

2.911

TECHNICAL REPORT

NAME AND ADDRESS OF MANUFACTURER

APPLICANT

NAME OF VENDOR

ICOM AMERICA, INC.
2380 116th Ave. NE
PO Box C-90029
Bellevue, WA 98009-9029

TRADE NAME

ICOM

FCC ID:

AFJ IC-Q7A

PHOTOGRAPHS

See List of Exhibits

15.31

MEASURE STANDARD AND PROCEDURE

EXPOSITORY STATEMENT

- | | | | |
|----|-----------------------|---|------------|
| 1. | NUMBER OF BANDS | = | 1 |
| 2. | NUMBER OF CHANNELS | = | Per Manual |
| 3. | TUNING RANGE | = | Attached |
| 4. | OSCILLATOR RANGE, MHz | = | Attached |
| 5. | I.F., MHz | = | Attached |
| 6. | BLOCK DIAGRAM | = | Attached |

Detailed receiver portion:

1) Frequency bands tuned by the receiver and Intermediate Frequency

No.	Receiving Frequency Band [MHz]	1st Local Frequency [MHz]	2nd Local Frequency [MHz]	3rd Local Frequency [MHz]
1	30.0000 - 117.9950	296.7000 - 384.6950(F+IF)	247.0500 or 286.3500	19.2000
2	118.0000 - 174.9950	384.7000 - 441.6950(F+IF)	247.0500	19.2000
3	175.0000 - 282.9950	441.7000 - 549.6950(F+IF)	247.0500 or 286.35000	19.2000
4	283.0000 - 329.9950	549.7000 - 596.6950(F+IF)	247.0500	19.2000
5	330.0000 - 429.9950	596.7000 - 696.6950(F+IF)	247.0500	19.2000
6	430.0000 - 450.9950	163.3000 - 184.2950(F-IF)	247.0500 or 286.3500	19.2000
7	451.0000 - 469.9950	717.7000 - 736.6950(F+IF)	247.0500	19.2000
8	470.0000 - 608.2950	736.7000 - 874.9950(F+IF)	247.0500 or 286.3500	19.2000
9	608.3000 - 823.9950	875.0000 - 1090.6950(F+IF)	247.0500 or 286.3500	19.2000
10	849.0000 - 960.0000	582.3000 - 693.3000(F-IF)	247.0500	19.2000

1st IF : 266.7 MHz

2nd IF : 19.65 MHz

3rd IF : 0.45 MHz

2) The other frequency band tuned by the receiver except 30 MHz - 960 MHz : 960.0000 MHz - 1309.9950 MHz

3) The highest 1st local frequency : 1090.6950 MHz

4) Type of Antenna :

External 50 Ω (Unbalanced)

5) The used(generated) frequencies used the EUT :

CPU : 4.935 MHz

PLL : 19.2000 MHz

1st, 2nd, 3rd Local frequency : Refer to 1)

April 20, 1998

Federal Communications Commission
EQUIPMENT APPROVAL SERVICES
PO Box 358315
Pittsburgh, PA 15251-3315

Attention: Authorization & Evaluation Division
Applicant: ICOM INCORPORATED
Equipment: FCC ID: AFJ IC-Q7A
FCC Rules: Part 15.37 (B) (New)

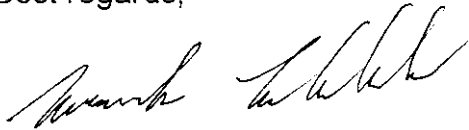
Gentlemen:

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

Filing fees are attached to the Fee Processing Form.

Should you need any further information, kindly contact the writer who is authorized to act for the Applicant.

Best regards,

A handwritten signature in black ink, appearing to read 'Masaaki Takahashi', written in a cursive style.

Masaaki Takahashi
Manager, New Product Development

April 17, 1998

Federal Communications Commission
Authorization & Evaluation Division
7435 Oakland Mills Road
Columbia, MD 21046

Gentlemen:

This is to advise that we are in full compliance with the Anti-Drug Abuse Act. The Application is not subject to a denial of federal benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 12 USC 862, and no party to the application is subject to a denial of federal benefits pursuant to that section.

Sincerely,

A handwritten signature in cursive script, appearing to read "Masaaki Takahashi".

Masaaki Takahashi
ICOM America, Inc.
Manager, New Product Development

Application for Equipment Certification
FCC Identifier: AFJ IC-Q7A
April 20, 1998

Scanning Receiver
Statement for Compliance with § 2.1033 (b) (12)

The equipment under application herein incorporates a scanning receiver. Accordingly, § 15.121 of the Commission's rules applies.

The equipment under application herein is incapable of operating (tuning), or being readily altered by the user to operate within the frequency band allocated to the Domestic Public Cellular Radio Telecommunications Service ("Cellular Radio Service"). The equipment is also incapable of converting digital cellular transmissions to analog voice audio.

The receiver portion of the equipment under application herein scans bands 30-824, 849-869, 894-1309.995 MHz, and the receiver does not scan the bands used by the Cellular Radio Service, 824-849 and 869-894 MHz.

