



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

Date: November 5, 1999

Federal Communications Commission
Via: Electronic Filing

Attention: Authorization & Evaluation Division

Applicant: Icom Incorporated
Equipment: IC-R10
FCC ID: AFJIC-R10
FCC Rules: 15.121
Subject: Class II Permissive Change

Gentlemen:

Gentlemen:

In support of a Class II Permissive Change, attached please find:

1. Application Form 731
2. Filing Fee Form 159
3. Agent Authorization letter
4. Previous Grant of Equipment Authorization
5. New image rejection data as defined in 15.121

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,

A handwritten signature in black ink, appearing to read 'William H. Graff'.

William H. Graff, Director
of Engineering

enclosure(s)
cc: Applicant
WHG/cvr



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C E R T I F I C A T I O N

of

RECEIVER MODEL: IC-R10

FCC ID: AFJIC-R10

to

FEDERAL COMMUNICATIONS COMMISSION

Part 15(B)
(New)

DATE OF REPORT: November 5, 1999

ON THE BEHALF OF THE APPLICANT:

Icom Incorporated

AT THE REQUEST OF:

P.O. UPS 10/25/99

Icom America, Inc.
2380 - 116th Ave. N. E.
P.O. C-90029
Bellevue, Washington 98009-9029

Attention of:

Masaaki Takahashi, Product Development Manager
(800) 872-4266; (425) 454-8155; FAX: -1509

SUPERVISED BY:



William H. Graff, Director
of Engineering

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

a) TEST REPORT

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: d99b0016

d) Client: Icom America, Inc.
2380 - 116th Ave. N. E.
P.O. C-90029
Bellevue, Washington 98009-9029

e) Identification: IC-R10
Description: FCC ID: AFJIC-R10
Scanning Receiver

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

g) Report Date: November 5, 1999
EUT Received: October 25, 1999

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:

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.


William H. Graff, Director
of Engineering

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

 <p>THE AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION</p> <p>ACCREDITED LABORATORY</p> <p>A2LA has accredited</p> <p>M. FLOM ASSOCIATES, INC. Chandler, AZ</p> <p>for technical competence in the field of</p> <p>Electrical (EMC) Testing</p> <p>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.</p> <p>Presented this 24th day of November, 1998.</p> <p> <i>Pete Flom</i> President For the Accreditation Council Certificate Number 1008.01 Valid to December 31, 2000</p> <p>For tests or types of tests to which this accreditation applies, please refer to the laboratory's Electrical (EMC) Scope of Accreditation</p>	 <p>American Association for Laboratory Accreditation</p> <p>SCOPE OF ACCREDITATION TO ISO/IEC GUIDE 25-1990 AND EN 45001</p> <p>M. FLOM ASSOCIATES, INC. Electronic Testing Laboratory 3356 North San Marcos Drive Suite 107 Chandler, AZ 85224-1571 Morton Flom Phone: 602 926 3100</p> <p>ELECTRICAL (EMC)</p> <table border="0"> <tr> <td>Valid to: December 31, 2000</td> <td>Certificate Number: 1008-01</td> </tr> <tr> <td colspan="2">In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following <u>electromagnetic compatibility tests</u>:</td> </tr> <tr> <td colspan="2">Test Standard(s)</td> </tr> <tr> <td>RF Emissions</td> <td>FCC Part 15 (Subparts B and C) using ANSI C63.4-1992; CISPR 11, CISPR 12, 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</td> </tr> <tr> <td>RF Immunity</td> <td>EN 50082-1; EN 50082-2; AS/NZS 4251.1</td> </tr> <tr> <td>Radiated Susceptibility</td> <td>EN 61000-4-3; ENV 50140; ENV 50204; IEC 1000-4-3; IEC 801-3</td> </tr> <tr> <td>ESD</td> <td>EN 61000-4-2; IEC 1000-4-2; IEC 801-2</td> </tr> <tr> <td>EFT</td> <td>EN 61000-4-4; IEC 1000-4-4; IEC 801-4</td> </tr> <tr> <td>Surge</td> <td>EN 61000-4-5; ENV 50142; IEC 1000-4-5; IEC 801-5</td> </tr> <tr> <td>47 CFR (FCC)</td> <td>2, 21, 22, 23, 24, 74, 80, 87, 90, 95, 97</td> </tr> </table> <p><i>Pete Flom</i></p> <p>5301 Buckeystown Pike, Suite 350 • Frederick, MD 21704-8307 • Phone: 301 644 3200 • Fax: 301 662 2974</p>	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 <u>electromagnetic compatibility tests</u> :		Test Standard(s)		RF Emissions	FCC Part 15 (Subparts B and C) using ANSI C63.4-1992; CISPR 11, CISPR 12, 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	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
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"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 be covered by this laboratory's

