

**MFA** **M. Flom Associates, Inc. - Global Compliance Center**  
3356 North San Marcos Place, Suite 107, Chandler, Arizona 85225-7176  
www.mflom.com general@mflom.com (480) 926-3100, FAX: 926-3598

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Date: July 10, 2000

Federal Communications Commission  
Via: Electronic Filing

Attention: Authorization & Evaluation Division

Applicant: Icom Incorporated  
Equipment: IC-F4GT-1 and IC-F4GS-1  
FCC ID: AFJIC-F4G-1  
FCC Rules: 90  
and 47 CFR 1.1307, Environmental Assessment

PLEASE NOTE:

1. The device is provided by Applicant with a  $\frac{1}{4}$  wave rubber duck antenna of 0 db gain or less.
2. The Applicant recommends a duty cycle of 5% Transmitter ON, 5% Receiver ON, 90% Standby, for average power reduction of  $(10 \log 5/100) - 13$  db.

Average power (4 W-13db) is 0.200 Watt for averaging time of 30 minutes (Rule 1.1310).

3. Please see attached Calculated Results for Environmental Assessment.

Sincerely yours,



Morton Flom, P. Eng.

enclosure(s)  
cc: Applicant  
MF/cvr

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Sub-part  
1.1307:

SUPPLEMENTAL REPORT  
Calculated Results

ENVIRONMENTAL ASSESSMENT

General Population / Uncontrolled Exposure,  
Maximum Permissible Exposure

EQUIPMENT IDENTIFICATION

Icom Incorporated  
FCC ID: AFJIC-F4G-1

DATE OF REPORT

July 10, 2000

SUPERVISED BY:




Morton Flom, P. Eng.

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*Required information per ISO/IEC Guide 25-1990, paragraph 13.2:*

- a) TEST REPORT (SUPPLEMENTAL)
- b) Laboratory: M. Flom Associates, Inc.  
 (FCC: 31040/SIT) 3356 N. San Marcos Place, Suite 107  
 (Canada: IC 2044) Chandler, AZ 85225
- c) Report Number: d0070015
- d) Client: Icom America, Inc.  
 2380 - 116th Ave. N. E.  
 P.O. C-90029  
 Bellevue, Washington 98009-9029
- e) Identification: IC-F4GT-1 and IC-F4GS-1  
 FCC ID: AFJIC-F4G-1  
 Description: UHF FM Handheld Transceiver
- f) EUT Condition: Not required unless specified in individual tests.
- g) Report Date: July 10, 2000  
 EUT Received: June 15, 2000
- h, j, k): As indicated in individual tests.
- i) Sampling method: No sampling procedure used.
- l) Uncertainty: In accordance with MFA internal quality manual.
- m) Supervised by:   
 Morton Flom, P. Eng.
- 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.

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IDENTIFICATION OF THE EQUIPMENT UNDER TEST (EUT)

NAME AND ADDRESS OF APPLICANT:

Icom Incorporated  
 1-6-19 Kamikurazukuri  
 Hirano-ku  
 Osaka, Japan 547

MANUFACTURER:

Applicant

FCC ID: AFJIC-F4G-1

MODEL NO: IC-F4GT-1 and IC-F4GS-1

DESCRIPTION: UHF FM Handheld Transceiver

TYPE OF EMISSION: 11K0F3E


FREQUENCY RANGE, MHz: 400 to 430

POWER RATING, Watts: 1 to 4  
 Switchable  Variable  N/A

MODULATION:  
 AMPS  
 TDMA  
 CDMA  
 OTHER

ANTENNA:  
 HELICAL  
 MONOPOLE  
 OTHER

M. Flom Associates, Inc. is accredited by the American Association for Laboratory Association (A2LA) as shown in the scope below.



**THE AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION**

**ACCREDITED LABORATORY**

A2LA has accredited


**M. FLOM ASSOCIATES, INC.**  
Chandler, AZ

for technical competence in the field of

**Electrical (EMC) 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/IEC Guide 25-1990 "General Requirements for the Competence of Calibration and Testing Laboratories" (equivalent to relevant requirements of the ISO 9000 series of standards) and any additional program requirements in the identified field of testing.

Presented this 24<sup>th</sup> day of November, 1998.



