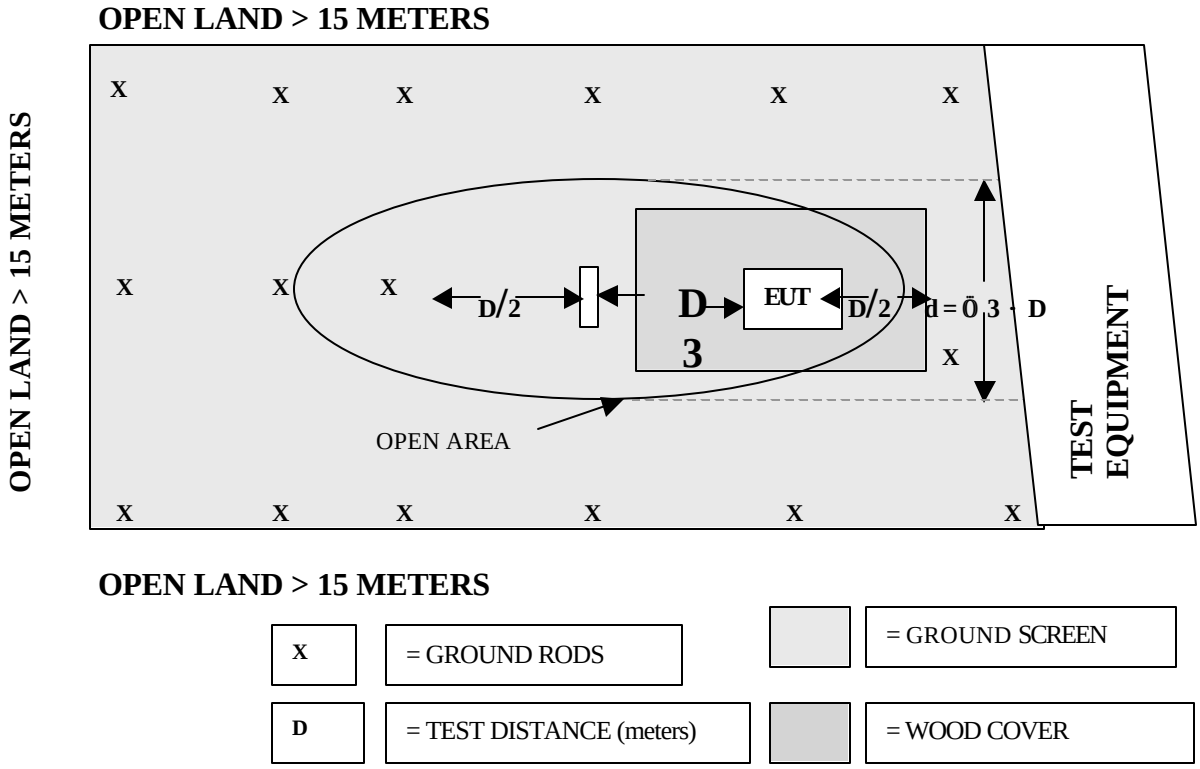
USED FOR THE PRIMARY TEST	FM Audio Transmitter M/N: FMTRNS01 S/N: Sample 1

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS, CHARTS AND PHOTOS

FIGURE 1: PLOT MAP AND LAYOUT OF RADIATED SITE



COM-POWER AL-130

ACTIVE LOOP ANTENNA

S/N: 17067

CALIBRATION DATE: MARCH 24,2004

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
0.009	12.0	1	10.7
0.01	11.2	2	11.3
0.02	10.5	3	11.0
0.03	12.2	4	11.0
0.04	11.8	5	11.6
0.05	10.2	6	11.7
0.06	11.5	7	11.2
0.07	10.5	8	11.1
0.08	10.1	9	11.4
0.09	10.1	10	8.8
0.1	10.0	12	10.8
0.2	7.8	14	11.0
0.3	10.2	15	11.1
0.4	10.3	16	11.2
0.5	10.3	18	9.0
0.6	10.6	20	9.0
0.7	10.5	25	9.0
0.8	10.4	30	7.7
0.9	10.7		

COM-POWER AB-100

BICONICAL ANTENNA

S/N: 1535

CALIBRATION DATE: JAN. 13, 2005

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	16.0	120	10.7
35	13.8	125	11.2
40	13.6	140	11.7
45	13.2	150	12.6
50	12.4	160	13.6
55	11.2	175	14.3
60	10.6	180	13.7
65	9.7	200	15.8
70	9.5	225	16.7
80	7.7	250	15.8
90	8.4	275	16.5
100	9.3	300	18.9

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 01116

CALIBRATION DATE: DEC. 28, 2004

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	12.1	650	19.8
330	16.7	700	20.5
340	15.2	725	21.4
350	14.0	750	23.0
360	14.1	800	25.2
370	13.2	850	24.7
400	13.9	900	25.0
425	13.5	925	24.4
450	13.9	950	25.6
500	15.6	975	25.3
550	16.9	1000	24.4
600	16.5		

