



APPENDIX A

PHOTOGRAPHS



CT-300 Logo View



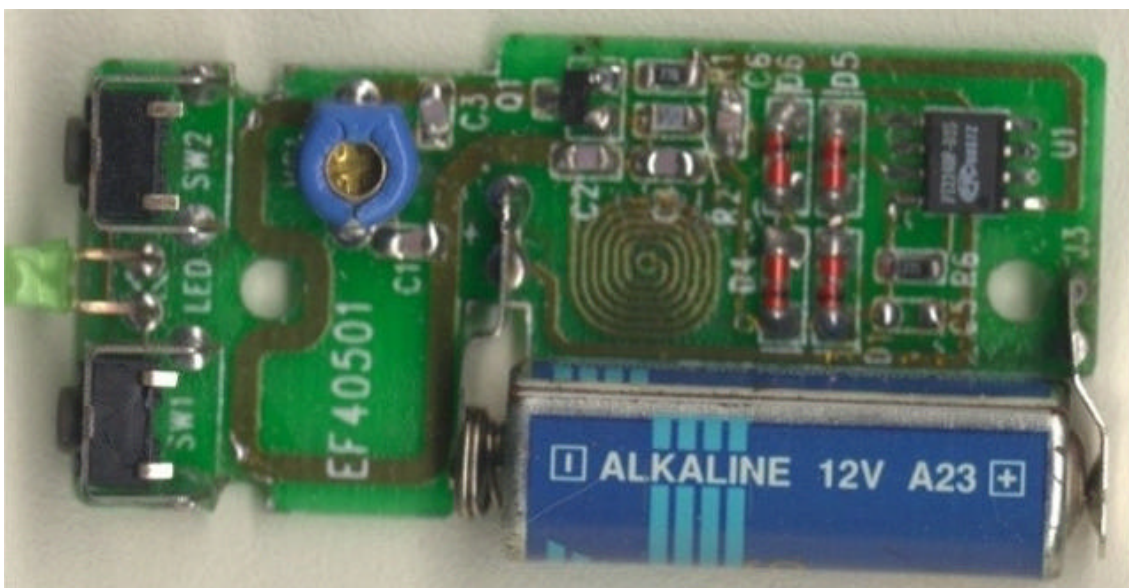
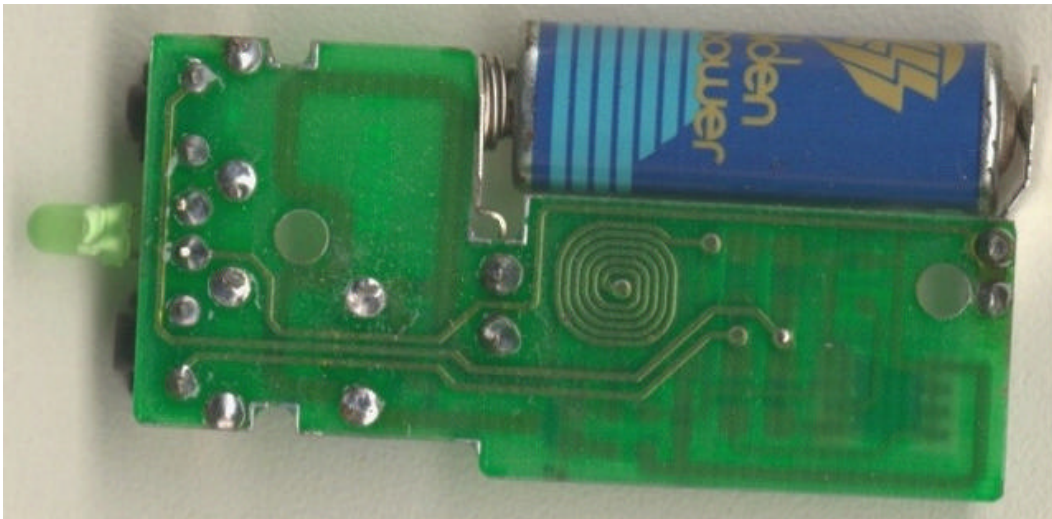


