



Flom Test Labs
EMI, EMC, RF Testing Experts Since 1963

toll-free: (866) 311-3268
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<http://www.flomlabs.com>
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Date: February 25, 2008

Federal Communications Commission
Via: Electronic Filing

Attention: Authorization & Evaluation Division

Applicant: Applied Electronics Company
Equipment: 900 MHz Remote Control Transmitter
FCC ID: MJY-MPH
FCC Rules: 15.249

Gentlemen:

On behalf of the Applicant, enclosed please find Application Form 731, Engineering Test Report and all pertinent documentation, the whole for approval of the referenced equipment as shown.

We trust the same is in order. Should you need any further information, kindly contact the writer who is authorized to act as agent.

Sincerely yours,

Hoosamuddin S. Bandukwala, Lab Director

List Of Exhibits
(FCC **Certification** (Transmitters) - Revised 9/28/98)

Applicant: Applied Electronics Company

FCC ID: MJY-MPH

By Applicant:

1. Letter Of Authorization
2. Identification Drawings
 - ___ Id Label
 - ___ Location Info
 - ___ Attestation Statement(S)
 - ___ Location of Compliance Statement
3. Documentation: 2.1033(B)
 - (3) User Manual(S)
 - (4) Operational Description
 - (5) Block Diagram
 - (5) Schematic Diagram
 - (7) External Photographs
 - Internal Photographs
 - Parts List
 - Active Devices

By F.T.L. Inc.

- A. Testimonial & Statement of Certification
- B. Statement of Qualifications



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Test Report

for

FCC ID: MJY-MPH
Model: 900 MHz Remote Control Transmitter

to

Federal Communications Commission

Rule Part(s) 15.249

Date Of Report: February 25, 2008

On the Behalf of the Applicant: Applied Electronics Company
3132 Brown Street
Boise, ID 83714

Attention of: wWilliam Sellers
Phone: 208-344-2015
Fax: 208-344-2103
E-mail: applied@aec-remote.com

Supervised By:

Hoosamuddin S. Bandukwala, Lab Director

The applicant has been cautioned as to the following:

15.21 Information to User.

The users manual or instruction manual for an intentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

15.27(a) Special Accessories.

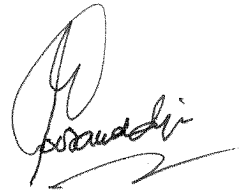
Equipment marketed to a consumer must be capable of complying with the necessary regulations in the configuration in which the equipment is marketed. Where special accessories, such as shielded cables and/or special connectors are required to enable an unintentional or intentional radiator to comply with the emission limits in this part, the equipment must be marketed with, i.e. shipped and sold with, those special accessories. However, in lieu of shipping or packaging the special accessories with the unintentional or intentional radiator, the responsible party may employ other methods of ensuring that the special accessories are provided to the consumer, without additional charge.

Information detailing any alternative method used to supply the special accessories for a grant of equipment authorization or retained in the verification records, as appropriate. The party responsible for the equipment, as detailed in § 2.909 of this chapter, shall ensure that these special accessories are provided with the equipment. The instruction manual for such devices shall include appropriate instructions on the first page of text concerned with the installation of the device that these special accessories must be used with the device. It is the responsibility of the user to use the needed special accessories supplied with the equipment.

Testimonial And Statement Of Certification

This is to certify that:

1. **That** the application was prepared either by, or under the direct supervision of, the undersigned.
2. **That** the technical data supplied with the application was taken under my direction and supervision.
3. **That** the data was obtained on representative units, randomly selected.
4. **That**, to the best of my knowledge and belief, the facts set forth in the application and accompanying technical data are true and correct.



Certifying Engineer:

Hoosamuddin S. Bandukwala, Lab Director

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Required information per ISO 17025-2005, paragraph 5.10.2:

a) **Test Report**

b) Laboratory: Flom Test Lab, Inc.
(FCC: 31040/SIT) 3356 N. San Marcos Place, Suite 107
(Canada: IC 2044A-1) Chandler, AZ 85225

c) Report Number: d0820021

d) Client: Applied Electronics Company

e) Identification: 900 MHz RC Transmitter

Description: Remote Control Transmitter

f) EUT Condition: Not required unless specified in individual tests.

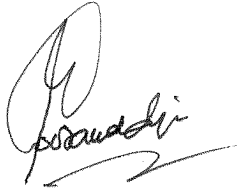
g) Report Date: February 25, 2008
EUT Received:

h, j, k): As indicated in individual tests.

i) Sampling method: No sampling procedure used.

l) Uncertainty: In accordance with FTL internal quality manual.

m) Supervised by:



Hoosamuddin S. Bandukwala, Lab Director

n) Results: The results presented in this report relate only to the item tested.

o) Reproduction: This report must not be reproduced, except in full, without written permission from this laboratory.

