EXHIBIT D

CKC TEST REPORT

ACCREDITED

FCC ID: N4RSDQSF5

CERTIFICATION TEST REPORT

FOR THE

MICRO POWER FM BROADCASTING SYSTEM, FX5

FCC PART 15.239 COMPLIANCE

COMPLIANCE

DATE OF ISSUE: MAY 10, 1998

PREPARED FOR:

Microcast Inc.
2689 Prairie Dunes Drive
Las Vegas, NV 89122-2728

P.O. No: Credit Card

W.O. No: 68799

Report No: **FC98-016**

Date of test: April 18, 1998

PREPARED BY:

Tracy Phillips
CKC Laboratories, Inc.
5473A Clouds Rest
Mariposa, CA 95338

APPROVED BY:

Dennis Ward
Director of Laboratories
CKC Laboratories

DOCUMENTATION CONTROL:

Tracy Phillips

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ADMINISTRATIVE INFORMATION

DATE OF TEST:	April 18, 1998
PURPOSE OF TEST:	To demonstrate the compliance of the Micro Power FM Broadcasting System, FX5, with the requirements for FCC Part 15.239 devices.
MANUFACTURER:	Microcast Inc. 2689 Prairie Dunes Drive Las Vegas, NV 89122-2728
REPRESENTATIVE:	Wayne Slater
TEST LOCATION:	CKC Laboratories, Inc. 110 Olinda Place Brea, CA 92621
TEST PERSONNEL:	Eddie Wong
TEST METHOD:	ANSI C63.4 1992
FREQUENCY RANGE TESTED:	450 kHz - 1000 MHz
EQUIPMENT UNDER TEST:	**FM Broadcasting system** Manuf: Microcast, Inc. Model: FX5 FM Serial: N/A FCC ID: Pending

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SUMMARY OF RESULTS

The Microcast Inc. Micro Power FM Broadcasting System, FX5, was tested in accordance with ANSI C63.4 1992.

As received, the above equipment was found to be fully compliant with the limits of FCC Part 15.239. The results in this report apply only to the items tested, as identified herein.

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

FX5 Micro Power FM Broadcasting System

MEASUREMENT UNCERTAINTY

Associated with data in this report is a ±4dB measurement uncertainty.

PERIPHERAL DEVICES

The EUT was not tested with peripheral devices.

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REPORT OF MEASUREMENTS

The following tables report the highest emissions levels recorded during the tests performed on the Micro Power FM Broadcasting System, FX5. The data sheets from which these tables were compiled are contained in Appendix B.

Table 1: Six Highest Radiated Emission Levels

FREQUENCY MHz	METER READING dBμV	CORRECTION FACTORS Ant dB	Amp dB	Cable dB	Dist dB	CORRECTED READING dBμV/m	SPEC LIMIT dBμV/m	MARGIN dB	NOTES
60.006	50.4	8.2	-28.2	1.2		31.6	40.0	-8.4	V
66.013	49.2	7.6	-28.2	1.3		29.9	40.0	-10.1	V
69.635	48.5	7.3	-28.2	1.4		29.0	40.0	-11.0	V
88.311	57.2	9.1	-28.0	1.6		39.9	47.9	-8.0	VA
106.488	56.5	13.1	-28.1	1.9		43.4	47.9	-4.5	VA
199.987	42.0	16.6	-28.0	2.7		33.3	43.5	-10.2	H

Test Method: ANSI C63.4 1992
Spec Limit : FCC Class B
Test Distance: 3 Meters

NOTES:
H = Horizontal Polarization
V = Vertical Polarization
N = No Polarization
D = Dipole Reading
Q = Quasi Peak Reading
A = Average Reading

COMMENTS: EUT is an intentional radiator, broadcasting between 88-108 MHz. EUT is placed on the turntable. Operation mode: On the air, headphones connected. Wire connecting the antenna and the RF case is shielded with Al foil. 22K resistor installed inside the RF case between the antenna and the RF output. Antenna height = 26" extension. 115VAC, 60 Hz, 21°C, 34% relative humidity.

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Table 2: Six Highest Conducted Emission Levels

FREQUENCY MHz	METER READING dBµV	CORRECTION FACTORS Lisn dB	dB	dB	dB	CORRECTED READING dBµV	SPEC LIMIT dBµV	MARGIN dB	NOTES
0.452274	38.5	0.0				38.5	48.0	-9.5	BQ
0.539858	40.6	0.0				40.6	48.0	-7.4	W
0.569811	38.9	0.0				38.9	48.0	-9.1	B
0.640332	41.2	0.0				41.2	48.0	-6.8	B
0.776067	35.7	0.0				35.7	48.0	-12.3	B
1.261701	34.6	0.0				34.6	48.0	-13.4	B

Test Method: ANSI C63.4 1992
Spec Limit : FCC Class B
Test Distance: No Distance

NOTES: Q = Quasi Peak Reading
A = Average Reading
B = Black Lead
W = White Lead

COMMENTS: EUT is an intentional radiator, broadcasting between 88-108 MHz. EUT is placed on the turntable. Operation mode : On the air, headphones connected. Wire connecting the antenna and the RF case is shielded with Al foil. 22K resistor installed inside the RF case between the antenna and the RF output. Antenna height = 26" extension. 115VAC, 60 Hz, 21°C, 34% relative humidity.

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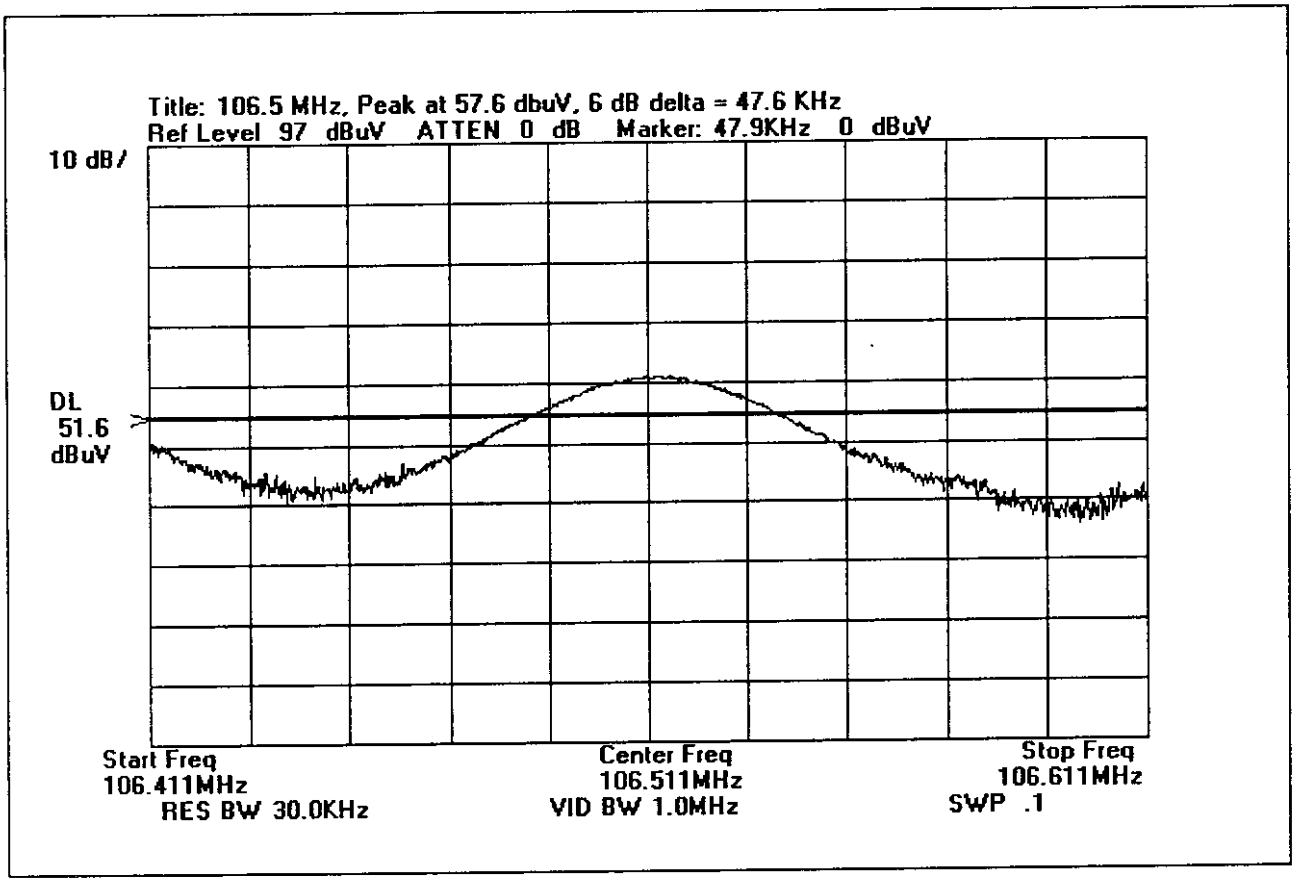
Occupied Bandwidth Plot Part 15.239(a)