CT-300 FCC ID Label View



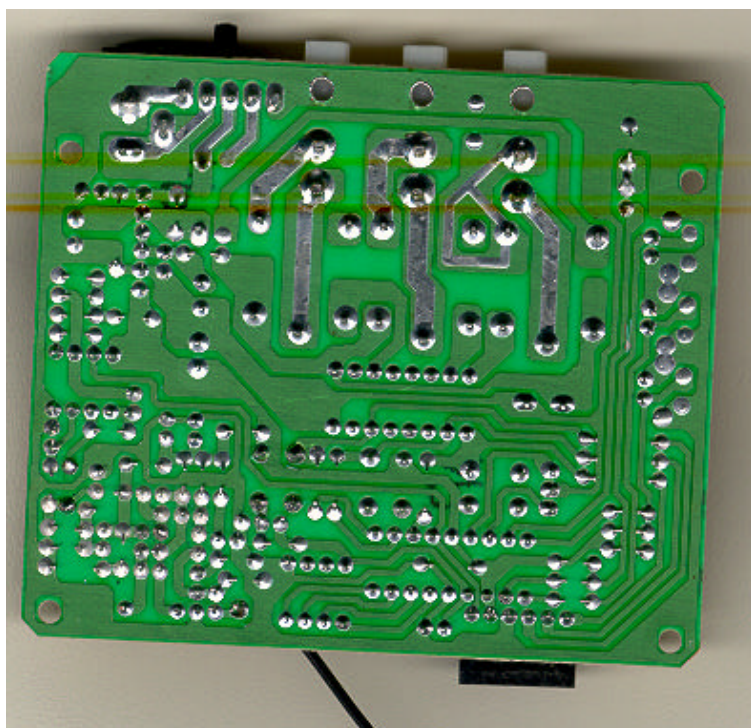
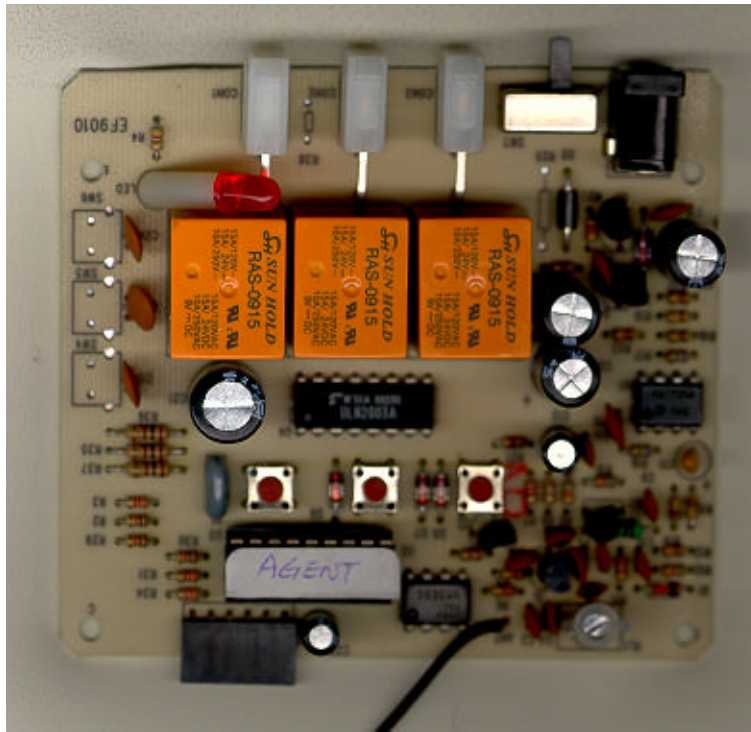