The equipment has no circuitry capable of converting any digital signals into analog voice audio.

In view of the above, the equipment complies with § 15.121 of the Commission rules.

Sincerely yours,
ICOM Incorporated

A handwritten signature in black ink, appearing to read 'Masaaki Takahashi', written in a cursive style.

Masaaki Takahashi
Manager, New Product Development



Issue Date : April 13, 1998

Page 1 of 44

***EMC*EMISSION - TEST REPORT**

JQA APPLICATION No. : KL8070695

Model/Type No. : IC-Q7A

Name of Product : Receiver portion of VHF/UHF FM Transceiver

FCC ID : AFJ IC-Q7A

Applicant : ICOM INCORPORATED

Address : 1-6-19, Kami-Kuratsukuri, Hirano-ku 547-0004 , JAPAN

Manufacturer : ICOM INCORPORATED

Address : 1-6-19, Kami-Kuratsukuri, Hirano-ku 547-0004 , JAPAN

Final Judgement : Passed

TEST RESULTS IN THIS REPORT are obtained in use of equipment that is traceable to Electro-technical Lab. of MITI Japan and Communications Research Lab. of PTT Japan.

THE TEST RESULTS only responds to the test sample. It is not allowed to copy this report even partly without the allowance of the JQA Kita-Kansai Testing Center.

DIRECTORY

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A) Documentation

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B) Test data

Conducted Emission	450 kHz - 30 MHz	<u>N/A</u>
Radiated Emission (Electric Field)	30 MHz - 2.2 GHz	<u>17 -30</u>
Antenna-Conducted Power	30 MHz - 2.2 GHz	<u>31 -44</u>

TEST REGULATION

FCC Rules and Regulations Part 15 Subpart A and B (April 17, 1997)

- - Superheterodyne Receiver

Test procedure:

Conducted and radiated emission test were performed according to the procedures in ANSI C63.4-1992.

GENERAL INFORMATION

Test facility:

- 1) Test Facility located at Kita-Kansai : 1st and 2nd Open Sites (3 m Site)
Test Facility located at Kameoka Open Site (3, 10 and 30 m, on common plane))
FCC filing No. : 31040/SIT 1300F2
- 2) KITA-KANSAI TESTING CENTER is recognized under the National Voluntary Laboratory Accreditation Program for satisfactory compliance established in Title 15, Part 285 Code of Federal Regulations.
NAVLAP Lab Code: 200191-0
- 3) Average Measurement Method
FCC filing No. : 950523A 1300F2

Description of the Equipment Under Test (EUT):

- 1) Name : Receiver portion of VHF/UHF FM Transceiver
- 2) Model/Type No. : IC-Q7A
- 3) Product Type : Pre-Production(S/N 0001)
- 4) Category : Triple-Superheterodyne Receiver
- 5) EUT Authorization : ○ - Verification ● - Notification ○ - Certification
- 6) Highest frequency used/generated : 1090.6950 MHz
- 4) Tunig Frequency : 30.0000 MHz - 1309.9950 MHz(Refer to page 9)
- 4) Accessories : Helical Antenna
- 7) Power Rating : DC3V(Dry Battery LR6X2)

Definitions for symbols used in this test report:

- - Black box indicates that the listed condition, standard or equipment is applicable for this Report.
- - Blank box indicates that the listed condition, standard or equipment is not applicable for this Report.

TEST CONDITIONS

The measurement of the Conducted Emission (Disturbance Voltage)
was performed in the following test site.

Test location:

KITA-KANSAI Testing Center

7-7, Ishimaru 1-Chome, Minoh-Shi, Osaka 562-0027 Japan

○ - Shielded room

KAMEOKA EMC Branch

9-1, Ozaki, Inukanno, Nishibetsuin-Cho, Kameoka-Shi, Kyoto 621-0126 Japan

○ - Shielded room

○ - On metal plane of open site

Used test instruments and sites:

Model No.	Device I.D No.	Last Cal. Date	Cal. Interval
○ - ESH 3	A - 1		
○ - ESH 2	A - 2		
○ - ESH 2	A - 3		
○ - KNW-407	D - 6		
○ - KNW-242	D - 7		
○ - KNW-408	D - 14		
○ - KNW-341C	D - 13		
○ - IEEE	D - 1		
○ - ESH2-Z5	D - 10		
○ - ESH3-Z5	D - 12		
○ - ESH2-Z3	D - 17		
○ - 8568B	A - 10		
○ - 8566B	A - 13		
○ - 8593A	A - 15		
○ - Cable	H - 5		
○ - Cable	H - 8		

Environmental conditions:

Temperature: _____°C Humidity: _____%

The measurement of the Radiated Emission (Electric Field)

was performed in horizontal and vertical polarization, in the frequency range of 30 MHz - 1000 MHz, in the following test site.