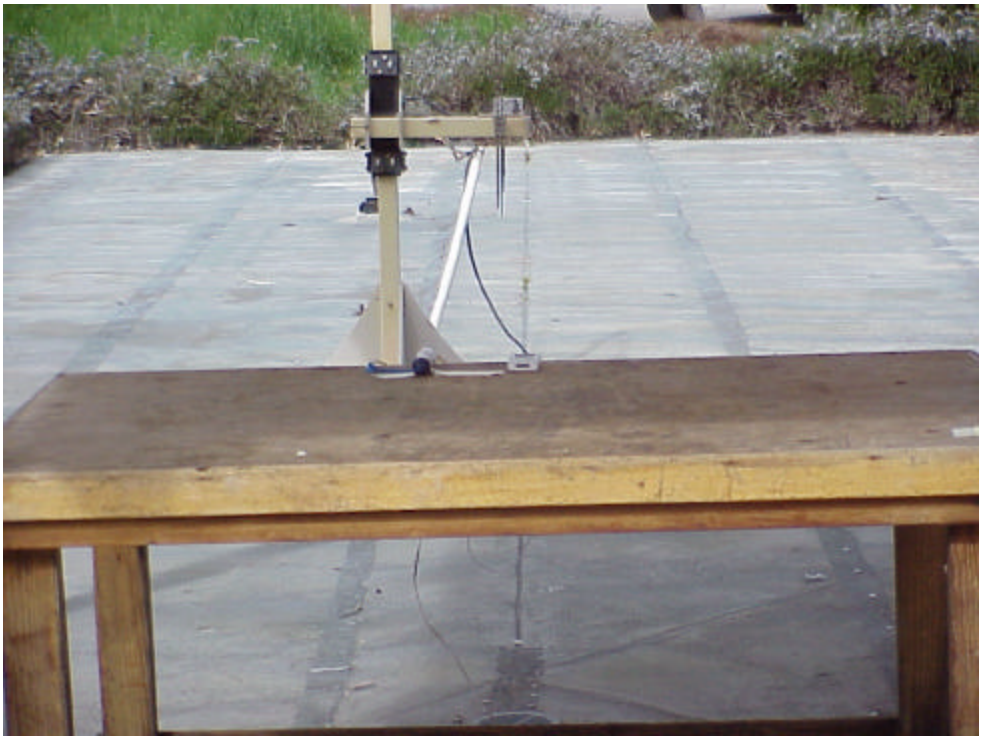
COM-POWER PA-103

PREAMPLIFIER

S/N: 161068

CALIBRATION DATE: DEC. 7, 2004

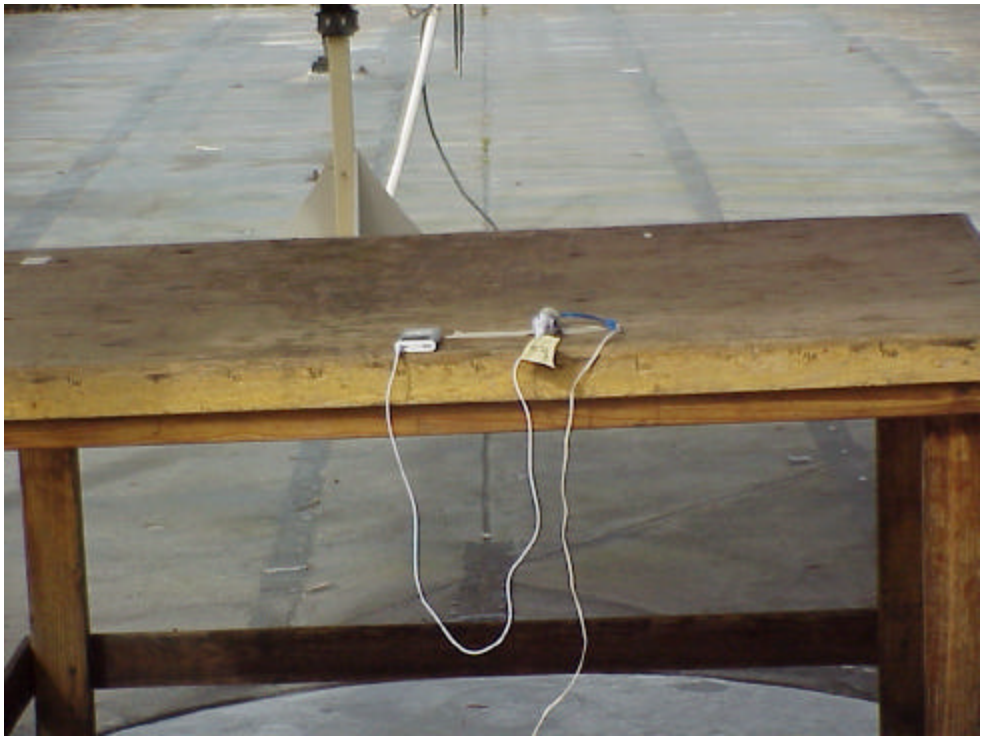
FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	33.3	300	32.7
40	33.3	350	32.8
50	33.2	400	32.7
60	33.2	450	32.5
70	33.2	500	32.6
80	33.2	550	32.4
90	33.2	600	32.1
100	33.0	650	32.6
125	33.1	700	32.1
150	33.1	750	32.2
175	33.0	800	32.0
200	32.9	850	32.1
225	32.8	900	32.0
250	32.9	950	31.8
275	32.9	1000	31.5



FRONT VIEW

SCOSCHE INDUSTRIES INC.
FM AUDIO TRANSMITTER
MODEL NUMBER: FMTRNS01
FCC PART 15 SUBPART C - RADIATED EMISSIONS – 2-15-05

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

SCOSCHE INDUSTRIES INC.
FM AUDIO TRANSMITTER
MODEL NUMBER: FMTRNS01
FCC PART 15 SUBPART C - RADIATED EMISSIONS – 2-15-05

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

COMPANY NAME: Scosche Industries, Inc **DATE:** 2-15-05

EUT: FM Audio Transmitter **EUT S/N:** #1

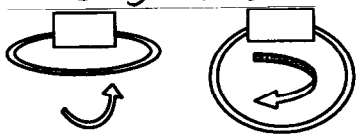
EUT MODEL: FMTRNS01 **LOCATION:** ☐ BREA ☐ SILVERADO ☑ AGOURA

SPECIFICATION: Fcc **CLASS:** B **TEST DISTANCE:** 3M **LAB:** F

ANTENNA: ☑ LOOP ☐ BICONICAL ☐ LOG ☐ HORN **POLARIZATION:** ☐ VERT ☐ HORIZ

☑ QUALIFICATION ☐ ENGINEERING ☐ MFG. AUDIT **ENGINEER:** A. Khan

NOTES: The EuT was TesTed from 9Khz to 30MHz



Pol. A Pol. B

Frequency (MHz)	Peak Reading (dBuV/m)	Quasi-Peak (dBuV/m)	Antenna Height (meters)	Azimuth (degrees)	Delta * (dB)	Corrected Limit (dBuV/m)	Comments
No Readings Found.							