**CT-300 Component View
and Solder View**





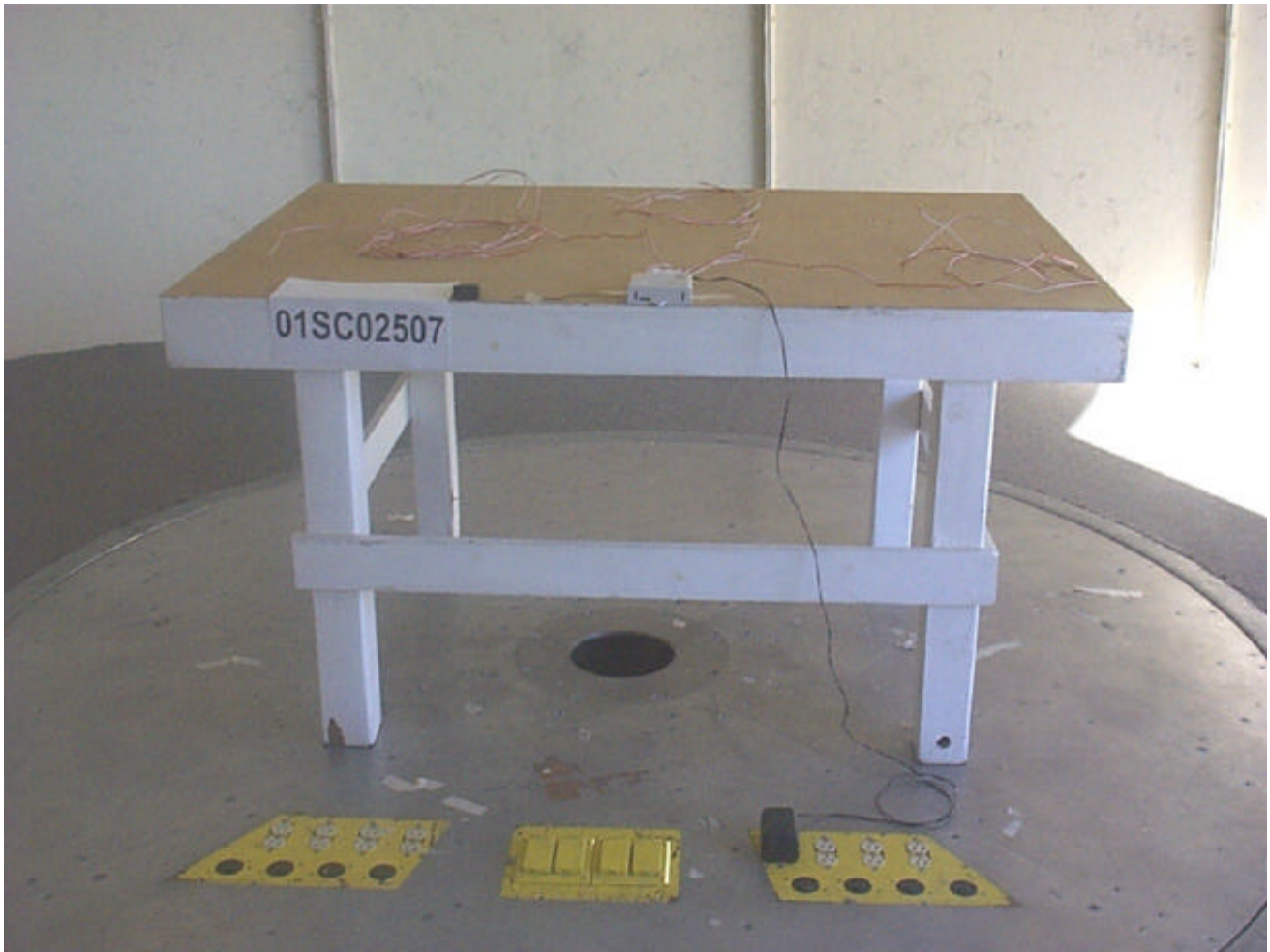
GR-300M Component Side
GR-300M Solder Side

















APPENDIX B

TEST FACILITY



TEST FACILITY

Location: 11825 Niles Canyon Road
Sunol, CA 94586

Description: At the Sunol facility, there are four 3/10 m open area test sites, two line conducted labs and two indoor conducted/radiated engineering labs. The OATS and the LC labs are constructed and calibrated to meet the FCC requirements in documents OST-55/MP-4 and ANSI C63.4 1992.

FCC has also accepted Underwriters Laboratories, Inc., facility site for filing applications for certification and notification.

NVLAP Accreditation: Recognized under the National Voluntary Laboratory Accreditation Program (NVLAP) for satisfactory compliance with criteria established in Title 15, Part 285 Code of Federal Regulations. These criteria encompass the requirements of ISO/IEC Guide 25 and the relevant requirements of ISO 9002 (ANSI/ASQC Q92-1987) as suppliers of calibration or test results. The specific scope includes IEC/CISPR 22:1993, Amendment 1:1995, Amendment 2:1996, CNS 13438:1997, FCC Method - 47 CFR Part 15, and AS/NZS 3548 testing. NVLAP Lab code: 200252-0.