Test location:

KITA-KANSAI Testing Center

7-7, Ishimaru 1-Chome, Minoh-Shi, Osaka 562-0027 Japan

○ - 1st site (3 meters)

● - 2nd site (3 meters)

KAMEOKA EMC Branch

9-1, Ozaki, Inukanno, Nishibetsuin-Cho, Kameoka-Shi, Kyoto 621-0126 Japan

○ - 3 meters

○ - 10 meters

Validation of Site Attenuation:

1) Last Confirmed Date: December 8, 1997

2) Interval : 1 Year

Used test instruments:

Model No.	Device I.D No.	Last Cal. Date	Cal. Interval
○ - ESV/ESV-Z3	A - 7 / A - 17		
● - ESV/ESV-Z3	A - 6 / A - 18	December, 1997	1 Year
○ - ESV/ESV-Z3	A - 5 / A - 16		
○ - ESV/ESV-Z3	A - 4 / A - 20		
○ - ESV/ESV-Z3	A - 8 / A - 19		
● - KBA-511A	C - 13	December, 1997	1 Year
● - KBA-611	C - 19	December, 1997	1 Year
● - Cable	H - 6	November, 1997	1 Year
○ -			

Environmental conditions:

Temperature: 16 °C Humidity: 32 %

The measurement of the Radiated Emission (Electric Field)

was performed in horizontal and vertical polarization, in the frequency range of 1 GHz - 2.2 GHz, in the following test site.

Test location:

KITA-KANSAI Testing Center

7-7, Ishimaru 1-Chome, Minoh-Shi, Osaka 562-0027 Japan

○ - 1st site (3 meters)

● - 2nd site (3 meters)

KAMEOKA EMC Branch

9-1, Ozaki, Inukanno, Nishibetsuin-Cho, Kameoka-Shi, Kyoto 621-0126 Japan

○ - 3 meters

○ - 10 meters

Used test instruments:

Model No.	Device I.D No.	Last Cal. Date	Cal. Interval
● - 8566B	A - 13	September, 1997	1 Year
○ - 8593A	A - 15		
● - 4T-10	D - 73	May, 1997	1 Year
● - 4T-10	D - 74	May, 1997	1 Year
● - WJ-6611-513	A - 23	May, 1997	1 Year
○ - WJ-6882-824	A - 21		
● - 91888-2	C - 41-1	April, 1997	1 Year
○ - 91889-2	C - 40		
● - 94613-1	C - 40	April, 1997	1 Year
● - Cable	H - 9	May, 1997	1 Year
● - Cable	H - 10	May, 1997	1 Year
○ -			

Setting of the spectrum analyzer:

RES B.W : 1 MHz Video B.W : 1 MHz
SCALE : LIN Sweep Time: 20 msec.

Environmental conditions: Temperature: 16 °C Humidity: 32 %

The measurement of the Antenna-Conducted Power
was performed in the following test site.

Test location:

KITA-KANSAI Testing Center

7-7, Ishimaru 1-Chome, Minoh-Shi, Osaka 562-0027 Japan

● - Shielded room

○ - Anechoic Chamber

KAMEOKA EMC Branch

9-1, Ozaki, Inukanno, Nishibetsuin-Cho, Kameoka-Shi, Kyoto 621-0126 Japan

○ - Shielded room

Used test instruments:

Model No.	Device I.D No.	Last Cal. Date	Cal. Interval
○ - ESV/ESV-Z3	A - 7 / A - 17		
○ - ESV/ESV-Z3	A - 6 / A - 18	December, 1997	1 Year
● - ESV/ESV-Z3	A - 5 / A - 16		
○ - ESV/ESV-Z3	A - 4 / A - 20		
○ - ESV/ESV-Z3	A - 8 / A - 19		
● - 8566B	A - 13	September, 1997	1 Year

Environmental conditions:

Temperature: 16 °C Humidity: 32 %

CONFIGURATION OF EUT

The Equipment Under Test (EUT) consists of:

Description	Applicant (Manufacturer)	Model No. (Serial No.)	FCC ID
VHF/UHF FM Transceiver	ICOM INCORPORATED (ICOM INCORPORATE)	IC-Q7A (0001)	AFJ IC-Q7A
Speaker Microphone	ICOM INCORPORATED (ICOM INCORPORATED)	HM-75A (---)	N/A

The measurement was carried out with the following equipment connected:

None

Type of Interference Cable(s) and the AC Power Cord used with the EUT:

No.	Cable	Shielded	Ferrite Core	Length
1	EUT"MIC/SP"/Speaker Microphone	NO	NO	0.5m

Detailed receiver portion:

1) Frequency bands tuned by the receiver and Intermediate Frequency

No.	Receiving Frequency Band [MHz]	1st Local Frequency [MHz]	2nd Local Frequency [MHz]	3rd Local Frequency [MHz]
1	30.0000 - 117.9950	296.7000 - 384.6950(F+IF)	247.0500 or 286.3500	19.2000
2	118.0000 - 174.9950	384.7000 - 441.6950(F+IF)	247.0500	19.2000
3	175.0000 - 282.9950	441.7000 - 549.6950(F+IF)	247.0500 or 286.35000	19.2000
4	283.0000 - 329.9950	549.7000 - 596.6950(F+IF)	247.0500	19.2000
5	330.0000 - 429.9950	596.7000 - 696.6950(F+IF)	247.0500	19.2000
6	430.0000 - 450.9950	163.3000 - 184.2950(F-IF)	247.0500 or 286.3500	19.2000
7	451.0000 - 469.9950	717.7000 - 736.6950(F+IF)	247.0500	19.2000
8	470.0000 - 608.2950	736.7000 - 874.9950(F+IF)	247.0500 or 286.3500	19.2000
9	608.3000 - 823.9950	875.0000 - 1090.6950(F+IF)	247.0500 or 286.3500	19.2000
10	849.0000 - 960.0000	582.3000 - 693.3000(F-IF)	247.0500	19.2000

1st IF : 266.7 MHz

2nd IF : 19.65 MHz

3rd IF : 0.45 MHz

2) The other frequency band tuned by the receiver except 30 MHz - 960 MHz : 960.0000 MHz - 1309.9950 MHz

3) The highest 1st local frequency : 1090.6950 MHz

4) Type of Antenna :

External 50 Ω (Unbalanced)

5) The used(generated) frequencies used the EUT :

CPU : 4.935 MHz

PLL : 19.2000 MHz

1st, 2nd, 3rd Local frequency : Refer to 1)

EUT Modification

- - No modifications were conducted by JQA to achieve compliance to the applied limits.
- - To achieve compliance to the applied limits, the following change(s) were made by JQA during the compliance test.

The modification(s) will be implemented in all production models of this equipment.

Applicant : _____ Date :

Typed Name : _____ Position :

Responsible Party

Responsible Party of Test Item(Product) _____

Responsibe party :

Contact Person :

Signatory

TEST RESULTS

Conducted Emission 450 kHz - 30 MHz

The requirements are ☐ - KEPT ☐ - NOT KEPT

Min. limit margin _____ dB at _____ MHz

Max. limit exceeding _____ dB at _____ MHz

Uncertainty of measurement results _____ dB(2 σ) _____ dB(2 σ)

Remarks: Not Applicable

Radiated Emission (Electric Field) 30 MHz - 2.2 GHz

The requirements are ☒ - KEPT ☐ - NOT KEPT

Min. limit margin 6.0 dB at 572.7 MHz

Max. limit exceeding _____ dB at _____ MHz

Uncertainty of measurement results +4.9 dB(2 σ) -5.0 dB(2 σ)

Remarks: _____

Antenna-Conducted Power 30 MHz - 2.2 GHz

The requirements are ☒ - KEPT ☐ - NOT KEPT

Min. limit margin 7.0 dB at 873.45 MHz, 1164.6 MHz

Max. limit exceeding _____ dB at _____ MHz

Uncertainty of measurement results +2.3 dB(2 σ) -2.3 dB(2 σ)

Remarks: _____

SUMMARY

GENERAL REMARKS :

The EUT was tested according to the requirements of FCC Rules and Regulations Part 15 Subpart A and B (April 17, 1997) under the test configuration, as shown in page 13.
The conclusion for the test items of which are required by the applied regulation is indicated under the final judgement.

FINAL JUDGEMENT :

The "as received" sample;

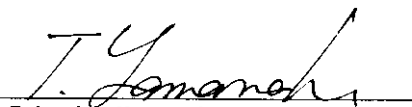
- - fulfill the test requirements of the regulation mentioned on page 3.
- - fulfill the test requirements of the regulation mentioned on page 3, but with certain qualifications.
- - doesn't fulfill the test regulation mentioned on page 3.

Begin of testing : March 12, 1998

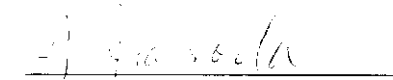
End of testing : March 16, 1998

- JAPAN QUALITY ASSURANCE ORGANIZATION -

Approved Signatory :

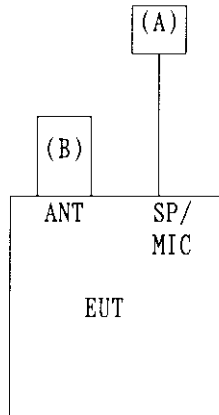


Takashi Yamanaka
Manager
EMC Div.
JQA KITA-KANSAI Testing Center



Akio Hosoda
Project Manager
EMC Div.
JQA KITA-KANSAI Testing Center

Test System-Arrangement (Drawings)