* **DELTA** = METER READING - CORRECTED LIMIT

COMPATIBLE ELECTRONICS

Test Location : Compatible Electronics
Customer : Jack DeBiasio
Manufacturer : Scosche Industries, Inc.
Eut name : FM Audio Transmitter
Model : FMTRNS01
Serial # : 1
Specification : FCC Pt. 15- Class B
Distance correction factor (20 * log(test/spec)) : 0.00
Test Mode : Clock: 7.6 MHz

Page : 1/1
Date : 02/15/2005
Time : 01:06:26 PM
Lab : F
Test Distance : 3.00 Meters

A. KHAN

Pol	Freq	Reading	Cable loss	Antenna factor	Amplifier gain	Corr'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB
1V	30.019	43.60	1.90	15.99	33.30	28.19	40.00	-11.81
2V	37.606	42.80	1.98	13.69	33.30	25.17	40.00	-14.83
3V	45.332	44.80	2.11	13.14	33.24	26.81	40.00	-13.19
4V	53.036	42.80	2.30	11.66	33.20	23.55	40.00	-16.45
5V	60.768	47.10	2.49	10.46	33.20	26.85	40.00	-13.15
6V	76.032	46.30	2.59	8.39	33.20	24.07	40.00	-15.93
7V	114.477	48.00	2.96	10.34	33.06	28.24	43.50	-15.26
8H	29.888	40.30	1.90	16.00	33.30	24.90	40.00	-15.10
9H	37.459	38.50	1.98	13.70	33.30	20.88	40.00	-19.12
10H	45.092	39.60	2.11	13.18	33.25	21.65	40.00	-18.35
11H	52.695	38.00	2.29	11.74	33.20	18.83	40.00	-21.17
12H	60.295	45.60	2.50	10.54	33.20	25.44	40.00	-14.56
13H	76.217	44.40	2.59	8.35	33.20	22.14	40.00	-17.86
14H	114.526	36.70	2.96	10.34	33.06	16.94	43.50	-26.56
15V	304.226	32.20	3.83	12.78	32.71	16.09	46.00	-29.91
16H	304.354	36.10	3.83	12.80	32.71	20.01	46.00	-25.99

The EUT was tested to 1 GHz.

RADIATED EMISSIONS (FCC SECTION 15.239)

COMPANY	**Scosche Industries**	**DATE**	**2/15/05**
EUT	**FM Transmitter**	**DUTY CYCLE**	**N/A %**
MODEL	**FMTRNS01**	**PEAK TO AVG**	**N/A dB**
S/N	**1**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Andre Khan**	**LAB**	**F**

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
										0.0	0.0					
										0.0						
										0.0						
										0.0						
										0.0						
										0.0						
88.3760	60.4	VA	H	3.0	200			8.3	2.7	35.2	0.0	0.0	**36.2**	**-11.8**	**48.0**	
		A								0.0	0.0	0.0				
		A								0.0	0.0	0.0				
88.3760	63.3	VA	V	1.0	350			8.3	2.7	35.2	0.0	0.0	**39.1**	**-8.9**	**48.0**	
		A								0.0	0.0	0.0				
		A								0.0	0.0	0.0				
		A	H							0.0						
		A								0.0						
		A								0.0						
		A	V							0.0						
		A								0.0						
		A								0.0						

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.239)

COMPANY	**Scosche Industries**	**DATE**	**2/15/05**
EUT	**FM Transmitter**	**DUTY CYCLE**	**N/A %**
MODEL	**FMTRNS01**	**PEAK TO AVG**	**N/A dB**
S/N	**1**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Andre Khan**	**LAB**	**F**

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
176.7520	48.4	Q	V	3.0	90			14.1	3.3	35.0	0.0	0.0	**30.8**	**-12.7**	**43.5**	
176.7520	48.4	Q	H	1.0	180			14.1	3.3	35.0		0.0	**30.8**	**-12.7**	**43.5**	

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.239)

COMPANY	**Scosche Industries**	**DATE**	**2/15/05**
EUT	**FM Transmitter**	**DUTY CYCLE**	**N/A %**
MODEL	**FMTRNS01**	**PEAK TO AVG**	**N/A dB**
S/N	**1**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Andre Khan**	**LAB**	**F**

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
											0.0					
265.1280	47.1	QP	H	2.5	70			16.7	3.7	34.8	0.0	0.0	**32.7**	**-13.3**	**46.0**	
											0.0					
											0.0					
265.1280	54.6	QP	V	1.0	0			16.7	3.7	34.8	0.0	0.0	**40.2**	**-5.8**	**46.0**	
											0.0					
											0.0					
		QP	H													
		QP	V													

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.239)

COMPANY	**Scosche Industries**	**DATE**	**2/15/05**
EUT	**FM Transmitter**	**DUTY CYCLE**	**N/A %**
MODEL	**FMTRNS01**	**PEAK TO AVG**	**N/A dB**
S/N	**1**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Andre Khan**	**LAB**	**F**

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
											0.0					
353.5040	36.6	QP	H	2.0	0			14.0	4.1	34.6	0.0	0.0	**20.1**	**-25.9**	**46.0**	
											0.0					
											0.0					
353.5040	35.8	QP	V	1.0	0			14.0	4.1	34.6	0.0	0.0	**19.3**	**-26.7**	**46.0**	
											0.0					
											0.0					
		QP	H													
		QP	V													

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.239)

COMPANY	**Scosche Industries**	**DATE**	**2/15/05**
EUT	**FM Transmitter**	**DUTY CYCLE**	**N/A %**
MODEL	**FMTRNS01**	**PEAK TO AVG**	**N/A dB**
S/N	**1**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Andre Khan**	**LAB**	**F**