A2LA accreditation.

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GENERAL INFORMATION

Part 2.948:

(a)(b) DESCRIPTION OF MEASUREMENT FACILITIES:
FILE: 31040/SIT

A description of the measurement facilities was filed with the Commission and was found to be in compliance with the requirements of Section 2.948, by letter dated March 3, 1997. All pertinent changes will be reported to the Commission by up-date prior to March 2000.

(b)(4) SUPPORTING STRUCTURES:

SKETCH - ATTACHED EXHIBITS

(b)(5)(6) TEST INSTRUMENTATION:

LIST - SEE EXHIBITS

2.925: IDENTIFICATION OF AN AUTHORIZED DEVICE:

DRAWING - SEE EXHIBITS

LOCATION OF LABEL - SEE PHOTOS

NAME AND ADDRESS OF APPLICANT:

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

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2.911:
2.1033(b)(6)

TECHNICAL REPORT

MANUFACTURER:

Applicant

TRADE NAME:

ICOM

FCC ID:

AFJIC-R10

MODEL NO:

IC-R10

PHOTOGRAPHS:

SEE LIST OF EXHIBITS

15.31: MEASUREMENT STANDARD & PROCEDURE:

- IEEE STANDARD 187 WAS USED AS A GUIDE.
- FCC MEASUREMENT PROCEDURE MP-1
- FCC RULE PART 15(B) (NEW)

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EXPOSITORY STATEMENT

1. NUMBER OF BANDS = 3
2. NUMBER OF CHANNELS = N/A
3. TUNING RANGE, MHz = 0.5 to 823.9
849.1 to 868.9
894.1 to 960
4. OSCILLATOR RANGE, MHz = 439.4 to 870.9
5. I.F., MHz = 266.7, 429.1, 0.45
6. BLOCK DIAGRAM = ATTACHED
7. For cellular receiver only, the radio transceiver meets the requirements of FCC Bulletin OET 53 ("Cellular System Mobile Stations-Land-System Compatibility Specification."). See attached affidavit.

15.203: ANTENNA REQUIREMENT:

- 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

SUPERVISED BY:


William H. Graff, Director
of Engineering

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NAME OF TEST: Scanning Receivers and Frequency Converters Used With Scanning Receivers

SPECIFICATION: FCC: 47 CFR 15.121(b)

GUIDE: See Measurement Procedure Below

TEST CONDITIONS: S. T. & H.

TEST EQUIPMENT: As per attached page

GUIDE: 47 CFR 15.121(b): Except as provided in paragraph (c) of this section, scanning receivers shall reject any signals from Cellular Radiotelephone Service frequency bands that are 38 dB or higher based upon a 12 dB SINAD measurement, which is considered the threshold where a signal can be clearly discerned from any interference that may be present.

WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.