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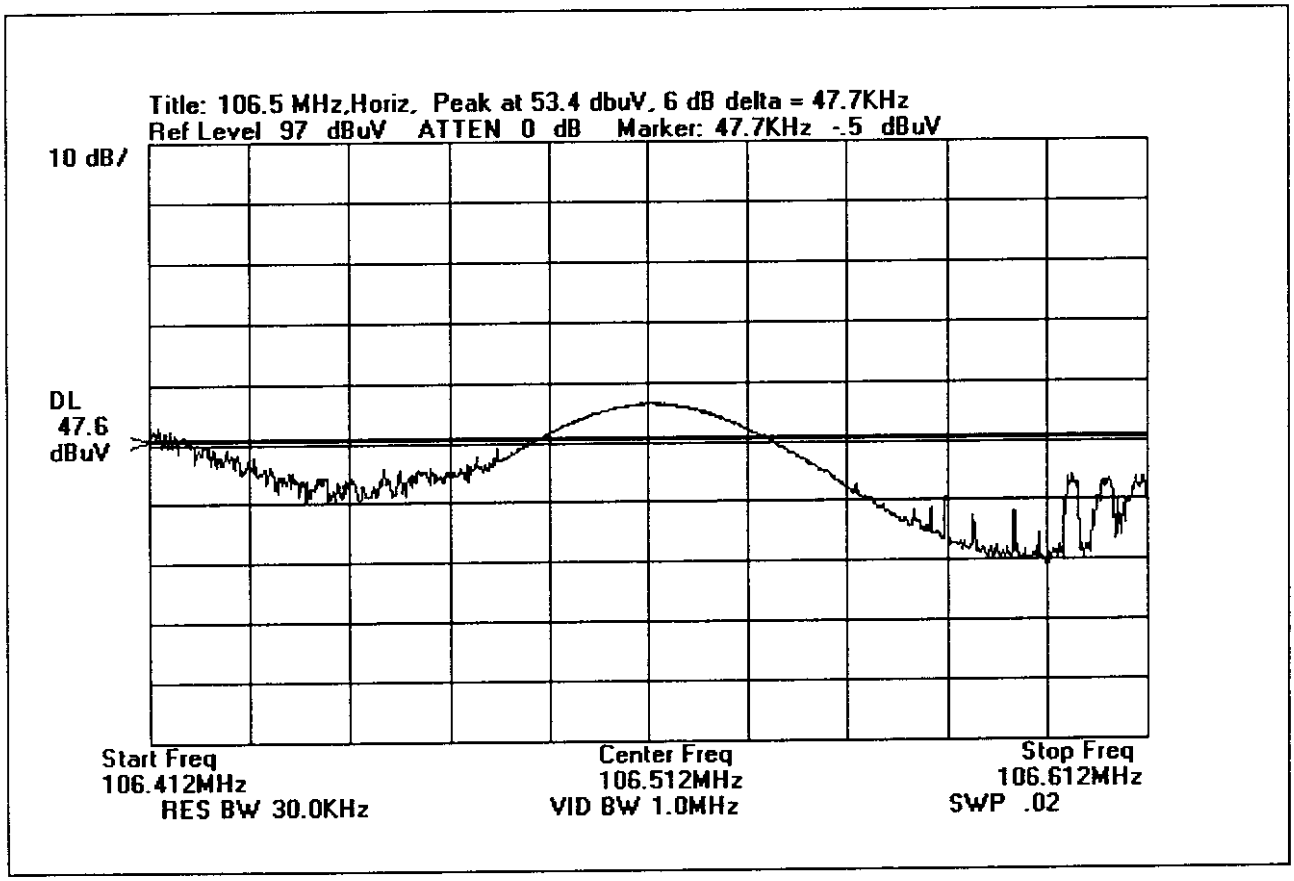
Occupied Bandwidth Plot Part 15.239(a)



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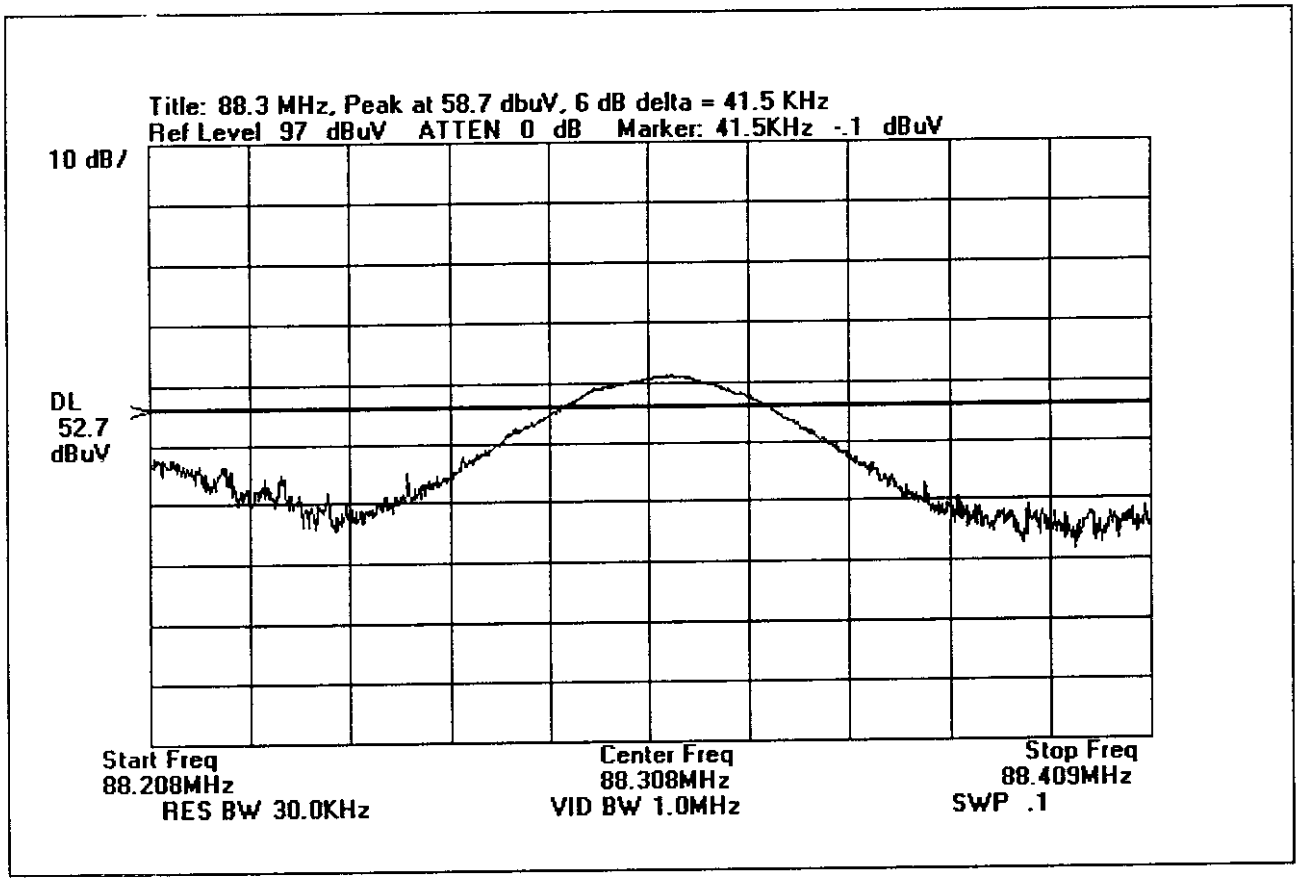
Occupied Bandwidth Plot Part 15.239(a)