Certification: Underwriters Laboratories, Inc., has the following test/lab sites certified by VCCI and Industry Canada (IC):

Open Area Test Site #1: VCCI No. R-802 and IC 2816-1

Open Area Test Site #2: VCCI No. R-376 and IC 2816-2

Open Area Test Site #3: VCCI No. R-377 and IC 2816-3

Open Area Test Site #4: VCCI No. R-378 and IC 2816-4

Line Conducted Lab #1: VCCI No. C-392

Line Conducted Lab #2: VCCI No. C-427



APPENDIX C

TEST EQUIPMENT



MEASURING INSTRUMENT SETTINGS

TEST TYPE	DETECTOR	FREQUENCY RANGE	RESOLUTION BANDWIDTH	VIDEO BANDWIDTH
Conducted	Peak/Avg	10 kHz-150 kHz	300 Hz/3 kHz	100 kHz/3 kHz
Conducted	Peak/QP/Avg	150 kHz-30 MHz	10 kHz/100 kHz	100 kHz
Radiated	Peak/Avg	60 Hz-1 kHz	10 Hz	100 kHz
Radiated	Peak/Avg	1 kHz-10 kHz	100 Hz	100 kHz
Radiated	Peak/Avg	10 kHz-150 kHz	300 Hz	100 kHz/300 Hz
Radiated	Peak/QP/Avg	150 kHz-30 MHz	10 kHz	100 kHz/10 kHz
Radiated	Peak/QP/Avg	30 MHz-1 GHz	100 kHz	100 kHz/10 kHz
Radiated	Peak/Avg	Above 1 GHz	1 MHz	1 MHz/300 kHz

Note: All readings on data pages are taken with the detector in peak mode unless otherwise stated.



TEST EQUIPMENT LIST

EQUIPMENT TYPE	* MFR	MODEL NUMBER	SERIAL NUMBER	LAST ** CAL.	CAL. DUE
Biconical Antenna	EMCO	3110	9210-1581	09-05-00	09-05-01
LISN	FCC	LISN-2	VDE 5/FCC 5	06-06-00	06-06-01
Log Periodic Antenna	Schwarzbeck	UHALP 9107	9107384	10-10-00	10-10-01
RF Filter Section	HP	85460A	3704A00417	06-26-00	06-26-01
Spectrum Analyzer Display	HP	85662A	2403A06604	06-26-00	06-26-01

* **MFR** = Manufacturer

** **CAL.** = Calibration



APPENDIX D

TEST METHODS



TEST METHODS (LINE CONDUCTED TEST)

- 1) The equipment will be set up according to the test specification to simulate typical actual usage. When the EUT is a table-top system, a wooden table with a height of 0.8 meters is used which is placed on the ground plane according to the test specification. When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm covering to insulate the EUT from the ground plane.
- 2) Support equipment, if needed, will be placed according to the test specification.
- 3) All I/O cables are positioned to simulate typical actual usage according to the test specification.
- 4) The EUT receives AC power through a Line Impedance Stabilization Network (LISN) which is grounded to the ground plane.
- 5) Support equipment, if used, will receive AC power through a second LISN.
- 6) Emissions are measured on each current carrying line of the EUT using a spectrum analyzer connected to the LISN powering the EUT.
- 7) During the emission measurement, the I/O cable placement position is adjusted in order to maximize the emission measurement level.
- 8) Emission frequency and amplitude are recorded into a computer in which correction factors are used to calculate the emission level and compare the reading to the applicable limit.

Data Sample:

Freq. MHz	Corr'd dBμV	Site CF	Limit dBμV	Margin dBμV	Line
2.47	46.0	6.0	48.0	-2.0	L1

Freq. = Emission frequency in MHz
Corr'd dBμV = RAW reading converted to dBμV and CF added
Site CF = Correction Factors for pad/cable losses
Limit dBμV = Limit stated in standard
Margin dBμV = Reading in reference to limit
Note = Current carrying line of reading



TEST METHODS (RADIATED TEST)

- 1) The equipment will be set up according to the test specification to simulate typical actual usage. When the EUT is a table-top system, a wooden table with a height of 0.8 meters is used which is placed on the ground plane according to the test specification. When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm covering to insulate the EUT from the ground plane.
- 2) Support equipment, if needed, will be placed according to the test specification.
- 3) All I/O cables are positioned to simulate typical actual usage according to the test specification.
- 4) The antenna is placed at some given distance away from the EUT as stated in the test specification. The antenna connects to the analyzer via a cable and at times a preamp is used.
- 5) Emissions are scanned and measured rotating the EUT to 360 degrees, positioning cable placement, and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarizations in order to maximize the emission reading level.
- 6) Emission frequency, amplitude, antenna position, polarization, and table position are recorded into a computer in which correction factors are used to calculate the emission level and compare the reading to the applicable limit.

