

TEST NUMBER - 295-00

FEDERAL COMMUNICATIONS COMMISSION

PART 15.239 CERTIFICATION TESTING 88 - 108 MHz

Subpart C - Intentional Radiators

for

Akoo.com
2500 North Harlem Avenue
Elmwood Park, IL 60707
202-418-2470

of

Kima

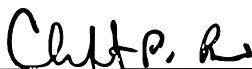
Kima Remote

FCCID#: 05UKS110R

on

August 18, 2000

Tested by



Clifton P. Brick

Reviewed by



Larry K. Stillings



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TEST DESCRIPTION

1. TEST OBJECTIVE

To test the Kima Remote KS110R to FCC Part 15.239,
Subpart C limits and write a report.

2. E.U.T. DESCRIPTION

GENERAL

The Kima Remote is a 900 MHz band receiver and 88 MHz
transmitter used for sending music to a stereo receiver.
The Kima Remote is a component of the Kima system.

SERIAL NUMBERS:

Pre-Production Prototype.



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TEST RESULTS AND CONCLUSIONS

PRODUCT TESTED - Kima

MODEL NUMBER - Kima Remote KS110R

RADIATED TEST RESULTS

The test results show that the emissions radiated from this equipment are in compliance with FCC Rules, Part 15, Subpart C, Section 15.209.

OCCUPIED BANDWIDTH & OUTPUT POWER

The test results show that the occupied bandwidth and output power of this equipment are in compliance with FCC Rules, Part 15, Subpart C, Section 15.239.

CONDUCTED TEST RESULTS

The test results show that the emissions conducted through the power line from this equipment are in compliance with FCC Rules, Part 15, Subpart C, Section 15.207.

ANALYSIS AND CONCLUSIONS

Based upon the radiated and conducted measurements we find that this equipment is within the limits of the FCC Rules, Part 15, Subpart C. All results are based on a test of one sample, and represent other production units, only in as much as a sample represents other production units. If any significant changes are made to the unit, the changes shall be evaluated and a retest may be required.

NOTES (Special conditions unique to this test)

None.



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TEST PROCEDURES

1. TEST EQUIPMENT

- A. HP 8546A (9 kHz - 6.5 GHz) EMI Receiver w/ RF Filter Section
Calibration Date: 7-18-2000, calibrated annually.
- B. LISN, Compliance Worldwide, Model 50 μ H / 50 ohm, S/N 100.
Calibration Date: 2-22-2000, calibrated annually.
- C. Combilog Antenna, (30MHz - 2GHz)Com-Power, Model AC-220
Calibration Date: 8-11-2000, calibrated annually.

2. FREQUENCY RANGE TO BE SCANNED.

- A. Radiated Test from 30 MHz to 1 GHz
- B. Conducted Test from 450 kHz to 30 MHz.

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3. TEST PROCEDURES.

Radiated test procedure

The EUT, associated cables and peripheral devices are placed on the supporting table and any support equipment is placed off the site. The EUT is turned on and any necessary operating or test software installed and allowed to warm up. The frequency band from 30 MHz to 1 GHz is scanned. When an emission is found the emission is maximized by varying the bundle position of the connecting cables, the antenna height, the antenna polarization (vertical and horizontal) and the table orientation (360 degrees). The maximum reading is recorded and the next signal is searched for.

Conducted test procedure

The power line of the EUT is connected to the LISN (Line Impedance Stabilization Network). A measurement of the emissions are made from the power line for both phase and neutral on the analyzer in the frequency range from 450 kHz to 30 MHz. The maximum readings are recorded for each phase.

All measurements are made according to the procedures defined in: "ANSI C63.4-1992 Standard Methods of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronics Equipment in the Range of 9 kHz to 40 GHz, American National Standard for (ISBN 1-55937-215-5).

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PART 15.239 TEST LIMITS

1. 15.209, 15.239 Radiation Limits (Quasi-Peak):

Frequency MHz	Distance meters	Limit dB μ V/m	Limit μ V/m
1.705 - 30	30	29.5*	30*
30 - 88	3	40.0	100
88 - 108	3	48.0*	250*
88 - 216	3	43.5	150
216 - 960	3	46.0	200
960 - 1000	3	54.0	500

*NOTE: Average Limits

2. 15.207 Conduction Limits (Quasi-Peak):