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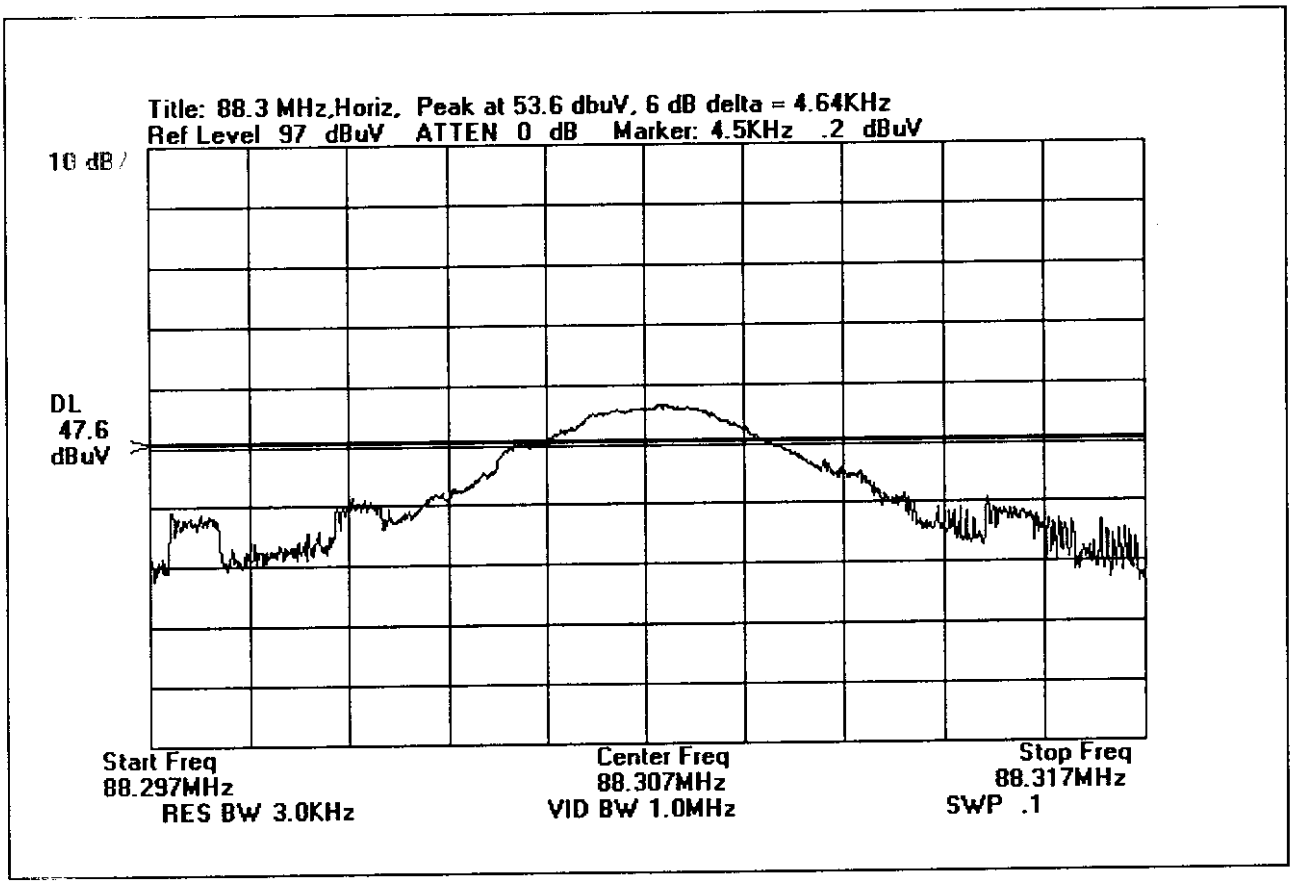
Occupied Bandwidth Plot Part 15.239(a)



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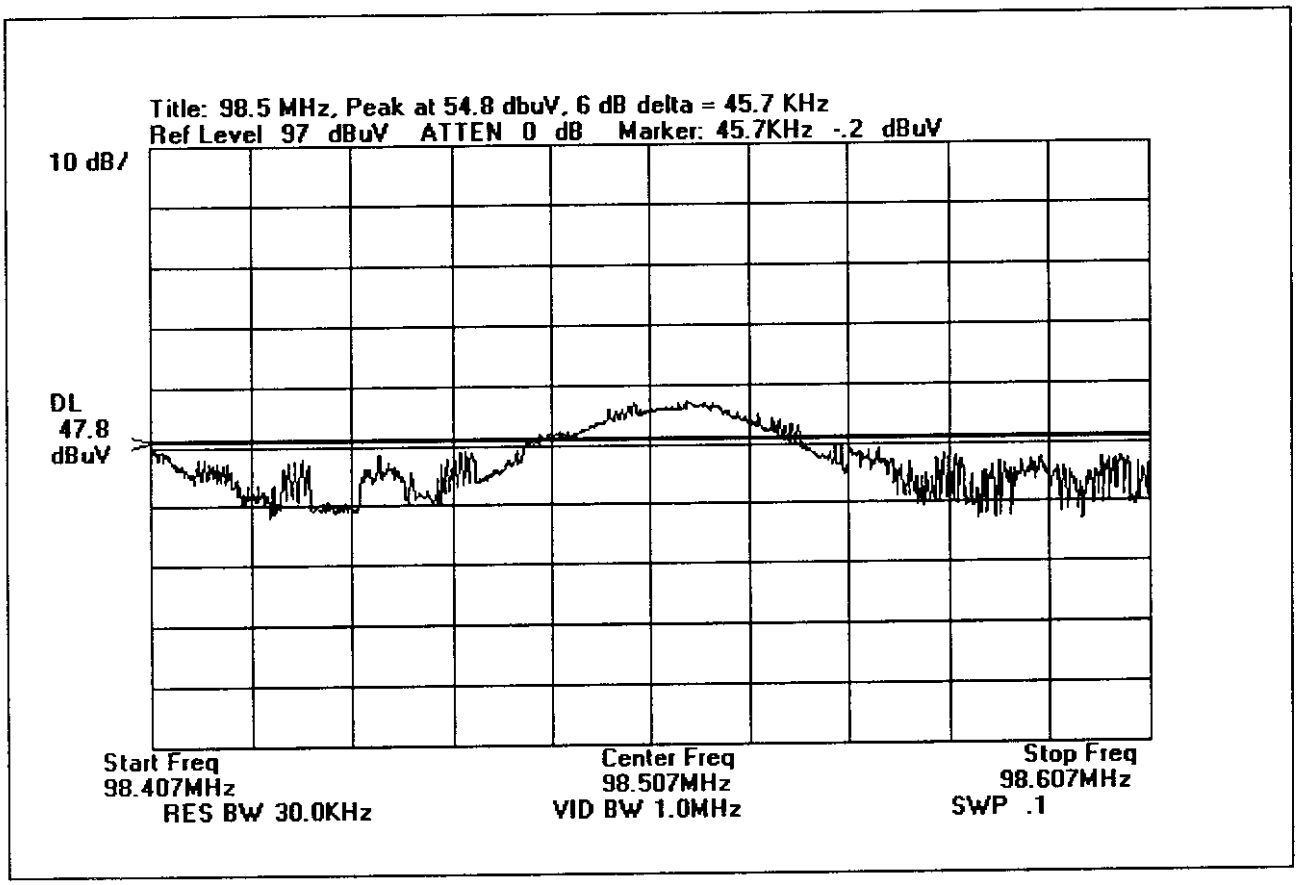
Occupied Bandwidth Plot Part 15.239(a)