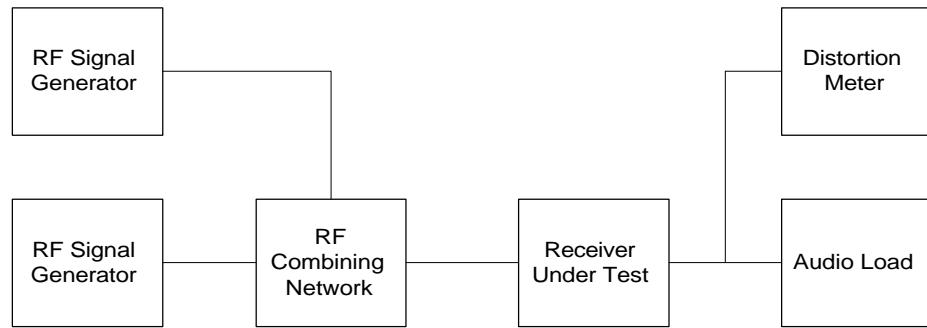
MEASUREMENT PROCEDURE

1. A search for all potential spurious responses was begun by setting a signal generator at a level of -47 dBm to each of three frequencies in the subscriber transmit and base transmit bands.
2. The EUT was then set to scan across its entire receive band. The most sensitive of each spurious response was noted.
3. The equipment was connected as illustrated. A second radio frequency signal generator (unwanted signal source) was connected to the appropriate matching network.
4. In absence of the unwanted signal, the standard input signal was applied to the combining network. Its level was varied to obtain reference sensitivity. This level is P_{REF} .
5. The level of wanted input signal was increased by 3dB.
6. A high-level unwanted input signal, modulated with 400 Hz at 60% of the maximum permissible frequency deviation was connected to the combining network.
7. The unwanted signal frequency was varied over a range from 824-849 and 869-894 MHz, to search for degradation of the SINAD. When a response was found, the frequency of the unwanted signal was adjusted to maximize the degradation.
8. At the frequency of each spurious response the level of unwanted input signal was varied until the standard SINAD value obtained. The frequency of the unwanted signal and its level was recorded as P_{SPUR} .
9. Calculate the spurious response rejection for each frequency concerned as follows:

$$\text{Spurious Response Rejection} = P_{SPUR} - P_{REF}$$

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SCANNING RECEIVER:

TEST RESULTS:

DISPLAYED FREQUENCY	IMAGE FREQUENCY	P _{REF} (dBm)	P _{SPUR} (dBm)	REJECTION (dB)
10.840	869.04	-113	-31	82
23.305	881.505	-115	-35	80
35.77	893.97	-113	-42	71
340.00	973.4	-112	-57	55
350.285	883.685	-113	-59	54
360.57	893.97	-114	-62	52

SUPERVISED BY:

William H. Graff, Director
of Engineering

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.

LIMITS: RULE 15.109(a): RECEIVER RADIATED EMISSION LIMITS

FREQUENCY, MHz	FIELD STRENGTH, μ V/m	DISTANCE, m
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

LIMITS: RULE 15.111: RECEIVER CONDUCTED EMISSION LIMITS

The power at the antenna terminal at any frequency within the range of measurements shall not exceed 2.0 nanowatts.

STATEMENT OF COMPLIANCE

THIS IS TO CERTIFY:

THAT, ON THE BASIS OF THE MEASUREMENTS MADE, THE EQUIPMENT TESTED IS CAPABLE OF COMPLYING WITH THE REQUIREMENTS OF

FCC RULE PART 15, SUBPART B X

FCC RULE PART 15, SUBPART C __

USING ANSI C63.4-1992 IN EFFECT AS OF THIS DATE, UNDER NORMAL OPERATION, WITH THE USUAL MAINTENANCE.

THAT THE DATA CONTAINED HEREIN IS A SUMMARY (WORST CASE) OF THAT OBTAINED ON SEVERAL RANDOMLY-SELECTED PRODUCTION SAMPLES.

THAT THE EQUIPMENT MEETS OR EXCEEDS THE REQUIREMENTS OF PART 15.