Data Sample:

Freq. MHz	Corr'd dB μ V	Site CF	Limit dB μ V	Margin dB μ V	Table Pos.	Ant Pos.
76.57	44.2	-12.8	40.0	-5.3	180	1.5V

Freq.	= Emission frequency in MHz
Corr'd dB μ V	= RAW reading converted to dB μ V and CF added
Site CF	= Correction Factors for pad/cable losses
Limit dB μ V	= Limit stated in standard
Margin dB μ V	= Reading in reference to limit
Table Position	= EUT placement in reference to antenna
Antenna Position	= Antenna polarization and height above ground plane



APPENDIX E

CLASS TYPES



FCC CLASS TYPES

CLASS A COMPUTING DEVICE

A computing device which is marketed for use in a commercial or business environment; exclusive of a device which is marketed for use by the general public, or which is intended to be used in the home. Reference: Section 15.3 (h).

CLASS B COMPUTING DEVICE

A computing device that is marketed for use in a residential environment notwithstanding use in a commercial, business, or industrial environment. Examples of such devices include, but are not limited to: electronic games, personal computers, calculators, and similar devices that are marketed for the general public. Reference: Section 15.3 (i).

NOTE: A manufacturer may also qualify a device intended to be marketed in a commercial, business, or industrial environment as a Class B computing device, and in fact is encouraged to do so, provided the device complies with the technical specifications for a Class B computing device. In the event that a particular type of device has been found to repeatedly cause harmful interference to radio communications, the Commission may classify such a computing device as a Class B computing device, regardless of its intended use.



APPENDIX F

LABELING REQUIREMENTS



FCC CLASS B LABELING REQUIREMENT

Section 15.19 of the Code of Federal Regulation

- A) The Class B computing device subject to **certification** by the Commission shall be identified pursuant to par. 2.925 et seq of this Chapter. In addition, the label shall include the following statement:

FCC ID: NUQ-CT300
THIS DEVICE COMPLIES WITH PART 15 OF THE
FCC RULES. OPERATION IS SUBJECT TO THE
FOLLOWING TWO CONDITIONS:
(1) THIS DEVICE MAY NOT CAUSE HARMFUL
INTERFERENCE, AND (2) THIS DEVICE MUST
ACCEPT ANY INTERFERENCE RECEIVED,
INCLUDING INTERFERENCE THAT MAY CAUSE
UNDESIRE OPERATION.

- B) Where a device is constructed in two or more sections connected by wires and marketed together, the statement specified in this Section is required to be affixed only to the main control unit.
- C) When the device is so small or for such use that it is not practicable to place the statement specified in this Section on it, the information required by these paragraphs shall be placed in a prominent location in the instruction manual or pamphlet supplied to the user or, alternatively, shall be placed on the container in which the device is marketed. However, the FCC identifier or the unique identifier, as appropriate, must be displayed on the device.
- D) The label shall not be a stick-on paper label. The label on these products shall be permanently affixed to the product and shall be readily visible to the purchaser at the time of purchase. "Permanently affixed" means that the label is etched, engraved, stamped, silkscreened, indelibly printed, or otherwise permanently marked on a permanently attached part of the equipment or a nameplate of metal, plastic, or other material fastened to the equipment by welding, riveting, or use of a permanent adhesive. The label must be designed to last the expected lifetime of the equipment in the environment in which the equipment may be operated and must not be readily detachable.