Frequency MHz	Limit dB μ V/m	Limit μ V/m
0.450 - 30.0	48.0	250



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TEST FACILITY DESCRIPTION

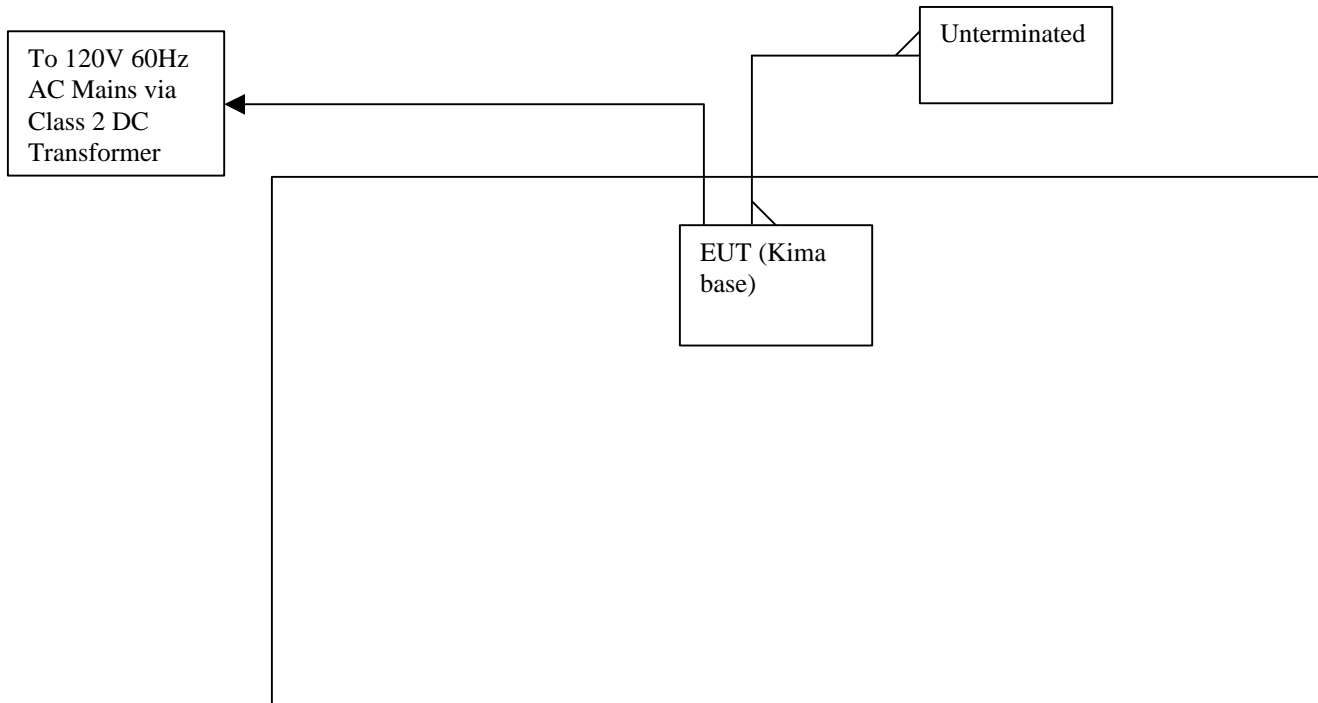
In keeping with the requirements of Section 2.948 of the Federal Communications Commission's Rules, Compliance Worldwide has filed a Test Facility Description with the F.C.C.

Anyone wishing to review this Test Facility Description is referred to registration number 96392. This is currently on file at the FCC's Authorization and Evaluation Lab in Columbia, Maryland, U.S.A.

DATE ON FILE: March 6, 2000

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**TEST SET UP
AND
PERIPHERAL CONNECTION INFORMATION**



All cables are unshielded.

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PLEASE NOTE - EUT (equipment under test) Kima Remote

The cables directly connected to this equipment are listed below.
Please see below for a complete list of FCC ID's etc. on the
supporting equipment.

Connection Descriptions

1. Power Cord
(description)
EUT
(from device)
AC Mains via DC Class2 Power Supply
(to device)
CABLE LENGTH 2M (S) SHIELDED or (U) UNSHIELDED U
2. RCA Stereo Cable
(description)
EUT Audio Out Right and Left
(from device)
Unterminated
(to device)
CABLE LENGTH 2M (S) SHIELDED or (U) UNSHIELDED U
3. N/A
(description)

(from device)