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Occupied Bandwidth Plot Part 15.239(a)

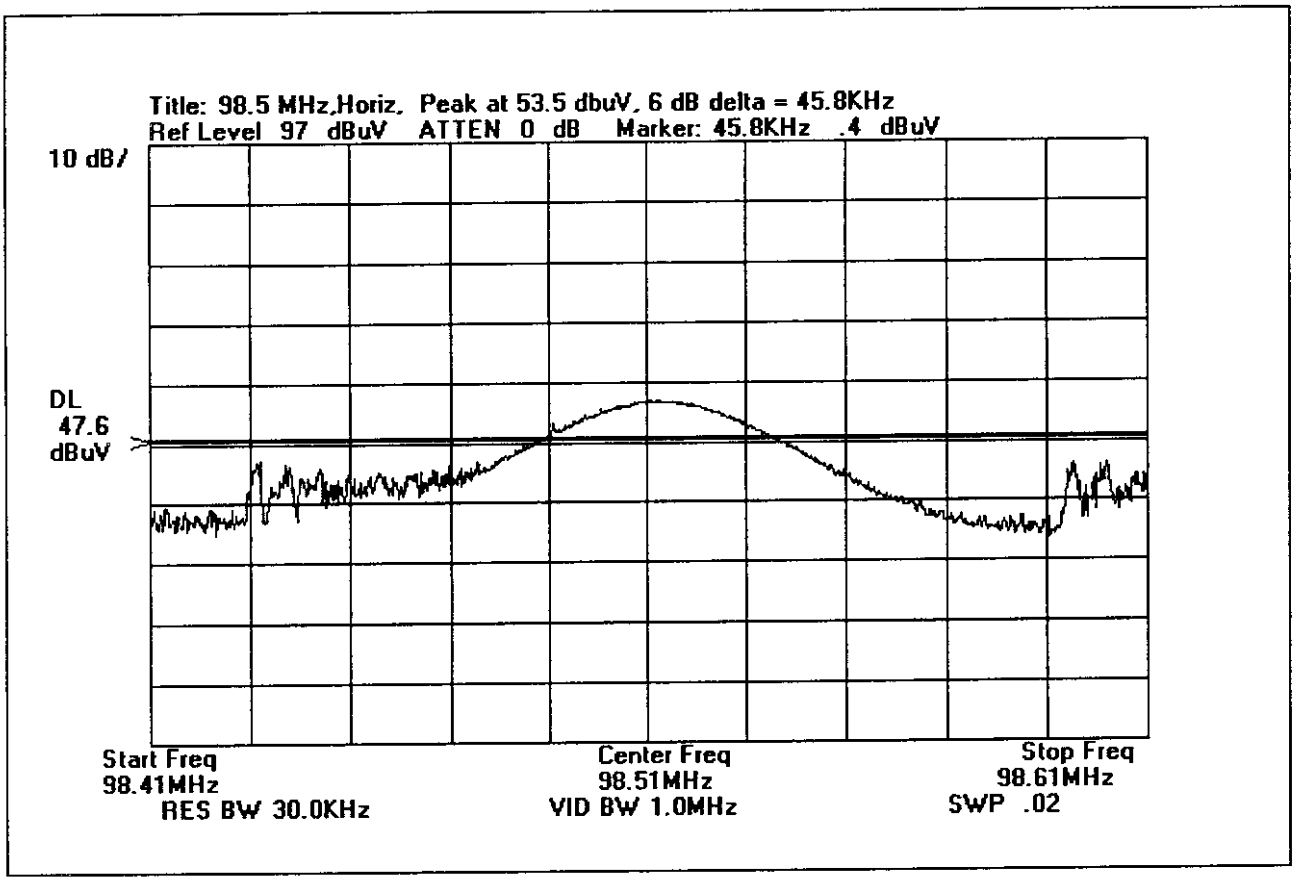

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TABLE A

LIST OF TEST EQUIPMENT

1. Spectrum Analyzer, Hewlett Packard, Model No. 8568A, S/N 2049A01287. Display 85680A S/N 2106A02109.
2. Preamp, Hewlett Packard, Model No. 8447D, S/N 1937A02548.
3. Quasi-Peak Adapter, Hewlett Packard, Model No. 85650A, S/N - 2030A00532.
4. Biconical Antenna, A & H Systems, Model No. SAS-200/540, S/N 220.
5. Log Periodic Antenna, A & H Systems, Model No. SAS-200/516, S/N 331.
6. LISN, Solar Electronics, Model No. 8028-50-TS-24-BNC, S/N Brea #1.
7. LISN, Solar Electronics, Model No. 50 uH, S/N Brea #2.
8. Brea site calibration date: May 8, 1997. Brea site calibration due date: May 8, 1998.
9. Test software, EMI Test 2.86.

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EUT SETUP

The equipment under test (EUT) listed was setup in a manner that represented its normal use. Any special conditions required for the EUT to operate normally are identified in the comments that accompany Tables 1 for radiated emissions and Table 2 for conducted emissions. Additionally, a complete description of all the ports and I/O cables is included on the information sheets contained in Appendix A.

During radiated emissions testing, the EUT was mounted on a nonconductive, rotating table 1 meter above the conductive grid. The nonconductive table dimensions were 1 meter by 1.5 meters. This configuration is typical for radiated emissions testing of table top devices.

I/O cables were connected to the EUT in the manner required for normal operation of the system.

During conducted emissions testing, the EUT was located 80 centimeters above the conducting ground plane on the same nonconducting table as was used for radiated testing. The metal plane was grounded to the earth through the green wire safety ground. Power to the EUT was provided via 3 meters of shielded power cable from a filter grounded to the metal plane to a LISN. The LISN was also grounded to the plane and attached to the LISN was a 4 ganged grounded outlet whose source was also shielded and 60 cm in length. All other objects were kept a minimum of 1 meter away from the EUT during the conducted test.

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TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed in Table A were used to collect both the radiated and conducted emissions data for the Micro Power FM Broadcasting System, FX5. For radiated measurements below 300 MHz, the biconical antenna was used. For frequencies from 300 to 1000 MHz, the log periodic antenna was used. All antennas were located at a distance of 3 meters from the edge of the EUT. Conducted emissions tests required the use of the FCC type LISN's.

The HP spectrum analyzer was used for all measurements. Table B shows the analyzer bandwidth settings that were used in designated frequency bands. For conducted emissions, a reference level of 100 dBμV and a vertical scale size of 10 dB per division were used. A 10 dB external attenuator was also used during conducted tests, with internal offset correction in the analyzer. During radiated testing, the measurements were made with 0 dB of attenuation, a reference level of 97 dBμV, and a vertical scale of 10 dB per division.

TABLE B : ANALYZER BANDWIDTH SETTINGS PER FREQUENCY RANGE

TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
CONDUCTED EMISSIONS	450 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz

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SPECTRUM ANALYZER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in Tables 1 and 2 indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "Peak" mode. Whenever a "Quasi-Peak" or "Average" reading is listed as one of the six highest readings, this is indicated as a "Q" or an "A" in Table 1 or Table 2. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data for the Micro Power FM Broadcasting System, FX5.

Peak

In this mode, the Spectrum Analyzer or test engineer recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature of the analyzer called "peak hold," the analyzer had the ability to measure transients or low duty cycle transient emission peak levels. In this mode the analyzer made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

Quasi-Peak

When the true peak values exceeded or were within 2 dB of the specification limit, quasi-peak measurements were taken using the HP 85650A Quasi-Peak Adapter for the HP 8568B Spectrum Analyzer. The detailed procedure for making quasi peak measurements contained in the HP Quasi-Peak Adapter manual were followed.

Average

When the frequencies exceed 1 GHz, average measurements may be made using the spectrum analyzer. To make these measurements, the test engineer reduces the video bandwidth on the analyzer until the modulation of the signal is filtered out. At this point the analyzer is set into the linear mode and the scan time is reduced.

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TEST METHODS

The radiated and conducted emissions data of the Micro Power FM Broadcasting System, FX5, was taken with the HP Spectrum Analyzer. Incorporating the applicable 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 Part 15.239 emissions limits to determine compliance.