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
											0.0					
441.8800		QP	H					13.9	4.5	34.2	0.0				**46.0**	**no reading found**
											0.0					
											0.0					
441.8800		QP	V					13.9	4.5	34.2	0.0				**46.0**	**No Reading found**
											0.0					
											0.0					
		QP	H													
		QP	V													

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.239)

COMPANY	**Scosche Industries**	**DATE**	**2/15/05**
EUT	**FM Transmitter**	**DUTY CYCLE**	**N/A %**
MODEL	**FMTRNS01**	**PEAK TO AVG**	**N/A dB**
S/N	**1**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Andre Khan**	**LAB**	**F**

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
											0.0					
530.2560		QP	H					16.4	4.7	34.4	0.0				**46.0**	**no reading found**
530.2560		QP	V					16.4	4.7	34.4	0.0				**46.0**	**No reading found**
		QP	H													
		QP	V													

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.239)

COMPANY	**Scosche Industries**	**DATE**	**2/15/05**
EUT	**FM Transmitter**	**DUTY CYCLE**	**N/A %**
MODEL	**FMTRNS01**	**PEAK TO AVG**	**N/A dB**
S/N	**1**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Andre Khan**	**LAB**	**F**

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
											0.0					
618.6320		QP	H					17.7	5.1	33.9	0.0				**46.0**	**no reading found**
618.6320		QP	V					17.7	5.1	33.9	0.0				**46.0**	**no reading found**
		QP	H													
		QP	V													

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.239)

COMPANY	**Scosche Industries**	**DATE**	**2/15/05**
EUT	**FM Transmitter**	**DUTY CYCLE**	**N/A %**
MODEL	**FMTRNS01**	**PEAK TO AVG**	**N/A dB**
S/N	**1**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Andre Khan**	**LAB**	**F**

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
											0.0					
707.0080		QP	H					20.9	5.4	34.0	0.0				**46.0**	**no reading found**
707.0080		QP	V					20.9	5.4	34.0	0.0				**46.0**	**No reading found**
		QP	H													
		QP	V													

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** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.239)

COMPANY	**Scosche Industries**	**DATE**	**2/15/05**
EUT	**FM Transmitter**	**DUTY CYCLE**	**N/A %**
MODEL	**FMTRNS01**	**PEAK TO AVG**	**N/A dB**
S/N	**1**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Andre Khan**	**LAB**	**F**

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
											0.0					
795.3840		QP	H					25.0	5.6	33.8	0.0				**46.0**	**no reading found**
795.3840		QP	V					25.0	5.6	33.8	0.0				**46.0**	**no reading found**
		QP	H													
		QP	V													

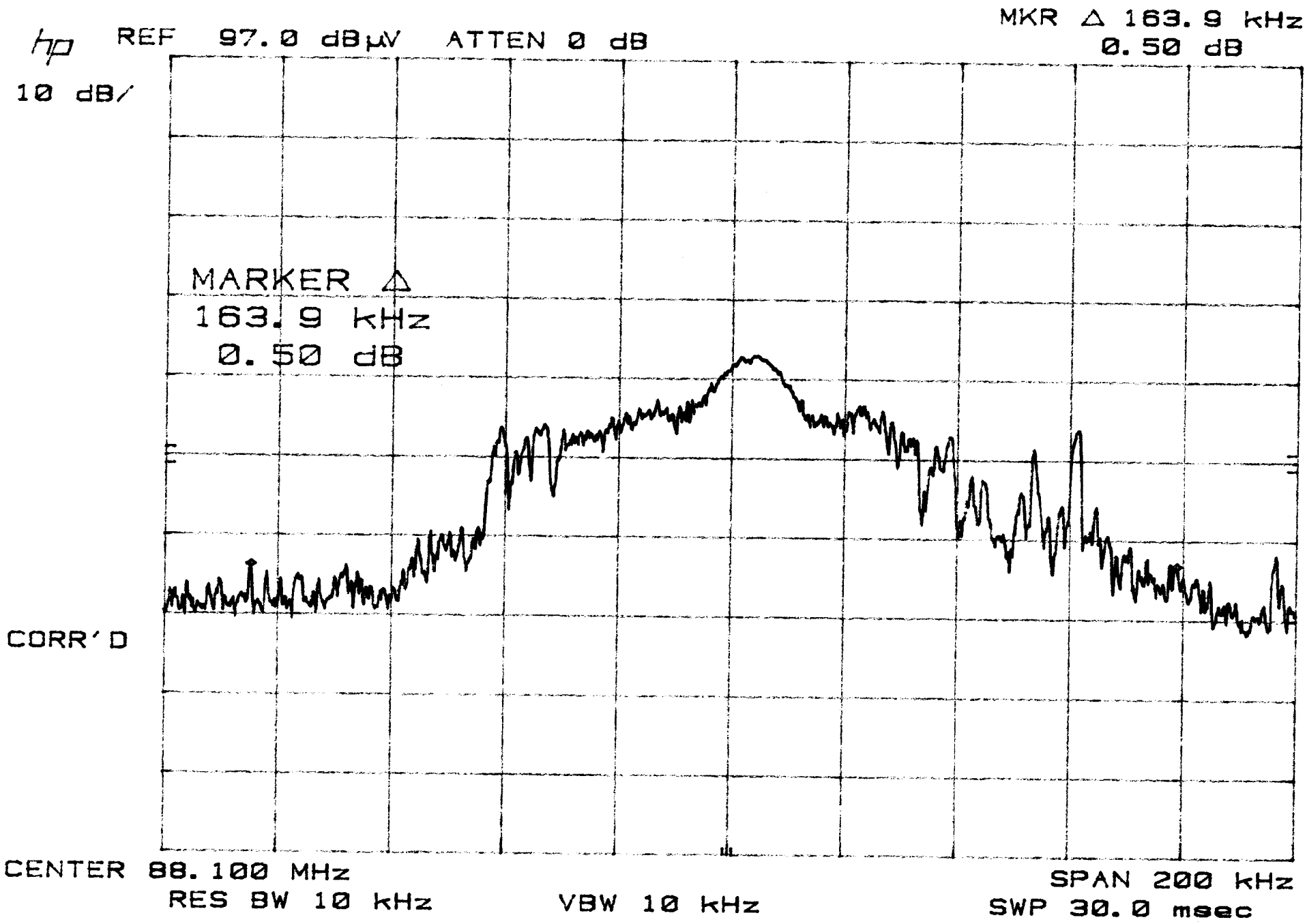
* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
** DELTA = SPEC LIMIT - CORRECTED READING