(to device)
CABLE LENGTH _____ (S) SHIELDED or (U) UNSHIELDED _____

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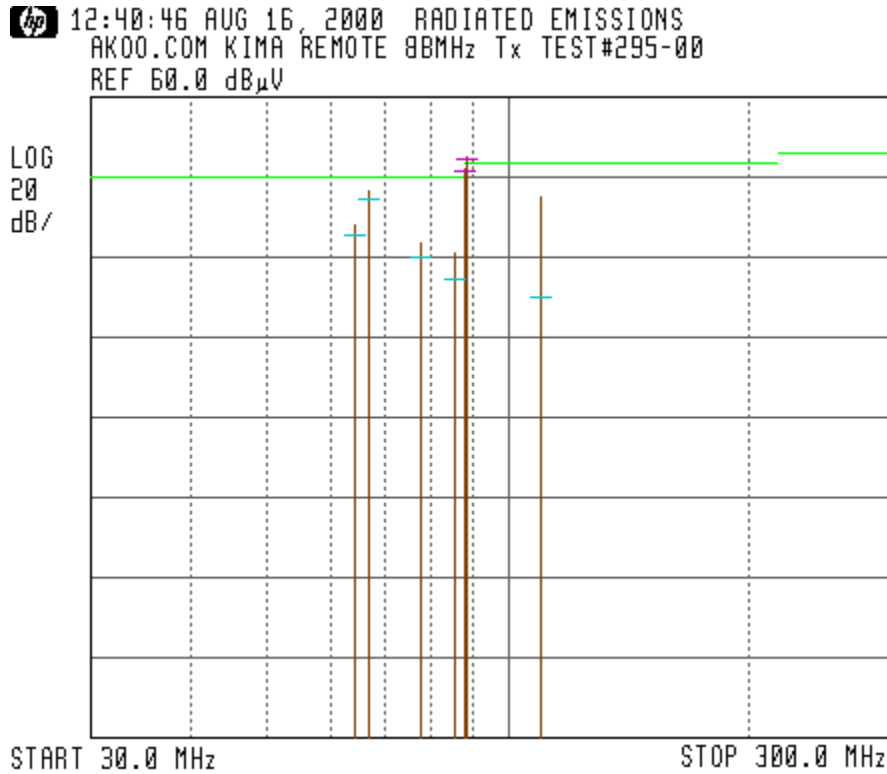
RADIATED TEST RESULTS

Frequency Range: 30 - 1080 MHz.
Measurement Distance: 3.0 Meters.
Bandwidth: 120 kHz, Per ANSI C63.4-1992.*
Detector Functions: Peak, Quasi Peak, Average
Video Filter: 300 kHz
Table Height: 0.8 meters
Antenna Height Variation: 1 - 4 Meters.
Horizontal and Vertical Polarization Measurements Taken.

*Measurement Bandwidth is 1 MHz above 1 GHz

PLEASE SEE NEXT PAGE FOR RADIATED TEST DATA

Radiated Data Log Plot



Radiated Emissions Tabular Data

Frequency (MHz)	Antenna Polarization (H/V)	Azimuth (Degrees)	Peak Amplitude (dBuV)	Quasi Peak Amplitude (dBuV)	Quasi Peak Limit (dBuV)	Margin (dB)
64.06573	V	11	28.19	26.3	40	-13.7
66.92748	V	1	37.35	34.69	40	-5.31
77.59288	V	9	23.66	20.95	40	-19.05
85.62115	V	11	21.56	15.04	40	-24.96
109.7696	V	1	35.51	10.31	43.5	-33.19



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RADIATED OUTPUT POWER & OCCUPIED BANDWIDTH TEST RESULTS

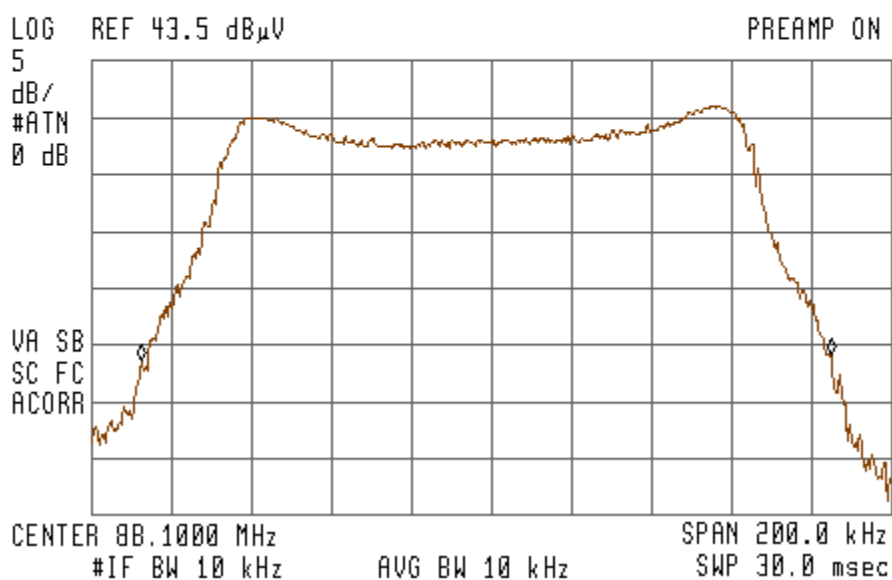
Frequency Range: 88 - 108 MHz.
Measurement Distance: 3.0 Meters.
Measurement Bandwidth: 120 kHz, Per ANSI C63.4-1992.
Detector Functions: Peak, Quasi Peak, Average.
Video Filter: 300 kHz
Table Height: 0.8 meters
Antenna Height Variation: 1 - 4 Meters.
Horizontal and Vertical Polarization Measurements Taken.