Preliminary and final measurements were taken in order to better ensure that all emissions from the EUT were found and maximized.

Radiated Emissions Testing

During the preliminary radiated scan, the EUT was powered up and operating in its defined FCC test mode with the I/O cables and line cords facing the antenna. The frequency range of 30 MHz - 88 MHz was then scanned with the biconical antenna located about 1.5 meter above the ground plane in the vertical configuration. During this scan, the turntable was rotated and all peaks which were at or near the limit were recorded. The frequency range of 100 - 300 MHz was scanned with the biconical antenna in the same manner, and the peaks recorded. Lastly, a scan of the FM band from 88 - 110 MHz was made, using a reduced resolution bandwidth and a reduced frequency span. The biconical antenna was changed to the horizontal polarity and the above steps were repeated. After changing to the log periodic antenna in the horizontal configuration, the frequency range of 300 - 1000 MHz was scanned. The log periodic antenna was changed to the vertical polarity and the frequency range of 300 - 1000 MHz was again scanned. 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 scan, the equipment was again positioned with its I/O and power cables facing the antenna. A thorough scan of all frequencies was manually made using a small frequency span, rotating the turntable 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 maximized the readings with respect to the table rotation, antenna height and configuration of the cables. Maximizing of the cables was achieved by monitoring the spectrum analyzer on a closed circuit television monitor while the EUT cables were being moved and rearranged on the EUT table for maximum emissions. Photographs showing the final worst case configuration of the EUT are contained in Appendix A.

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Conducted Emissions Testing

For conducted emissions testing, a 30 to 50 second sweep time was used for automated measurements in the frequency bands of 450 kHz to 1.705 MHz, 1.705 MHz to 3 MHz, and 3 MHz to 30 MHz. All readings within 20 dB of the limit were recorded. At frequencies where the recorded emissions were close to the limit, further investigation was performed manually at a slower sweep rate.

TRANSMITTER CHARACTERISTICS

FCC Part 15.239(a) - Occupied Bandwidth Measurements

In accordance with Part 15.239(a), the emissions from the transmitter were confined within a band 200 kHz wide centered on the operating frequency. The 200 kHz band lied wholly within the frequency range of 88-108 MHz.

FCC Part 15.239(b) - Frequency Range of Transmitter: 88-108 MHz

In accordance with Part 15.239(b), the field strength of any emissions within the permitted 200 kHz band did not exceed 250 microvolts/meter at 3 meters. The emission limit was based on the measurement instrumentation employing an average detector. The provisions in 15.35 for limiting peak emissions apply.

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SAMPLE CALCULATIONS

The basic spectrum analyzer reading was converted using correction factors as shown in the six highest emissions readings in Tables 1 - 2. For radiated emissions in dBμV/m, the spectrum analyzer reading in dBμV was corrected by using the following formula:

Meter reading (dBμV)
+ Antenna Factor (dB)
+ Cable Loss (dB)
- Distance Correction (dB)
- Pre-amplifier Gain (dB)

= Corrected Reading(dBμV/m)

This reading was then compared to the applicable specification limit to determine compliance. For conducted emissions, no correction factors were needed when 50 μH LISN's were used.

A typical data sheet will display the following in column format:

#	Freq MHz	Rdng dBuV	Cable	Amp.	Bicon Ant.	Log Ant.	Dist	Corr dBuV/m	Spec	Margin	Polar

means reading number
Freq MHz is the frequency in MHz of the obtained reading.
Rdng dBuV is the reading obtained on the spectrum analyzer in dBμV.
Amp. is short for the preamplifier factor or gain in dB.
Bicon Ant. is the biconical antenna factor in dB.
Log Ant. is the log periodic antenna factor in dB.
Cable is the cable loss in dB of the coaxial cable on the OATS.
Dist is the distance factor (in dB). It is used when testing at a different test distance than the one stated in the spec.
Corr dBμV/m is the corrected reading which is now in dBμV/m (field strength).
Spec is the specification limit (dB) stated in the agency's regulations.
Margin is the closeness to the specified limit in dB; + is over and - is under the limit.
Polar is the Polarity of the antenna with respect to earth.

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APPENDIX A

INFORMATION ABOUT THE EQUIPMENT UNDER TEST

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INFORMATION ABOUT THE EQUIPMENT UNDER TEST	
Test Software/Firmware:	Production Version Firmware (2 micros)
CRT was displaying:	no CRT used in this product
Power Supply Manufacturer:	Mouser Electronics
Power Supply Part Number:	412-112054
AC Line Filter Manufacturer:	N/A
AC Line Filter Part Number:	N/A
The AC power cord is unremovable and is NOT shielded	
Line voltage used during testing:	115V 60Hz

I/O PORTS	
Type	#
External Microphone Input (-60dB sensitivity)	1
External Line Level Audio Input (-10dB sensitivity)	1
Auxiliary/Headphone Output 1 volt audio output / low impedance	1
Auxiliary Transmitter. Audio and DC Power output (no RF)	1
DC Power Input +12 VDC unregulated	1

CRYSTAL OSCILLATORS	
Type	Freq. In MHz
PIC Microcontroller located on Panel PCBA	4.194
PIC Microcontroller located on Transmitter PCBA	6.000

PRINTED CIRCUIT BOARDS				
Function	Model & Rev	Clocks, MHz	Layers	Location
Panel PCBA	98001 Rev. 1	4.194	2	Directly beneath front panel
Transmitter PBCA	980220 Nomad - Rev. 3	6.000	2	Fully enclosed in RFI shielded die-cast A1 enclosure, mounted in upper most interior of chassis near rear panel
Audio PCBA	980317 Rev. 1	none	2	Mounted to base of enclosure, Audio jacks mounted on this board exit rear panel

REQUIRED EUT CHANGES TO COMPLY:
See data sheets

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CABLE INFORMATION

Cable #:	1	Cable(s) of this type:	1
Cable Type:	RJ45 to RJ45	Shield Type:	none
Construction:	RJ45 cable with RJ45 plugs each end (inverting type)	Length In Meters:	.20
Connected To End (1):	J2 on Panel PCBA	Connected To End (2):	RJ45 jack on Transmitter Assy Case.
Connector At End (1):	RJ45 male	Connector At End (2):	RJ45 male
Shield Grounded At (1):	N/A	Shield Grounded At (2):	N/A
Part Number:	CBLRJ45	Number of Conductors:	8
Notes:	Internal to DUT		

Cable #:	2	Cable(s) of this type:	1
Cable Type:	Ribbon, multi-conductor	Shield Type:	none
Construction:	header connectors each end 8x2 pins	Length In Meters:	0.15
Connected To End (1):	J1 on Panel PCBA	Connected To End (2):	J6 on Audio PCBA
Connector At End (1):	Ribbon 8x2 header receptacle, 0.1" lead spacing	Connector At End (2):	Ribbon 8x2, header receptacle 0.1" lead spacing
Shield Grounded At (1):	N/A	Shield Grounded At (2):	N/A
Part Number:	CBLR8X2	Number of Conductors:	16
Notes:	Internal to DUT		

Cable #:	3	Cable(s) of this type:	1
Cable Type:	Audio, shielded microphone	Shield Type:	multi-strand
Construction:	wire ends	Length In Meters:	0.13
Connected To End (1):	Electret microphone element inside case	Connected To End (2):	"MIC" printed circuit pads on Audio PCBA
Connector At End (1):	none	Connector At End (2):	none
Shield Grounded At (1):	microphone element "-" connection	Shield Grounded At (2):	"MIC", "-" pad on Audio PCBA
Part Number:	CABLMIC	Number of Conductors:	2
Notes:	Internal to DUT		

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Cable #:	4	Cable(s) of this type:	1
Cable Type:	Zip cord	Shield Type:	none
Construction:	22awg x 2 stranded	Length In Meters:	0.2 max.
Connected To End (1):	Speaker Terminals, soldered	Connected To End (2):	J7 pads on Audio PCBA
Connector At End (1):	none - direct soldered	Connector At End (2):	none - direct soldered
Shield Grounded At (1):	N/A	Shield Grounded At (2):	N/A
Part Number:	WSPKR	Number of Conductors:	2
Notes:	Internal to DUT		