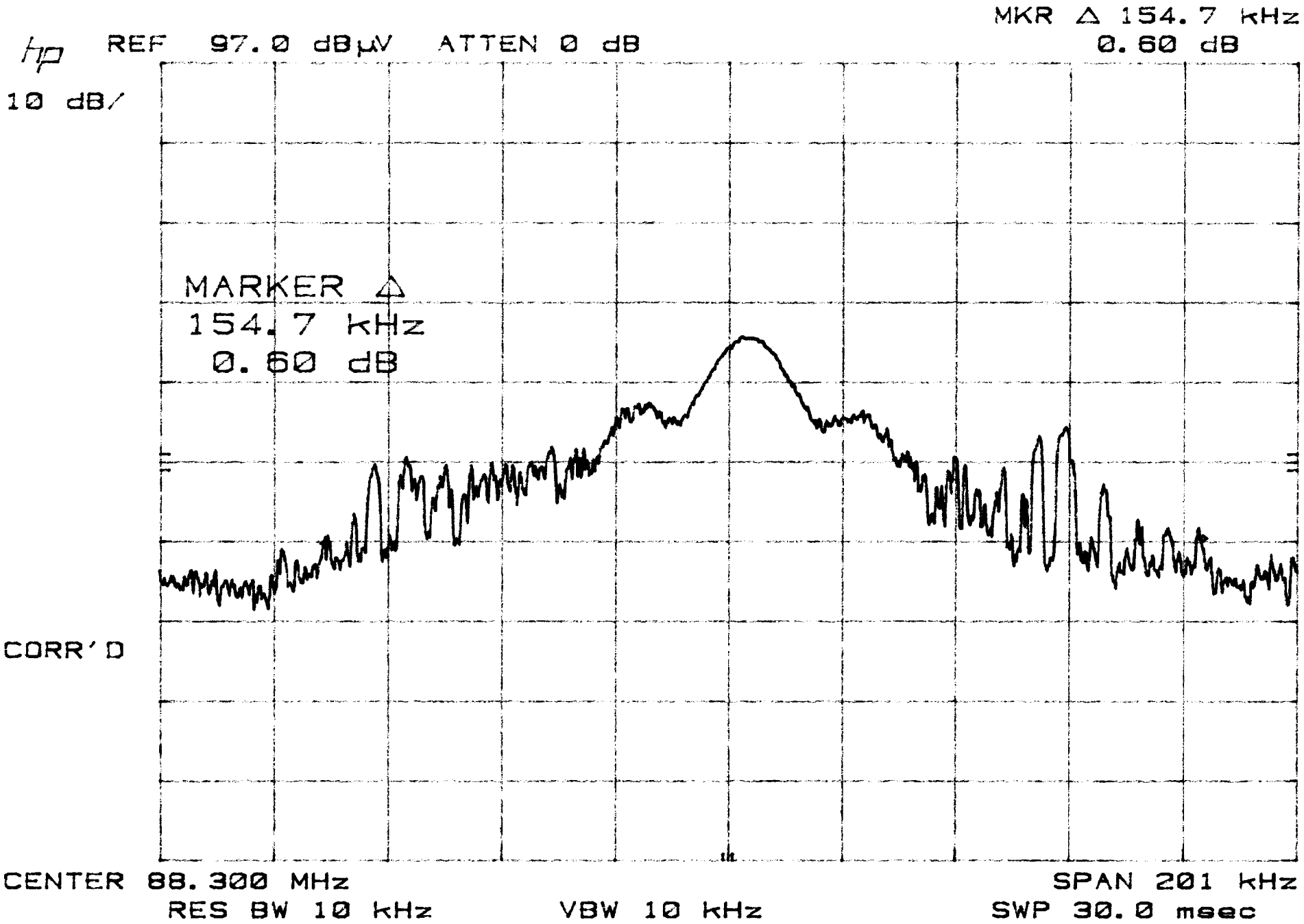
RADIATED EMISSIONS (FCC SECTION 15.239)