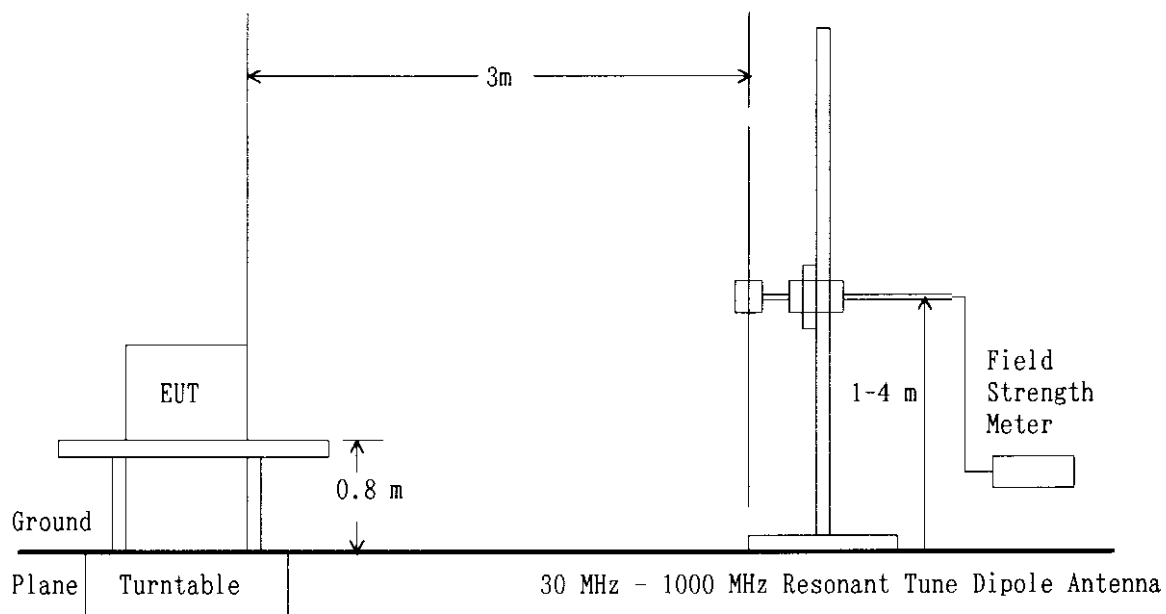


Power Supply : DC3V(Dry Battery LR6X2)

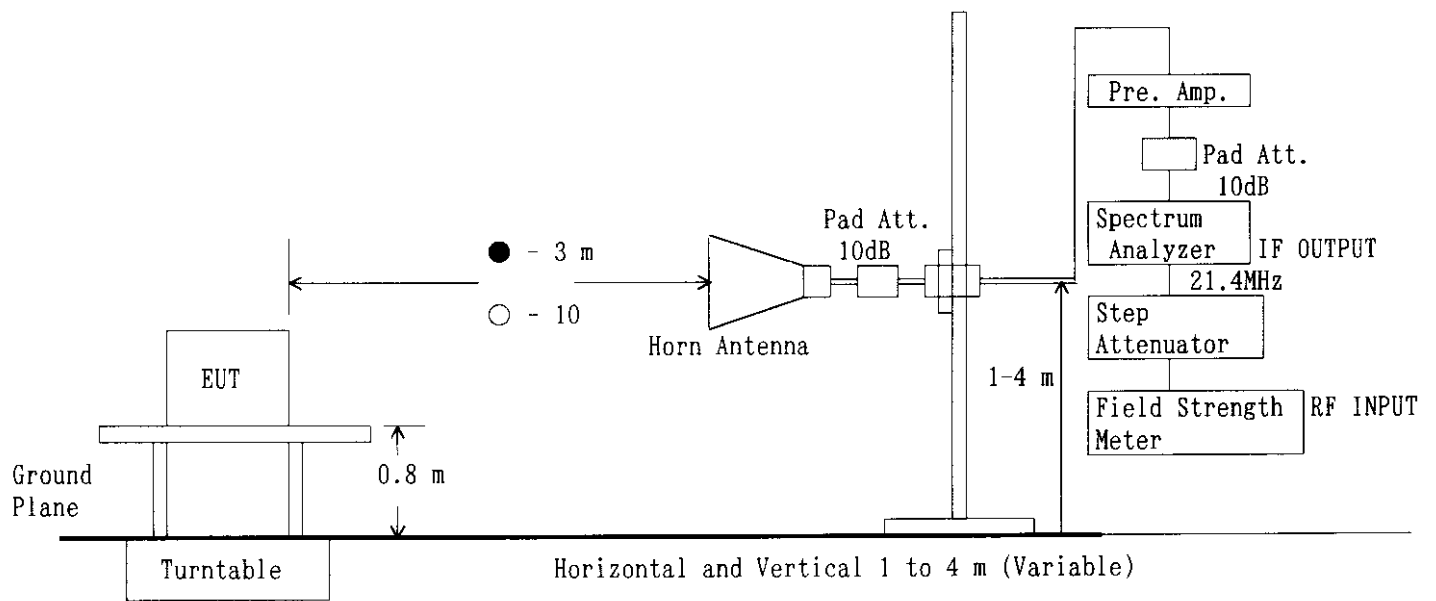
- (A) Speaker/Microphone
- (B) 50 Ω terminator at an antenna terminal(SMA-type/50 Ω unbalanced)