List Of General Information Required For Certification

In Accordance with FCC Rules and Regulations,
Volume II, Part 2 and to

15.249

Sub-Part 2.1033

(c)(1):

Name and Address of Applicant: Applied Electronics Company

(c)(2): **FCC ID:** MJY-MPH

Model Number: 900 MHz Remote Control Transmitter

(c)(3): **Instruction Manual(s):**

Please See Attached Exhibits

(c)(4): **Type of Emission:** DTS

(c)(5): **FREQUENCY RANGE, MHz:** 903 - 922

(c)(6): **Power Rating, W:** 5.884uV/mtr
_____ Switchable _____ Variable X N/A

(c)(7): **Maximum Power Rating, W:** 50000uV/mtr

15.203: **Antenna Requirement:**

X The antenna is permanently attached to the EUT
_____ The antenna uses a unique coupling
_____ The EUT must be professionally installed
_____ The antenna requirement does not apply

Subpart 2.1033 (continued)**(c)(8): Circuit Diagram/Circuit Description:**

Including description of circuitry & devices provided for determining and stabilizing frequency, for suppression of spurious radiation, for limiting modulation and limiting power.

Please See Attached Exhibits

(c)(9): Label Information:

Please See Attached Exhibits

(c)(10): Photographs:

Please See Attached Exhibits

(c)(11): Digital Modulation Description:

☐ Attached Exhibits

☒ N/A

(c)(12): Test And Measurement Data :

Follows

Sub-part
2.1033(b):

Test And Measurement Data

All tests and measurement data shown were performed in accordance with FCC Rules and Regulations, Volume II; Part 2 and the following individual Parts:

15.249 Operation within bands 902-928, 2400-2483.5, 5725-5825 MHz and 24.0-24.25 GHz

Standard Test Conditions and Engineering Practices

Except as noted herein, the following conditions and procedures were observed during the testing:

In accordance with ANSI C63.4-2003 unless otherwise indicated in the specific measurement results, the ambient temperature of the actual EUT was maintained within the range of 10° to 40°C (50° to 104 °F) unless the particular equipment requirements specify testing over a different temperature range. Also, unless otherwise indicated, the humidity levels were in the range of 10% to 90% relative humidity.

Measurement results, unless otherwise noted, are worst-case measurements.

A2LA

"A2LA has accredited Flom Test Labs, Inc. Chandler, AZ for technical competence in the field of Electrical testing. The accreditation covers the specific tests and types of tests listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO 17025:2005 'General Requirements for the Competence of Testing and Calibration Laboratories' and any additional program requirements in the identified field of testing."

Please refer to www.a2la.org for current scope of accreditation.

Certificate number: 2152.01



IC O.A.T.S. Number: 2044A-1

Test Results Summary

Specification	Test Name	Pass, Fail, N/A	Comments
15.249(a)	Fundamental Field Strength	Pass	
15.249(d)	Out of Band Spurious Emissions	Pass	
15.207	Conducted Emissions AC Power	N/A	DC power device

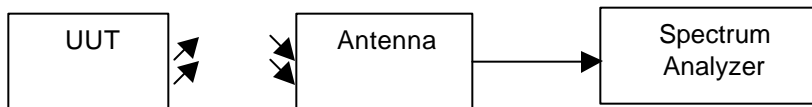
Name of Test: Fundamental Field Strength
Specification: 15.249(a)
Test Equipment Utilized i00228, i00317

Test Date:

Test Procedure

The UUT was tested on an Open Area Test Site (OATS) at a distance of 3 meters from the receiving antenna. A spectrum analyzer was used to verify that the UUT met the requirements for Fundamental Field Strength.

Test Setup



Analyzer Settings

Detector Settings	RBW	VBW	Span
Peak	1 MHz	1 MHz	as necessary
Average	1 MHz	10 Hz	0 Hz

Sample Calculations

Corrected Value = Measured Value + Correction factor

Correction factor = ACF + Cable loss

Fundamental Field Strength

Tuned Freq (MHz)	Peak Measured Level (dBuV/m)	Correction Factor (dB)	Peak Corrected Level (dBuV/m)	Peak Limit (dBuV/m)	Avg. Limit (dBuV/m)	Result
903.30	62.9	26.0	88.9	114.0	94.0	Pass
912.30	61.0	26.3	87.3	114.0	94.0	Pass
921.34	63.4	26.7	90.1	114.0	94.0	Pass

Note the maximum peak values are less than the average limit therefore no average measurement was performed.