Cable #:	5	Cable(s) of this type:	1
Cable Type:	Stranded Wire	Shield Type:	none
Construction:	20awg stranded	Length In Meters:	0.2 max.
Connected To End (1):	SolderLug on Front Panel	Connected To End (2):	Ground lug or VR1, mounted on back panel
Connector At End (1):	none - direct soldered	Connector At End (2):	none - direct soldered
Shield Grounded At (1):	N/A	Shield Grounded At (2):	N/A
Part Number:	WSTCP	Number of Conductors:	2
Notes:	Internal to DUT		

Cable #:	6	Cable(s) of this type:	1
Cable Type:	Wire	Shield Type:	
Construction:		Length In Meters:	
Connected To End (1):	Antenna	Connected To End (2):	Transmitter PCBA
Connector At End (1):		Connector At End (2):	
Shield Grounded At (1):		Shield Grounded At (2):	Shielded enclosure containing Transmitter
Part Number:	CBLRANT	Number of Conductors:	
Notes:	Internal to DUT		

Cable Routing For Worst Case Emissions:
Cable length only allows routing as shown in photograph.

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APPENDIX B

MEASUREMENT DATA SHEETS

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Test Location: CKC LABORATORIES INC • 110 N. OLINDA PL. • BREA, CA 92823 • 714-993-6112

Customer: **Microcast, Inc.**
Specification: **FCC B RADIATED**
Test Type: **Maximized Emissions**
Equipment: **FM Broadcasting system**
Manufacturer: Microcast, Inc.
Model: FX5 FM
S/N: N/A

Date: Apr-18-98
Time: 21:39
Sequence#: 3

Tested By: Eddie Wong

Equipment Under Test **(* = EUT):**

Function	Manufacturer	Model #	S/N
FM Broadcasting system*	Microcast, Inc.	FX5 FM	NA

Support Devices:

Function	Manufacturer	Model #	S/N
None			

Test Conditions / Notes:

EUT is an intentional radiator, broadcasting between 88-108 MHz. EUT is placed on the turntable. Operation mode : On the air, headphones connected. Wire connecting the antenna and the RF case is shielded with Al foil. 22K resistor installed inside the RF case between the antenna and the RF output. Antenna height = 26" extension. 115VAC, 60 Hz, 21°C, 34% relative humidity.

Measurement Data: Sorted by Margin Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	BICON dB	CABLE dB	dB	AMP dB	Dist dB	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar
1	106.488	56.5	+13.1	+1.9		-28.1	+0.0	43.4	47.9	-4.5	Vert
	Average										
^	106.511	57.4	+13.1	+1.9		-28.1	+0.0	44.3	47.9	-3.6	Vert
3	88.311	57.2	+9.1	+1.6		-28.0	+0.0	39.9	47.9	-8.0	Vert
	Average										
^	88.312	58.2	+9.1	+1.6		-28.0	+0.0	40.9	47.9	-7.0	Vert
5	60.006	50.4	+8.2	+1.2		-28.2	+0.0	31.6	40.0	-8.4	Vert
6	106.514	52.5	+13.1	+1.9		-28.1	+0.0	39.4	47.9	-8.5	Horiz
	Average										
^	106.514	53.4	+13.1	+1.9		-28.1	+0.0	40.3	47.9	-7.6	Horiz

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8	66.013	49.2	+7.6	+1.3	-28.2	+0.0	29.9	40.0	-10.1	Vert
9	199.987	42.0	+16.6	+2.7	-28.0	+0.0	33.3	43.5	-10.2	Horiz
10	60.007	48.4	+8.2	+1.2	-28.2	+0.0	29.6	40.0	-10.4	Vert
11	69.635	48.5	+7.3	+1.4	-28.2	+0.0	29.0	40.0	-11.0	Vert
12	98.510	50.9	+11.5	+1.8	-28.1	+0.0	36.1	47.9	-11.8	Vert
Average										

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Test Location: CKC LABORATORIES INC • 110 N. OLINDA PL. • BREA, CA 92823 • 714-993-6112

Customer: **Microcast, Inc.**
Specification: **FCC B COND**
Test Type: **Conducted Emissions**
Equipment: **FM Broadcasting system**
Manufacturer: Microcast, Inc.
Model: FX5 FM
S/N: N/A

Date: Apr-18-98
Time: 22:00
Sequence#: 1
Tested By: Eddie Wong

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
FM Broadcasting system*	Microcast, Inc.	FX5 FM	NA

Support Devices:

Function	Manufacturer	Model #	S/N
None			

Test Conditions / Notes:

EUT is an intentional radiator, broadcasting between 88-108 MHz. EUT is placed on the turntable. Operation mode : On the air, headphones connected. Wire connecting the antenna and the RF case is shielded with Al foil. 22K resistor installed inside the RF case between the antenna and the RF output. Antenna height = 26" extension. 115VAC, 60 Hz, 21°C, 34% relative humidity.

Measurement Data: Sorted by Margin Test Lead: White

#	Freq	Rdng dBµV	dB	dB	dB	dB	Dist dB	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar
1	539.858k	40.6					+0.0	40.6	48.0	-7.4	White
2	637.299k	38.8					+0.0	38.8	48.0	-9.2	White
3	642.607k	38.7					+0.0	38.7	48.0	-9.3	White
4	455.430k Quasi Peak	36.3					+0.0	36.3	48.0	-11.7	White
^	451.517k	43.3					+0.0	43.3	48.0	-4.7	White
6	623.649k	36.3					+0.0	36.3	48.0	-11.7	White
7	479.160k Quasi Peak	35.2					+0.0	35.2	48.0	-12.8	White
8	488.293k Quasi Peak	34.8					+0.0	34.8	48.0	-13.2	White
^	488.294k	42.7					+0.0	42.7	48.0	-5.3	White
10	658.531k	34.8					+0.0	34.8	48.0	-13.2	White

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11 Quasi Peak	494.739k	34.4	+0.0	34.4	48.0	-13.6	White
^	494.739k	42.5	+0.0	42.5	48.0	-5.5	White
13	668.389k	33.8	+0.0	33.8	48.0	-14.2	White
14	683.555k	33.7	+0.0	33.7	48.0	-14.3	White
15	710.095k	32.8	+0.0	32.8	48.0	-15.2	White
16	702.512k	32.8	+0.0	32.8	48.0	-15.2	White
17	738.910k	32.2	+0.0	32.2	48.0	-15.8	White
18	770.000k	32.0	+0.0	32.0	48.0	-16.0	White
19	759.384k	32.0	+0.0	32.0	48.0	-16.0	White