Test-setup(Drawings)

Radiated Emission (Electric Field) 30 MHz - 1000 MHz:



Radiated Emission (Electric Field) 1 GHz - 2.2 GHz:



Spectrum Analyzer Setting:

SCALE	LIN
RBW	1 MHz
VBW	3 MHz
SPAN	0 Hz

Field Strength Meter Setting:

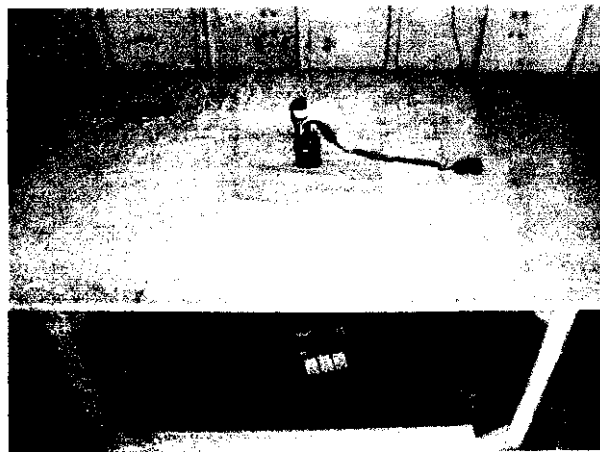
SCALE	LIN
I.F.B.W.	1 MHz
Detector	AVE

Test-Setup (Photographs) at worst case

Conducted Emission 450kHz - 30MHz:

Radiated Emission 30MHz - 2.1GHz:

N / A



Close-up of EUT

Electromagnetic Radiation Disturbance Measurement

Test Date: March 12, 1998

Temp.: 16°C; Hum.: 32%

Tuning Range : 30.0000 MHz - 117.9950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency							
30.0000	296.7000	2.0	H	20.8	46.0	22.8	A
	593.4000	<-5.0	-	28.3	46.0	<23.3	A
	890.1000	<-10.0	-	33.2	46.0	<23.2	A
	1186.8000	32.0	V	-4.6	54.0	27.4	B&C
	1483.5000	<23.0	-	-3.6	54.0	<19.4	B&C
	1780.2000	31.0	V	-6.4	54.0	24.6	B&C
	2076.9000	<23.0	-	0.0	54.0	<23.0	B&C
74.0000	340.7000	-1.0	H	22.3	46.0	21.3	A
	681.4000	<-5.0	-	29.9	46.0	<24.9	A
	1022.1000	25.0	H	-4.8	54.0	20.2	B&C
	1362.8000	43.0	V	-2.7	54.0	40.3	B&C
	1703.5000	31.0	H	-6.2	54.0	24.8	B&C
	2044.2000	27.0	V	-0.1	54.0	26.2	B&C
117.9950	384.6950	<-5.0	-	23.7	46.0	<18.7	A
	769.3900	<-10.0	-	31.3	46.0	<21.3	A
	1154.0850	26.0	V	-4.7	54.0	21.3	B&C
	1538.7800	29.0	V	-4.5	54.0	24.5	B&C
	1923.4750	31.0	H	-6.0	54.0	25.0	B&C

JQA Application No. : KL8070695
Model No. : IC-Q7A
FCC ID : AFJ IC-Q7A

Regulation : CFR 47 FCC Rules Part 15
Issue Date : April 13, 1998

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Test Date: March 12, 1998

Temp.: 16°C; Hum.: 32%

Tuning Range : 118.0000 MHz - 174.9950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency							
118.0000	384.7000	<-5.0	-	23.7	46.0	<18.7	A
	769.4000	<-10.0	-	31.3	46.0	<21.3	A
	1154.1000	26.0	V	-4.7	54.0	21.3	B&C
	1538.8000	30.0	V	-4.5	54.0	25.5	B&C
	1923.5000	32.0	V	-6.0	54.0	26.0	B&C
146.5000	413.2000	<-5.0	-	24.4	46.0	<19.4	A
	826.4000	<-10.0	-	32.2	46.0	<22.2	A
	1239.6000	27.0	V	-4.2	54.0	22.8	B&C
	1652.8000	35.0	V	-5.8	54.0	29.2	B&C
	2066.0000	32.0	V	0.0	54.0	32.0	B&C
174.9950	441.6950	<-5.0	-	25.1	46.0	<20.1	A
	883.3900	<-10.0	-	33.1	46.0	<23.1	A
	1325.0850	28.0	V	-3.2	54.0	24.8	B&C
	1766.7800	35.0	V	-6.4	54.0	28.6	B&C