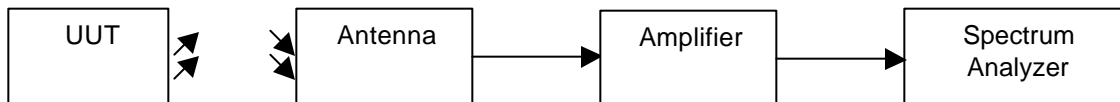
Name of Test: Radiated Spurious Emissions
Specification: 15.249(d)
Test Equipment Utilized i00028, i00029, i00103

Test Date:

Test Procedure

The UUT was tested on an Open Area Test Site (OATS) at a distance of 3 meters from the receiving antenna. A spectrum analyzer was used to verify that the UUT met the requirements for Radiated Spurious Emissions. The spectrum for each tuned frequency was examined to the 10th harmonic. In addition plots of the radiated spurious emissions at the operating band edges are provided to verify compliance.

Test Setup



Analyzer Settings

Detector Settings	RBW	VBW	Span
Peak	1 MHz	1 MHz	as necessary
Average	1 MHz	10 Hz	0 Hz

Sample Calculations

Corrected Value = Measured Value + Correction factor

Correction factor = ACF + Cable loss

Radiated Spurious Emissions

Tuned Freq (MHz)	Emission Freq (MHz)	Peak Measured Level (dBuV/m)	Correction Factor (dB)	Corrected Level (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)
903.3	1806.799999	30.3	30.8	61.1	74.0	-12.9
903.3	2710.200000	25.7	34.4	60.1	74.0	-13.9
903.3	3613.600000	26.2	36.3	62.5	74.0	-11.5

Tuned Freq (MHz)	Emission Freq (MHz)	Avg Measured Level (dBuV/m)	Correction Factor (dB)	Corrected Level (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)
903.3	1806.800000	12.0	30.8	42.8	54.0	-11.2
903.3	2710.199999	11.0	34.4	45.4	54.0	-8.6
903.3	3613.599999	10.7	36.3	47.0	54.0	-7.0

Radiated Spurious Emissions

Tuned Freq (MHz)	Emission Freq (MHz)	Peak Measured Level (dBuV/m)	Correction Factor (dB)	Corrected Level (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)
912.3	1824.600000	28.3	30.9	59.2	74.0	-14.8
912.3	2736.900000	27.5	34.5	62.0	74.0	-12.0
912.3	3649.200000	25.4	36.4	61.8	74.0	-12.2

Tuned Freq (MHz)	Emission Freq (MHz)	Avg Measured Level (dBuV/m)	Correction Factor (dB)	Corrected Level (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)
912.3	1824.599999	18.4	30.9	49.3	54.0	-4.7
912.3	2736.899999	17.4	34.5	51.9	54.0	-2.1
912.3	3649.199999	17.0	36.4	53.4	54.0	-.6

Tuned Freq (MHz)	Emission Freq (MHz)	Peak Measured Level (dBuV/m)	Correction Factor (dB)	Corrected Level (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)
921.2	1842.600000	28.6	30.9	59.5	74.0	-14.5
921.2	2763.900000	26.4	34.6	61.0	74.0	-13.0
921.2	3685.200000	27.1	36.4	63.5	74.0	-10.5

Tuned Freq (MHz)	Emission Freq (MHz)	Avg Measured Level (dBuV/m)	Correction Factor (dB)	Corrected Level (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)
921.2	1842.599999	18.1	30.9	49.0	54.0	-5.0
921.2	2763.874000	11.1	34.6	45.8	54.0	-8.2
921.2	3685.174000	11.2	36.4	47.6	54.0	-6.4

There are no observable signals past the 3rd harmonic. Note the restricted band harmonics are tested both peak and average.

Test Equipment Utilized

Description	MFG	Model Number	FTL Asset Number	Last Cal Date	Cal Due Date
RF Pre-Amplifier	HP	8449	i00028	1/23/07	1/23/09
Spectrum Analyzer	HP	8563E	i00029	3/9/07	3/9/08
Spectrum Analyzer	HP	8566B	i00049	8/18/07	8/18/08
Horn Antenna	EMCO	3115	i00103	9/5/06	9/5/08
Power Meter	HP	E4418B	i00228	9/6/07	9/6/08
LISN	FCC	FCC-LISN-50-32-2-01	i00270	10/25/05	10/25/07
Power sensor	HP	8481A	i00317	9/6/07	9/6/08
Spectrum Analyzer	HP	8566B	i00329	4/16/07	4/16/08

In addition to the above listed equipment standard RF connectors and cables were utilized in the testing of the described equipment. Prior to testing these components were tested to verify proper operation.

END OF TEST REPORT