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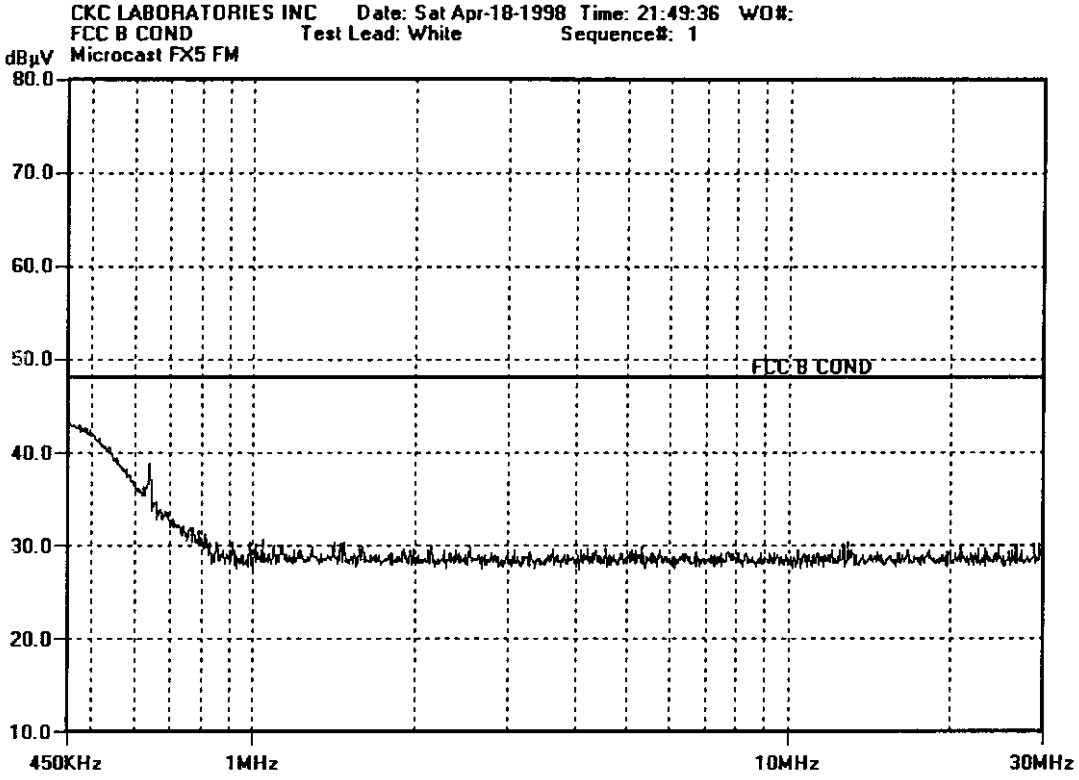

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Test Location: CKC LABORATORIES INC • 110 N. OLINDA PL. • BREA, CA 92823 • 714-993-6112

Customer: **Microcast, Inc.**
Specification: **FCC B COND**
Test Type: **Conducted Emissions**
Equipment: **FM Broadcasting system**
Manufacturer: Microcast, Inc.
Model: FX5 FM
S/N: N/A

Date: Apr-18-98
Time: 22:09
Sequence#: 2

Tested By: Eddie Wong

Equipment Under Test **(* = EUT):**

Function	Manufacturer	Model #	S/N
FM Broadcasting system*	Microcast, Inc.	FX5 FM	NA

Support Devices:

Function	Manufacturer	Model #	S/N
None			

Test Conditions / Notes:

EUT is an intentional radiator, broadcasting between 88-108 MHz. EUT is placed on the turntable. Operation mode : On the air, headphones connected. Wire connecting the antenna and the RF case is shielded with Al foil. 22K resistor installed inside the RF case between the antenna and the RF output. Antenna height = 26" extension. 115VAC, 60 Hz, 21°C, 34% relative humidity.

Measurement Data: Sorted by Margin Test Lead: Black

#	Freq	Rdng dBµV	dB	dB	dB	dB	Dist dB	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar
1	640.332k	41.2					+0.0	41.2	48.0	-6.8	Black
2	552.370k	39.6					+0.0	39.6	48.0	-8.4	Black
3	569.811k	38.9					+0.0	38.9	48.0	-9.1	Black
4	666.114k	38.8					+0.0	38.8	48.0	-9.2	Black
5	679.763k	38.6					+0.0	38.6	48.0	-9.4	Black
6	452.274k	38.5					+0.0	38.5	48.0	-9.5	Black
Quasi Peak											
^	452.275k	46.2					+0.0	46.2	48.0	-1.8	Black
8	610.000k	38.5					+0.0	38.5	48.0	-9.5	Black
9	596.351k	38.4					+0.0	38.4	48.0	-9.6	Black
10	715.403k	38.0					+0.0	38.0	48.0	-10.0	Black

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11	723.744k	37.8	+0.0	37.8	48.0	-10.2	Black
12	732.086k	37.5	+0.0	37.5	48.0	-10.5	Black
13	481.090k Quasi Peak	36.6	+0.0	36.6	48.0	-11.4	Black
^	481.090k	44.8	+0.0	44.8	48.0	-3.2	Black
15	502.701k Quasi Peak	36.5	+0.0	36.5	48.0	-11.5	Black
^	502.702k	43.1	+0.0	43.1	48.0	-4.9	Black
17	776.067k	35.7	+0.0	35.7	48.0	-12.3	Black
18	502.701k Quasi Peak	34.6	+0.0	34.6	48.0	-13.4	Black
19	1.262M	34.6	+0.0	34.6	48.0	-13.4	Black

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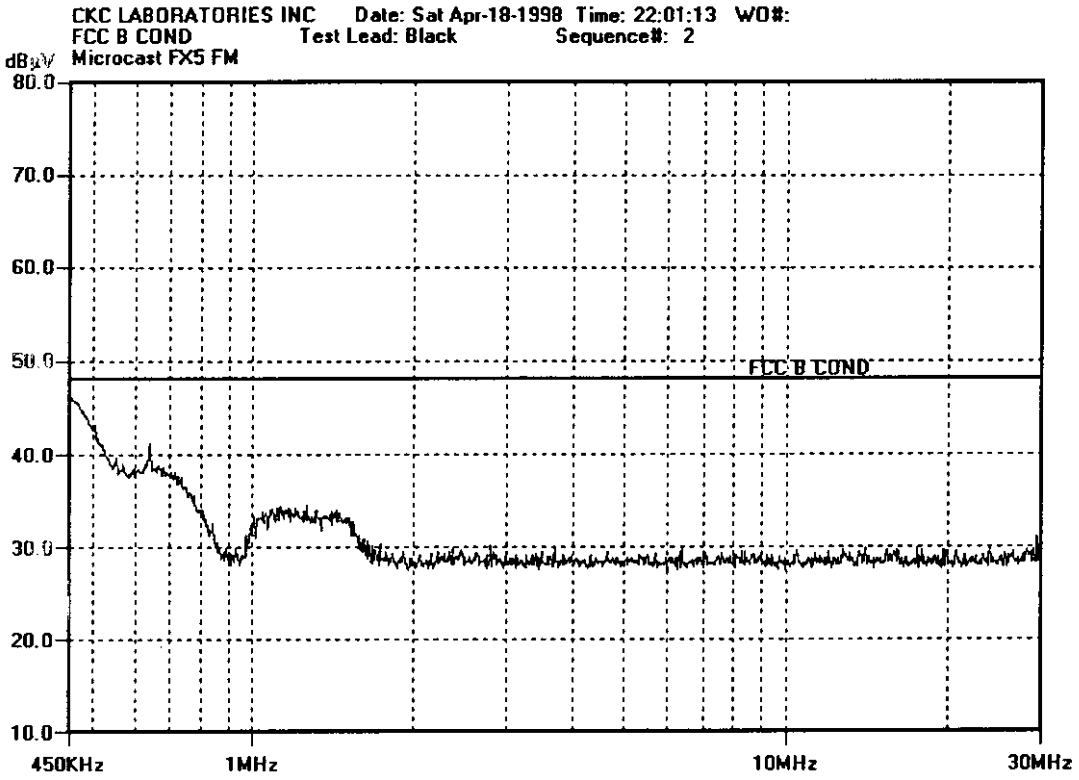

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REPORT OF MEASUREMENTS

The following tables report the highest emissions levels recorded during the tests performed on the Micro Power FM Broadcasting System, FX5. The data sheets from which these tables were compiled are contained in Appendix B.

Table 1: Six Highest Radiated Emission Levels

FREQUENCY MHz	METER READING dBµV	CORRECTION FACTORS Ant dB	Amp dB	Cable dB	Dist dB	CORRECTED READING dBµV/m	SPEC LIMIT dBµV/m	MARGIN dB	NOTES
60.006	50.4	8.2	-28.2	1.2		31.6	40.0	-8.4	V
66.013	49.2	7.6	-28.2	1.3		29.9	40.0	-10.1	V
69.635	48.5	7.3	-28.2	1.4		29.0	40.0	-11.0	V
88.311	57.2	9.1	-28.0	1.6		39.9	47.9	-8.0	VA
106.488	56.5	13.1	-28.1	1.9		43.4	47.9	-4.5	VA
199.987	42.0	16.6	-28.0	2.7		33.3	43.5	-10.2	H

Test Method: ANSI C63.4 1992
Spec Limit : FCC Class B
Test Distance: 3 Meters

NOTES:
H = Horizontal Polarization
V = Vertical Polarization
N = No Polarization
D = Dipole Reading
Q = Quasi Peak Reading
A = Average Reading

COMMENTS: EUT is an intentional radiator, broadcasting between 88-108 MHz. EUT is placed on the turntable. Operation mode: On the air, headphones connected. Wire connecting the antenna and the RF case is shielded with Al foil. 22K resistor installed inside the RF case between the antenna and the RF output. Antenna height = 16" extension. 115VAC, 60 Hz, 21°C, 34% relative humidity.