JQA Application No. : KL8070695
Model No. : IC-Q7A
FCC ID : AFJ IC-Q7A

Regulation : CFR 47 FCC Rules Part 15
Issue Date : April 13, 1998

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Test Date: March 12, 1998

Temp.: 16°C; Hum.: 32%

Tuning Range : 175.0000 MHz - 282.9950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency							
175.0000	441.7000	0.0	H	25.1	46.0	25.1	A
	883.4000	<-10.0	-	33.1	46.0	<23.1	A
	1325.1000	28.0	V	-3.2	54.0	24.8	B&C
	1766.8000	35.0	V	-6.4	54.0	28.6	B&C
229.0000	495.7000	4.0	V	26.4	46.0	30.4	A
	991.4000	<-10.0	-	34.7	54.0	<24.7	A
	1487.1000	26.0	V	-3.7	54.0	22.3	B&C
	1982.8000	41.0	V	-5.8	54.0	35.2	B&C
282.9950	549.6950	0.0	V	27.5	46.0	27.5	A
	1099.3900	31.0	V	-4.7	54.0	26.3	B&C
	1649.0850	34.0	V	-5.9	54.0	28.1	B&C
	2198.7800	35.0	V	-0.1	54.0	34.9	B&C

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Model No. : IC-Q7A
FCC ID : AFJ IC-Q7A

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Temp.: 16°C; Hum.: 32%

Tuning Range : 283.0000 MHz - 329.9950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency							
283.0000	274.8500	11.0	H	20.1	46.0	31.1	A
	549.7000	9.0	V	27.5	46.0	36.5	A
	824.5500	< 5.0	-	32.2	46.0	<37.2	A
	1099.4000	29.0	H	-4.7	54.0	24.3	B&C
	1374.2500	34.0	V	-2.6	54.0	31.4	B&C
	1649.1000	33.0	V	-5.9	54.0	27.1	B&C
	1923.9500	29.0	V	-6.0	54.0	23.0	B&C
306.5000	286.6000	9.0	H	20.5	46.0	29.5	A
	573.2000	9.0	V	28.0	46.0	37.0	A
	859.8000	<-10.0	-	32.8	46.0	<22.8	A
	1146.4000	27.0	V	-4.7	54.0	22.3	B&C
	1433.0000	25.0	H	-2.8	54.0	22.2	B&C
	1719.6000	31.0	V	-6.2	54.0	24.8	B&C
	2006.2000	34.0	V	-0.3	54.0	33.7	B&C
329.9950	298.3475	2.0	H	20.9	46.0	22.9	A
	596.6950	6.0	V	28.4	46.0	34.4	A
	895.0425	<-10.0	-	33.2	46.0	<23.2	A
	1193.3900	31.0	V	-4.6	54.0	26.4	B&C
	1491.7375	<23.0	-	-3.7	54.0	<19.3	B&C
	1790.0850	31.0	V	-6.4	54.0	24.6	B&C
	2088.4325	32.0	V	0.1	54.0	32.1	B&C

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Model No. : IC-Q7A
FCC ID : AFJ IC-Q7A

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Temp.: 16°C; Hum.: 32%

Tuning Range : 330.0000 MHz - 429.9950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency							
330.0000	298.3500	< 0.0	-	20.9	46.0	<20.9	A
	596.7000	7.0	V	28.4	46.0	35.4	A
	895.0500	<-10.0	-	33.2	46.0	<23.2	A
	1193.4000	32.0	V	-4.6	54.0	27.4	B&C
	1491.7500	36.0	V	-3.7	54.0	32.3	B&C
	1790.1000	34.0	V	-6.4	54.0	27.6	B&C
	2088.4500	28.0	V	0.1	54.0	28.1	B&C
380.0000	323.3500	<-5.0	-	21.7	46.0	<16.7	A
	646.7000	2.0	V	29.3	46.0	31.3	A
	970.0500	<-10.0	-	34.4	54.0	<24.4	A
	1293.4000	39.0	V	-3.6	54.0	35.4	B&C
	1616.7500	25.0	H	-5.5	54.0	19.5	B&C
	1940.1000	33.0	V	-5.9	54.0	27.1	B&C
429.9950	348.3475	<-5.0	-	22.5	46.0	<17.5	A
	696.6950	<-5.0	-	30.1	46.0	<25.1	A
	1045.0425	29.0	V	-5.0	54.0	24.0	B&C
	1393.3900	43.0	V	-2.4	54.0	40.6	B&C
	1741.7375	33.0	V	-6.2	54.0	26.8	B&C
	2090.0850	31.0	H	0.1	54.0	31.1	B&C