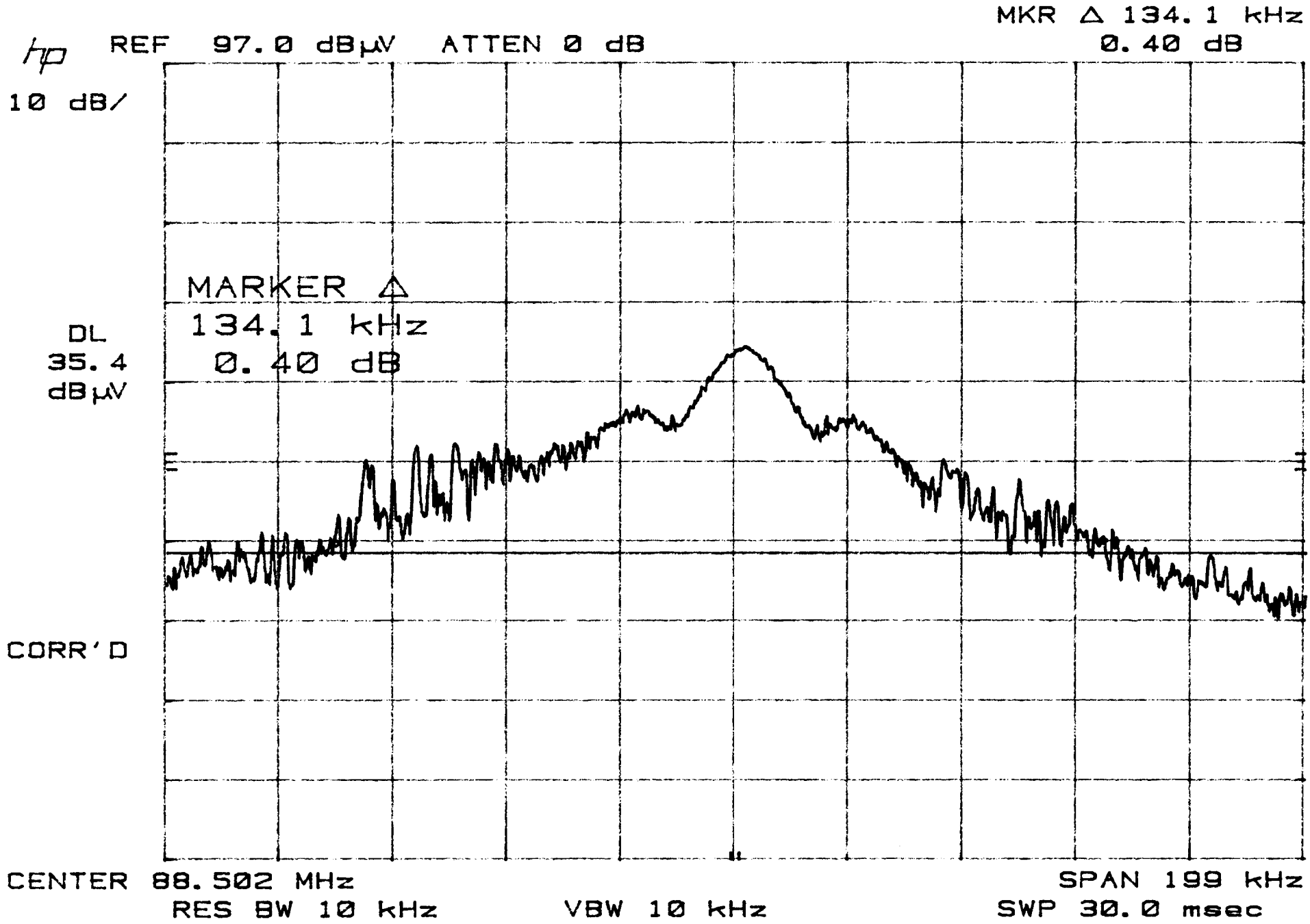
COMPANY	**Scosche Industries**	**DATE**	**2/15/05**
EUT	**FM Transmitter**	**DUTY CYCLE**	**N/A %**
MODEL	**FMTRNS01**	**PEAK TO AVG**	**N/A dB**
S/N	**1**	**TEST DIST.**	**3 Meters**
TEST ENGINEER	**Andre Khan**	**LAB**	**F**

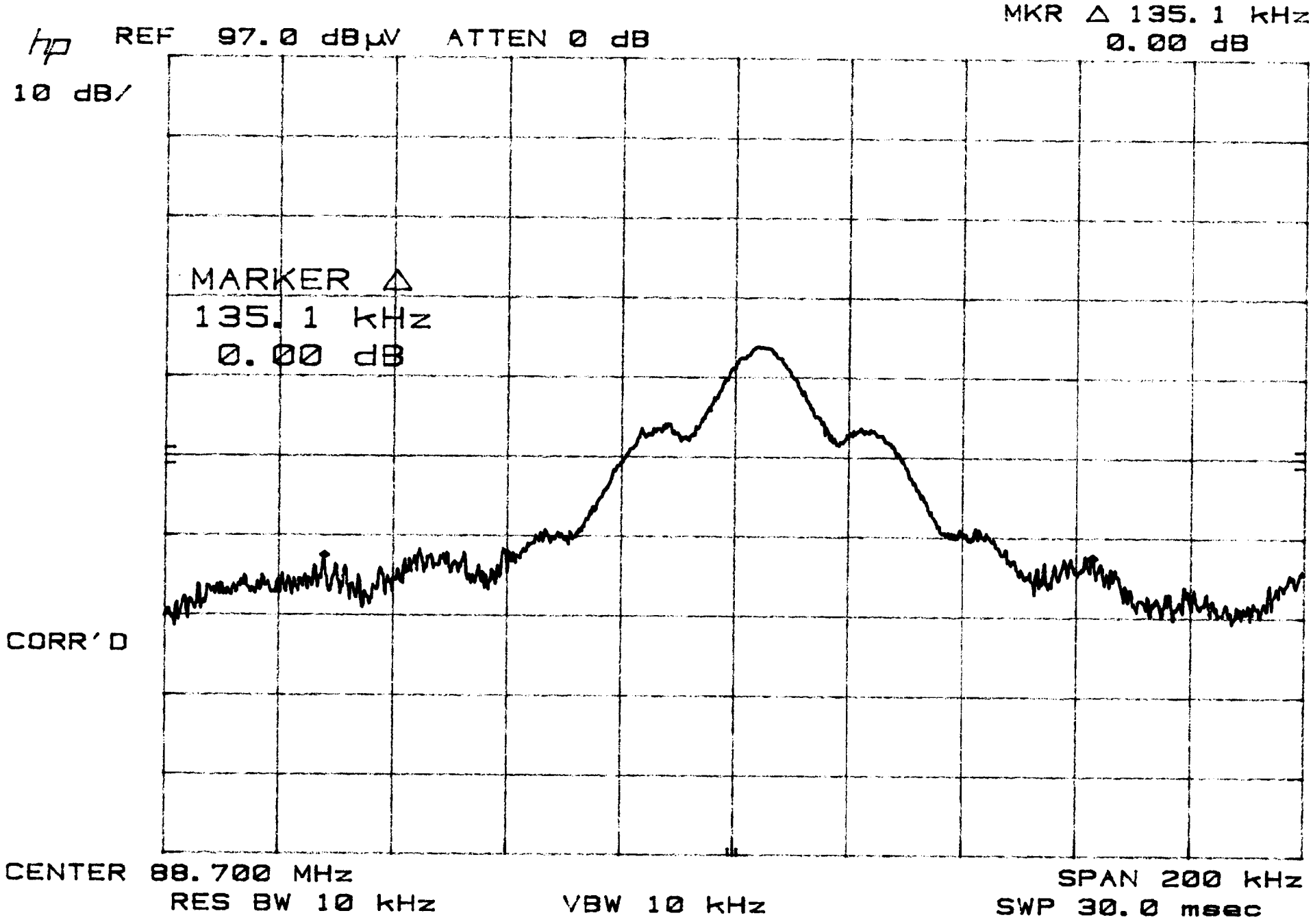
Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
											0.0					**No Reading Found**
883.7600		QP	H					24.9	5.7	33.4					**46.0**	**no reading found**
883.7600		QP	V					24.9	5.7	33.4					**46.0**	**no reaidng found**
		QP	H													
		QP	V													