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Table 2: Six Highest Conducted Emission Levels

FREQUENCY MHz	METER READING dBµV	CORRECTION FACTORS Lisn dB	dB	dB	dB	CORRECTED READING dBµV	SPEC LIMIT dBµV	MARGIN dB	NOTES
0.452274	38.5	0.0				38.5	48.0	-9.5	BQ
0.539858	40.6	0.0				40.6	48.0	-7.4	W
0.569811	38.9	0.0				38.9	48.0	-9.1	B
0.640332	41.2	0.0				41.2	48.0	-6.8	B
0.776067	35.7	0.0				35.7	48.0	-12.3	B
1.261701	34.6	0.0				34.6	48.0	-13.4	B

Test Method: ANSI C63.4 1992
Spec Limit : FCC Class B
Test Distance: No Distance

NOTES: Q = Quasi Peak Reading
A = Average Reading
B = Black Lead
W = White Lead

COMMENTS: EUT is an intentional radiator, broadcasting between 88-108 MHz. EUT is placed on the turntable. Operation mode : On the air, headphones connected. Wire connecting the antenna and the RF case is shielded with Al foil. 22K resistor installed inside the RF case between the antenna and the RF output. Antenna height = 16" extension. 115VAC, 60 Hz, 21°C, 34% relative humidity.

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Test Location: CKC LABORATORIES INC • 110 N. OLINDA PL. • BREA, CA 92823 • 714-993-6112

Customer: **Microcast, Inc.**
Specification: **FCC B RADIATED**
Test Type: **Maximized Emissions**
Equipment: **FM Broadcasting system**
Manufacturer: Microcast, Inc.
Model: FX5 FM
S/N: N/A

Date: Apr-18-98
Time: 21:39
Sequence#: 3

Tested By: Eddie Wong

Equipment Under Test **(* = EUT):**

Function	Manufacturer	Model #	S/N
FM Broadcasting system*	Microcast, Inc.	FX5 FM	NA

Support Devices:

Function	Manufacturer	Model #	S/N
None			

Test Conditions / Notes:

EUT is an intentional radiator, broadcasting between 88-108 MHz. EUT is placed on the turntable. Operation mode : On the air, headphones connected. Wire connecting the antenna and the RF case is shielded with Al foil. 22K resistor installed inside the RF case between the antenna and the RF output. Antenna height = 16" extension. 115VAC, 60 Hz, 21°C, 34% relative humidity.

Measurement Data: Sorted by Margin Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	BICON dB	CABLE dB	dB	AMP dB	Dist dB	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar
1	106.488	56.5	+13.1	+1.9		-28.1	+0.0	43.4	47.9	-4.5	Vert
Average											
^	106.511	57.4	+13.1	+1.9		-28.1	+0.0	44.3	47.9	-3.6	Vert
3	88.311	57.2	+9.1	+1.6		-28.0	+0.0	39.9	47.9	-8.0	Vert
Average											
^	88.312	58.2	+9.1	+1.6		-28.0	+0.0	40.9	47.9	-7.0	Vert
5	60.006	50.4	+8.2	+1.2		-28.2	+0.0	31.6	40.0	-8.4	Vert
6	106.514	52.5	+13.1	+1.9		-28.1	+0.0	39.4	47.9	-8.5	Horiz
Average											
^	106.514	53.4	+13.1	+1.9		-28.1	+0.0	40.3	47.9	-7.6	Horiz

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Test Location: CKC LABORATORIES INC • 110 N. OLINDA PL. • BREA, CA 92823 • 714-993-6112

Customer:	**Microcast, Inc.**	Date:	Apr-18-98
Specification:	**FCC B COND**	Time:	22:00
Test Type:	**Conducted Emissions**	Sequence#:	1
Equipment:	**FM Broadcasting system**		
Manufacturer:	Microcast, Inc.	Tested By:	Eddie Wong
Model:	FX5 FM		
S/N:	N/A		

Equipment Under Test **(* = EUT):**

Function	Manufacturer	Model #	S/N
FM Broadcasting system*	Microcast, Inc.	FX5 FM	NA

Support Devices:

Function	Manufacturer	Model #	S/N
None			

Test Conditions / Notes:

EUT is an intentional radiator, broadcasting between 88-108 MHz. EUT is placed on the turntable. Operation mode : On the air, headphones connected. Wire connecting the antenna and the RF case is shielded with Al foil. 22K resistor installed inside the RF case between the antenna and the RF output. Antenna height = 16" extension. 115VAC, 60 Hz, 21°C, 34% relative humidity.

Measurement Data: Sorted by Margin Test Lead: White

#	Freq	Rdng dBµV	dB	dB	dB	dB	Dist dB	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar
1	539.858k	40.6					+0.0	40.6	48.0	-7.4	White
2	637.299k	38.8					+0.0	38.8	48.0	-9.2	White
3	642.607k	38.7					+0.0	38.7	48.0	-9.3	White
4	455.430k Quasi Peak	36.3					+0.0	36.3	48.0	-11.7	White
^	451.517k	43.3					+0.0	43.3	48.0	-4.7	White
6	623.649k	36.3					+0.0	36.3	48.0	-11.7	White
7	479.160k Quasi Peak	35.2					+0.0	35.2	48.0	-12.8	White
8	488.293k Quasi Peak	34.8					+0.0	34.8	48.0	-13.2	White
^	488.294k	42.7					+0.0	42.7	48.0	-5.3	White
10	658.531k	34.8					+0.0	34.8	48.0	-13.2	White

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Test Location: CKC LABORATORIES INC • 110 N. OLINDA PL. • BREA, CA 92823 • 714-993-6112

Customer: **Microcast, Inc.**
Specification: **FCC B COND**
Test Type: **Conducted Emissions**
Equipment: **FM Broadcasting system**
Manufacturer: Microcast, Inc.
Model: FX5 FM
S/N: N/A

Date: Apr-18-98
Time: 22:09
Sequence#: 2

Tested By: Eddie Wong

Equipment Under Test **(* = EUT):**

Function	Manufacturer	Model #	S/N
FM Broadcasting system*	Microcast, Inc.	FX5 FM	NA

Support Devices:

Function	Manufacturer	Model #	S/N
None			

Test Conditions / Notes:

EUT is an intentional radiator, broadcasting between 88-108 MHz. EUT is placed on the turntable. Operation mode : On the air, headphones connected. Wire connecting the antenna and the RF case is shielded with Al foil. 22K resistor installed inside the RF case between the antenna and the RF output. Antenna height = 16" extension. 115VAC, 60 Hz, 21°C, 34% relative humidity.

Measurement Data: Sorted by Margin Test Lead: Black

#	Freq	Rdng dBµV	dB	dB	dB	dB	Dist dB	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar
1	640.332k	41.2					+0.0	41.2	48.0	-6.8	Black
2	552.370k	39.6					+0.0	39.6	48.0	-8.4	Black
3	569.811k	38.9					+0.0	38.9	48.0	-9.1	Black
4	666.114k	38.8					+0.0	38.8	48.0	-9.2	Black
5	679.763k	38.6					+0.0	38.6	48.0	-9.4	Black
6	452.274k	38.5					+0.0	38.5	48.0	-9.5	Black
	Quasi Peak										
^	452.275k	46.2					+0.0	46.2	48.0	-1.8	Black
8	610.000k	38.5					+0.0	38.5	48.0	-9.5	Black
9	596.351k	38.4					+0.0	38.4	48.0	-9.6	Black
10	715.403k	38.0					+0.0	38.0	48.0	-10.0	Black

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