PLEASE SEE NEXT PAGE(S) FOR OCCUPIED BANDWIDTH RADIATED TEST DATA

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Channel A Bandwidth

sp 13:03:31 AUG 18, 2000 BANDWIDTH 88.1 MHz
AKOO.COM KIMA REMOTE TEST#295-00
ACTV DET: PEAK
MEAS DET: PEAK QP
MKRΔ 172.5 kHz
.55 dB



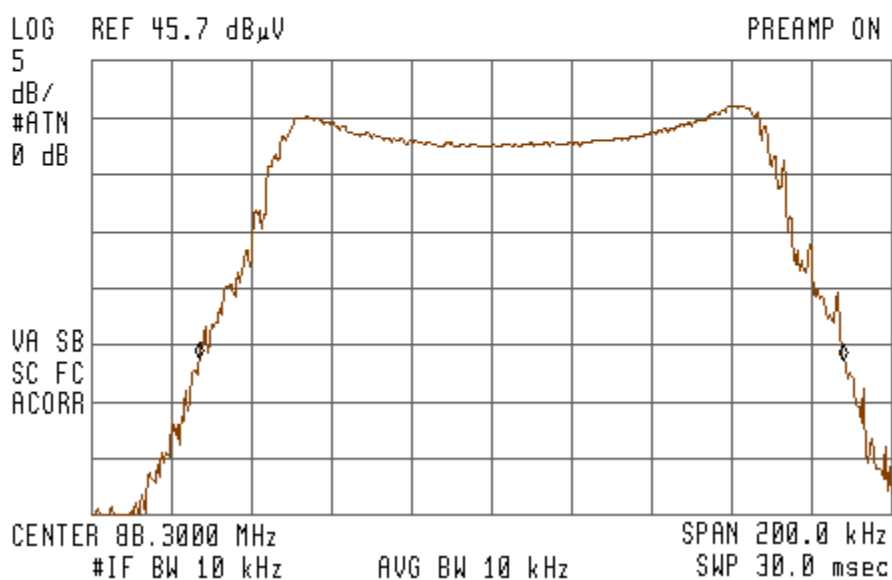
Channel A Output Power

Frequency (MHz)	Antenna Polarization (H/V)	Azimuth (Degrees)	Peak Amplitude (dBuV)	Average Amplitude (dBuV)	Average Limit (dBuV)	Margin (dB)
88.1	V	1	43.4	42.1	48	-5.9

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Channel B Bandwidth

13:11:47 AUG 18, 2000 BANDWIDTH 88.3 MHz
AKOO.COM KIMA REMOTE TEST#295-00
ACTV DET: PEAK
MEAS DET: PEAK QP
MKR Δ -161.0 kHz
.21 dB



Channel B Output Power

Frequency (MHz)	Antenna Polarization (H/V)	Azimuth (Degrees)	Peak Amplitude (dBuV)	Average Amplitude (dBuV)	Average Limit (dBuV)	Margin (dB)
88.3	V	343	45.7	44.5	48	-3.5

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CONDUCTED TEST RESULTS

Frequency Range:	450 kHz to 30.0 MHz.
Bandwidth:	9 kHz per ANSI C63.4-1992.
Detector Functions:	Peak, Quasi-Peak, Average
Table Height:	0.8 meters
Video Bandwidth:	30 kHz.

Phase and Neutral Measurements Taken.

No significant signals found.



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NOTES AND COMMENTS

(Special conditions unique to this test)

None.



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PHOTOGRAPHS

Radiated Test Setup (Front)

Photos deleted from test report and placed in separate files for FCC Upload.



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PHOTOGRAPHS

Radiated Test Setup (Rear)



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Conducted Test Setup (Front)



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Conducted Test Setup (Rear)



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Exterior Product



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Exterior Product



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Exterior Product



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Interior Circuit Board Photographs



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Interior Circuit Board Photographs