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
** DELTA = SPEC LIMIT - CORRECTED READING


hp
REF 97.0 dBµV
ATTEN 0 dB
MKR Δ 163.9 kHz
0.50 dB
10 dB/
MARKER Δ
163.9 kHz
0.50 dB
CORR'D
CENTER 88.100 MHz
RES BW 10 kHz
VBW 10 kHz
SPAN 200 kHz
SWP 30.0 msec


MKR Δ 154.7 kHz
0.60 dB
REF 97.0 dBμV ATTEN 0 dB
10 dB/
MARKER Δ
154.7 kHz
0.60 dB
CORR'D
CENTER 88.300 MHz
SPAN 201 kHz
RES BW 10 kHz
VBW 10 kHz
SWP 30.0 msec


MKR Δ 134.1 kHz
0.40 dB
hp REF 97.0 dBμV ATTEN 0 dB
10 dB/
MARKER Δ
134.1 kHz
0.40 dB
DL
35.4
dBμV
CORR'D
CENTER 88.502 MHz
SPAN 199 kHz
RES BW 10 kHz
VBW 10 kHz
SWP 30.0 msec


hp
REF 97.0 dBμV
ATTEN 0 dB
MKR Δ 135.1 kHz
0.00 dB
10 dB/
MARKER Δ
135.1 kHz
0.00 dB
CORR'D
CENTER 88.700 MHz
RES BW 10 kHz
VBW 10 kHz
SPAN 200 kHz
SWP 30.0 msec