APPENDIX G

DATA READINGS



**FCC CLASS B
LINE CONDUCTED DATA**

COMPANY: Mikado Technology
EQUIP. UNDER TEST: Garage Door Receiver

MODEL NUMBER: GR-300M
TEST PROCEDURE: FCC Part 15 Class B
MEASUREMENT SETUP: LISN #942 120Vac 60Hz
SUPPORT EQUIPMENT: None

TEST SITE: LC#2
TESTED BY: Wayne Fisher
DATE: January 31 2001 16:23

Control Rm Temp: 80 Deg.F Humidity: 20 %RH
EUT Room Temp: 80 Deg.F Humidity: 20 %RH

FREQ MHz	RAW dBuV	SITE CF	CORR'D dBuV	LIMIT		EUT MARGIN		NOTE
				A	B	A	B	
0.454	+19.8PK	6.0	25.8	60.0	48.0	-34.2	-22.2	L1
0.583	+15.8PK	6.0	21.8	60.0	48.0	-38.2	-26.2	L1
0.727	+11.0PK	6.0	17.0	60.0	48.0	-43.0	-31.0	L1
0.460	+18.0PK	6.0	24.0	60.0	48.0	-36.0	-24.0	L2
0.519	+14.0PK	6.0	20.0	60.0	48.0	-40.0	-28.0	L2
0.660	+11.4PK	6.0	17.4	60.0	48.0	-42.6	-30.6	L2
28.110	+13.5PK	6.0	19.5	69.5	48.0	-50.0	-28.5	L2

L1 = LINE ONE (HOT SIDE)
L2 = LINE TWO (NEUTRAL SIDE)

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===== END OF CONDUCTED TEST =====
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FCC CLASS B
RADIATED EMISSION DATA

COMPANY: Mikado
EQUIP. UNDER TEST: Garage Door Reciever
Garage Door Car Transmitter
MODEL NUMBER: GR-300M / CT-300
TEST PROCEDURE: FCC Part 15 Spurious Emissions
SUPPORT EQUIPMENT: None

TESTED BY: Wayne Fisher TEST SITE 1
DATE: January 31 2001

TIME: 09:34 Control RM Temp: 72 Deg.F Humidity: 20 %RH
EUT Room Temp: 54 Deg.F Humidity: 23 %RH

30MHz TO 300MHz Biconical Antenna at 3 meters Horz.

FREQ MHz	RAW dBuV	SITE CF	CORR'D dBuV/m	LIMIT A B	EUT MARGIN A B	POSITION TBL ANT
Receive Mode						
30.00	+4.0PK	+12.3	16.3	49.5 40.0	-33.2 -23.7	0 1.50
300MHz to 1000MHz Log Periodic Antenna at 3 meters Vert.						
381.96	+26.8PK	+18.4	45.2	50.4	-5.2	297 1.40
379.01	+24.7PK	+18.3	42.9	50.4	-7.5	264 1.50
325.88	+13.0PK	+17.1	30.1	50.4	-20.3	260 1.41
300MHz to 1000MHz Log Periodic Antenna at 3 meters Horz.						
314.26	+21.8PK	+16.9	38.7	50.4	-11.7	222 1.00
384.77	+33.3PK	+18.4	51.7	50.4	1.3	15 1.00
384.77	+31.1QP	+18.4	49.5	50.4	-0.9	15 1.00
382.89	+31.8PK	+18.4	50.2	50.4	-0.2	357 1.00
382.89	+30.4QP	+18.4	48.8	50.4	-1.6	357 1.00
325.20	+23.8PK	+17.1	40.9	50.4	-9.5	350 1.00

=====
===== END OF RADIATED TEST =====
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RADIATED EMISSION DATA

COMPANY: Mikado
EQUIP. UNDER TEST: Garage Door Reciever
Garage Door Car Transmitter
MODEL NUMBER: GR-300M / CT-300
TEST PROCEDURE: FCC Part 15 Transmit Fundamental
SUPPORT EQUIPMENT: None

TESTED BY: Wayne Fisher TEST SITE 1
DATE: January 31 2001

TIME: 2:00pm Control RM Temp: 72 Deg.F Humidity: 20 %RH
EUT Room Temp: 54 Deg.F Humidity: 23 %RH

300MHz to 1000MHz Log Periodic Antenna at 3 meters Horz.

FREQ MHz	RAW dBuV	SITE CF	CORR'D dBuV/m	LIMIT dBuV/m	EUT MARGIN dBuV	POSITION TBL ANT
Transmitting Door #1 Signal						
391.16	+70.0PK	+18.6	88.6	79.3	9.3	217 1.00
391.16	+69.8QP	+18.6	88.4	79.3	9.1	217 1.00
391.16	+58.5VA	+18.6	77.1	79.3	-2.2	217 1.00

300MHz to 1000MHz Log Periodic Antenna at 3 meters Vert.
391.11 +51.9PK +18.6 70.5 79.3 -8.8 304 1.30

Transmitting Door #2 Signal

300MHz to 1000MHz Log Periodic Antenna at 3 meters Horz.