*Peter Abney*  
President  
For the Accreditation Council  
Certificate Number 1008.01  
Valid to December 31, 2000

For tests or types of tests to which this accreditation applies, please refer to the laboratory's Electrical (EMC) Scope of Accreditation



**American Association for Laboratory Accreditation**

SCOPE OF ACCREDITATION TO ISO/IEC GUIDE 25-1990 AND EN 45001

M. FLOM ASSOCIATES, INC.  
Electronic Testing Laboratory  
3356 North San Marcos Place, Suite 107  
Chandler, AZ 85225  
Morton Flom Phone: 480 926 3100

**ELECTRICAL (EMC)**

Valid to: December 31, 2000 Certificate Number: 1008-01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following electromagnetic compatibility tests:

Tests	Standard(s)
RF Emissions	FCC Part 15 (Subparts B and C) using ANSI C63 4-1992; CISPR 11; CISPR 13; CISPR 14; CISPR 22; EN 55011; EN 55013; EN 55014; EN 55022; EN 50081-1; EN 50081-2; FCC Part 18; ICES-003; AS/NZS 1044; AS/NZS 1053; AS/NZS 3548; AS/NZS 4251.1; CNS 13438
RF Immunity	EN 50082-1; EN 50082-2; AS/NZS 4251.1
Radiated Susceptibility	EN 61000-4-3; ENV 50140; ENV 50204; IEC 1000-4-3; IEC 801-3
ESD	EN 61000-4-2; IEC 1000-4-2; IEC 801-2
EFT	EN 61000-4-4; IEC 1000-4-4; IEC 801-4
Surge	EN 61000-4-5; ENV 50142; IEC 1000-4-5; IEC 801-5
47 CFR (FCC)	2, 21, 22, 23, 24, 74, 80, 87, 90, 95, 97

Revised 2/2/2000

*Peter Abney*

5301 Buckeystown Pike, Suite 350 • Frederick, MD 21704-8370 • Phone: 301 644 3248 • Fax: 301 662 2974

"This laboratory is accredited by the American Association for Laboratory Accreditation (A2LA) and the results shown in this report have been determined in accordance with the laboratory's terms of accreditation unless stated otherwise in the report."

Should this report contain any data for tests for which we are not accredited, or which have been undertaken by a subcontractor that is not A2LA accredited, such data would not covered by this laboratory's A2LA accreditation.

PAGE NO. 4 of 4.

Name of test: Environmental Assessment

EUT Description: See Page 2.  
 Power, Conducted [W] = 4 (less -13 db for duty cycle)  
 Test Frequency, MHz = 400  
 Ant. Model ¼ wave rubber duck  
 Ant. Gain[dB] = 0 db or less

Rated Probe: Narda 8761D Probe = 10 µW/cm<sup>2</sup> to 20 mW/cm<sup>2</sup>

47 CFR 1.1210  
 Table 1, (B)

0.3-1.234 MHz:	Limit [mW/cm <sup>2</sup> ] = 100
1.34-300 MHz:	Limit [mW/cm <sup>2</sup> ] = (180/f <sup>2</sup> )
30-300 MHz:	Limit [mW/cm <sup>2</sup> ] = 0.2
300-1500 MHz	Limit [mW/cm <sup>2</sup> ] = f/1500
1500-100,000 MHz:	Limit [mW/cm <sup>2</sup> ] = 1.0

Power[W EIRP] (P[Watts,Conducted] + G) = 0.200\*  
 Limit [mW/cm<sup>2</sup>] = 0.31  
 Limit [W/m<sup>2</sup>] = 3.1  
 Theoretical safe R[m] = [(P[W EIRP]) / (4π x Limit[W/m<sup>2</sup>])] <sup>1/2</sup>  
 distance: R[m] = 0.072  
 R[inches] = 2.8  
 Measurement Distance = 7.2 cm

SUPERVISED BY:



Morton Flom, P. Eng.

Addendum:

(THE FOLLOWING WILL BE PLACED IN INSTRUCTION MANUAL)

INSTRUCTIONS TO INSTALLERS & USERS

Minimum Safe Distance: 7.2 cm (2.8 in.)

Antenna Mounting

Antenna as supplied by manufacturer must not be mounted at a location such that any person or persons can come closer than the above-indicated minimum safe distance to the antenna...i.e. 7.2 cm (2.8 in.)

To comply with FCC RF Exposure Limits, antenna must be installed @ or exceeding minimum safe distance shown above. Antenna can be mounted on fenders, roof, trunk or other location, PROVIDED that the minimum safe distance is observed.

Antenna

Substitution

Do not substitute any antenna for the one supplied by manufacturer. You may be exposing person(s) to harmful radiation. Contact supplier or manufacturer for further instructions.

WARNING:

**MAINTAIN SEPARATION DISTANCE FROM ANTENNA OF 7 cm or more.**



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:



Morton Flom, P. Eng.