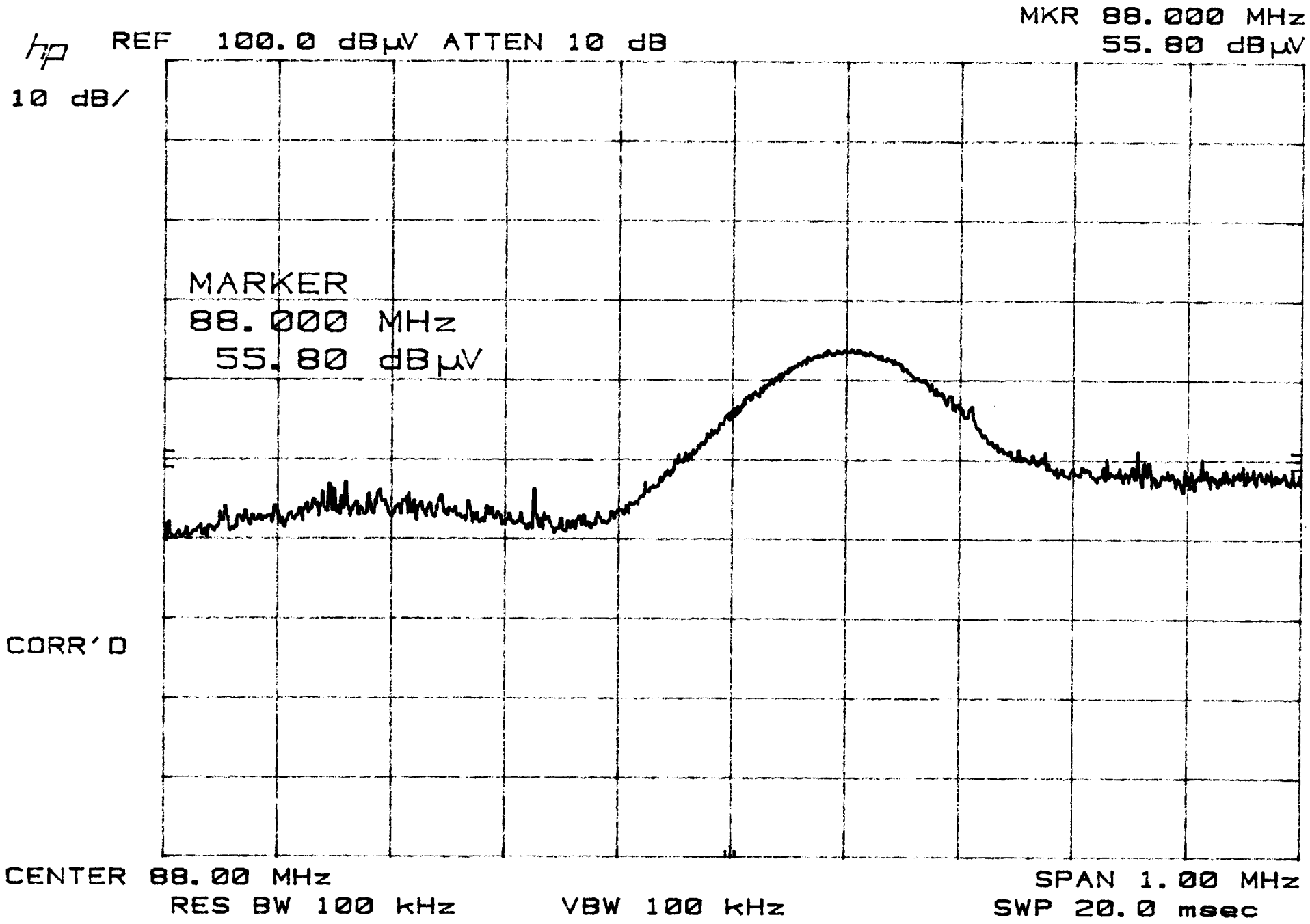
COMPATIBLE ELECTRONICS

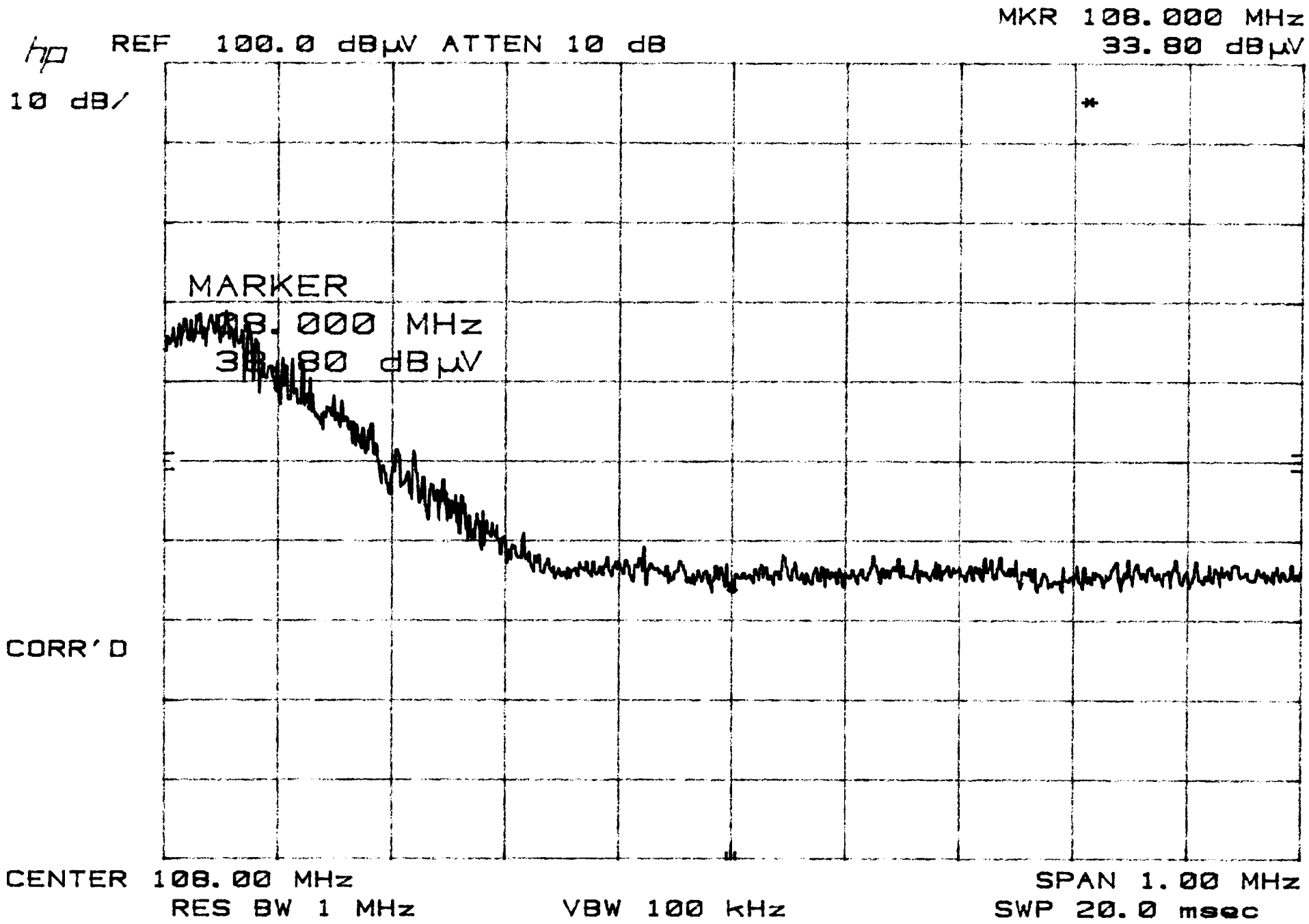
Test Location	: Compatible Electronics	**Page**	: 1/1
Customer	: Jack DeBiasio	**Date**	: 02/17/2005
Manufacturer	: Scosche Industries Inc.	**Time**	: 01:44:03 PM
Eut name	: FM Audio Transmitter	**Lab**	: F
Model	: FMTRNS01	**Test Distance**	: 3.00 Meters
Serial #	: Sample 1		
Specification	: FCC Pt. 15- Class B		

Distance correction factor (20 * log(test/spec)) : 0.00

Test Mode : Qualification
FCC 15.239 (88-108) BandEdges

Pol	Freq	Reading	Cable loss	Antenna factor	Amplifier gain	Corr'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB
1V	88.000	55.80	2.70	8.27	33.20	33.57	40.00	-6.43
2V	108.000	33.80	2.93	9.89	33.03	13.59	43.50	-29.91


MKR 88.000 MHz
55.80 dBµV
REF 100.0 dBµV ATTEN 10 dB
10 dB/
MARKER
88.000 MHz
55.80 dBµV
CORR'D
CENTER 88.00 MHz
SPAN 1.00 MHz
RES BW 100 kHz
VBW 100 kHz
SWP 20.0 msec


MKR 108.000 MHz
33.80 dBµV
REF 100.0 dBµV ATTEN 10 dB
10 dB/
MARKER
108.000 MHz
33.80 dBµV
CORR'D
CENTER 108.00 MHz
SPAN 1.00 MHz
RES BW 1 MHz
VBW 100 kHz
SWP 20.0 msec