391.26	+69.2PK	+18.6	87.8	79.3	8.5	227 1.00
391.26	+58.0VA	+18.6	76.6	79.3	-2.7	227 1.00

300MHz to 1000MHz Log Periodic Antenna at 3 meters Vert.
391.26 +55.0PK +18.6 73.6 79.3 -5.7 70 3.10

Transmitting Door #3 Signal

300MHz to 1000MHz Log Periodic Antenna at 3 meters Horz.

391.17	+69.2PK	+18.6	87.8	79.3	8.5	208 1.00
391.17	+58.5VA	+18.6	77.1	79.3	-2.2	208 1.00



RADIATED EMISSION DATA

COMPANY: Mikado
EQUIP. UNDER TEST: Garage Door Reciever
Garage Door Car Transmitter
MODEL NUMBER: GR-300M / CT-300
TEST PROCEDURE: FCC Part 15 Transmit Fundamental
SUPPORT EQUIPMENT: None

TESTED BY: Wayne Fisher TEST SITE 1
DATE: January 31 2001

TIME: 2:50pm Control RM Temp: 72 Deg.F Humidity: 20 %RH
EUT Room Temp: 54 Deg.F Humidity: 23 %RH

300MHz to 1000MHz Log Periodic Antenna at 3 meters Vert.

FREQ MHz	RAW dBuV	SITE CF	CORR'D dBuV/m	LIMIT dBuV/m	EUT MARGIN dBuV	POSITION TBL ANT
391.16	+53.9PK	+18.6	72.5	79.3	-6.8	183 2.70

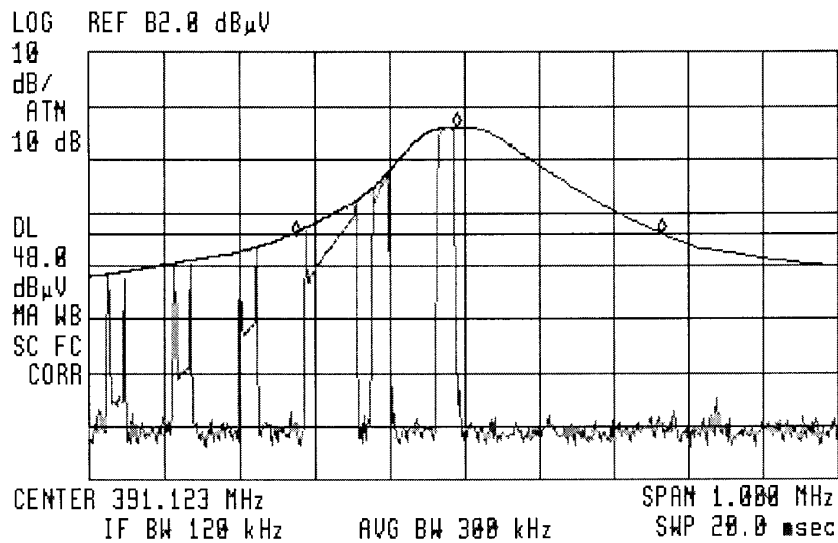
=====
===== END OF RADIATED TEST =====
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15.231 (c) fundamental bandwidth for Center Frequency 391.12MHz
Bandwidth allowed = 977.8kHz
Measured Bandwidth = 490.0kHz

15:56:17 JAN 31, 2001
01SC02507 15.231(A)(1)

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKRΔ 490 kHz
.17 dB





15.231(a)(1) On time of transmitter after deactivating on switch.

1st Marker = transmit on

2nd Marker = on switch deactivated

3rd Marker = signal gone into noise floor

Delta shown between 2nd and 3rd markers

15:38:42 JAN 31, 2001
01SC02507 15.231(A)(1)

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR_Δ 37.500 msec
-34.00 dB

LOG REF 92.0 dBμV

10
dB/
ATN
10 dB

MA WB
SC FC
CORR

CENTER 391.160 MHz SPAN 0 Hz
IF BW 120 kHz AVG BW 300 kHz #SWP 5.00 sec



APPENDIX H

TEST PROCEDURES

For a Copy Contact:

MIKADO TECHNOLOGY COMPANY

1435 Huntington Avenue #C
South San Francisco, CA 94080