Test Date: March 12, 1998

Temp.: 16°C; Hum.: 32%

Tuning Range : 430.0000 MHz - 450.9950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency							
430.0000	163.3000	< 0.0	-	15.0	43.5	<15.0	A
	326.6000	<-5.0	-	21.8	46.0	<16.8	A
	489.9000	<-5.0	-	26.3	46.0	<21.3	A
	653.2000	<-5.0	-	29.4	46.0	<24.4	A
	816.5000	<-10.0	-	32.1	46.0	<22.1	A
	979.8000	<-10.0	-	34.6	54.0	<24.6	A
	1143.1000	31.0	V	-4.7	54.0	26.3	B&C
	1306.4000	26.0	V	-3.3	54.0	22.7	B&C
	1469.7000	32.0	V	-3.4	54.0	28.6	B&C
	1633.0000	<20.0	-	-5.7	54.0	<14.3	B&C
	1796.3000	31.0	V	-6.5	54.0	24.5	B&C
	1959.6000	28.0	V	-5.9	54.0	22.1	B&C
	2122.9000	36.0	V	0.1	54.0	36.1	B&C
440.5000	173.8000	< 0.0	-	15.6	43.5	<15.6	A
	347.6000	<-5.0	-	22.5	46.0	<17.5	A
	521.4000	<-5.0	-	26.9	46.0	<21.9	A
	695.2000	<-5.0	-	30.1	46.0	<25.1	A
	869.0000	<-10.0	-	32.9	46.0	<22.9	A
	1042.8000	29.0	V	-5.0	54.0	24.0	B&C
	1216.6000	35.0	V	-4.4	54.0	30.6	B&C
	1390.4000	25.0	V	-2.4	54.0	22.6	B&C
	1564.2000	26.0	V	-4.9	54.0	21.1	B&C
	1738.0000	26.0	H	-6.3	54.0	19.7	B&C
	1911.8000	31.0	V	-6.0	54.0	25.0	B&C
	2085.6000	29.0	V	0.1	54.0	29.1	B&C

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FCC ID : AFJ IC-Q7A

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Temp.: 16°C; Hum.: 32%

Tuning Range : 430.0000 MHz - 450.9950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency							
450.9950	184.2950	< 0.0	-	16.1	43.5	<16.1	A
	368.5900	<-5.0	-	23.2	46.0	<18.2	A
	552.8850	<-5.0	-	27.5	46.0	<22.5	A
	737.1800	<-10.0	-	30.8	46.0	<20.8	A
	921.4750	-4.0	V	33.6	46.0	29.6	A
	1105.7700	26.0	V	-4.7	54.0	21.3	B&C
	1290.0650	38.0	V	-3.6	54.0	34.4	B&C
	1474.3600	26.0	V	-3.4	54.0	22.6	B&C
	1658.6550	28.0	V	-5.9	54.0	22.1	B&C
	1842.9500	31.0	V	-6.3	54.0	24.7	B&C
	2027.2450	28.0	H	-0.2	54.0	27.8	B&C

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Temp.: 16°C; Hum.: 32%

Tuning Range : 451.0000 MHz - 469.9950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency							
451.0000	358.8500	<-5.0	-	22.9	46.0	<17.9	A
	717.7000	<-10.0	-	30.5	46.0	<20.5	A
	1076.5500	33.0	H	-4.9	54.0	28.1	B&C
	1435.4000	41.0	V	-2.8	54.0	38.2	B&C
	1794.2500	36.0	V	-6.5	54.0	29.5	B&C
	2153.1000	35.0	H	0.1	54.0	35.1	B&C
460.5000	363.6000	<-5.0	-	23.0	46.0	<18.0	A
	727.2000	<-10.0	-	30.7	46.0	<20.7	A
	1090.8000	30.0	H	-4.7	54.0	25.3	B&C
	1454.4000	41.0	H	-3.1	54.0	37.9	B&C
	1818.0000	38.0	V	-6.5	54.0	31.5	B&C
	2181.6000	34.0	H	0.1	54.0	34.1	B&C
469.9950	368.3475	<-5.0	-	23.2	46.0	<18.2	A
	736.6950	<-10.0	-	30.8	46.0	<20.8	A
	1105.0425	31.0	V	-4.7	54.0	26.3	B&C
	1473.3900	38.0	V	-3.4	54.0	34.6	B&C
	1841.7375	39.0	V	-6.3	54.0	32.7	B&C

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Temp.: 16°C; Hum.: 32%

Tuning Range : 470.0000 MHz - 608.2950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency							
470.0000	368.3500	4.0	V	23.2	46.0	27.2	A
	736.7000	-3.0	V	30.8	46.0	27.8	A
	1105.0500	31.0	H	-4.7	54.0	26.3	B&C
	1473.4000	36.0	V	-3.4	54.0	32.6	B&C
	1841.7500	35.0	V	-6.3	54.0	28.7	B&C
539.1450	402.9225	-3.0	V	24.1	46.0	21.1	A
	805.8450	-2.0	V	31.8	46.0	29.8	A
	1208.7675	30.0	V	-4.5	54.0	25.5	B&C
	1611.6900	34.0	V	-5.5	54.0	28.5	B&C
	2014.6125	34.0	V	-0.3	54.0	33.7	B&C
608.2950	437.4975	3.0	V	25.0	46.0	28.0	A
	874.9950	<-10.0	-	32.9	46.0	<22.9	A
	1312.4925	32.0	V	-3.3	54.0	28.7	B&C
	1749.9900	35.0	V	-6.3	54.0	28.7	B&C
	2187.4875	31.0	V	0.1	54.0	31.1	B&C

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Temp.: 16°C; Hum.: 32%

Tuning Range : 608.3000 MHz - 823.9950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency							
608.3000	437.5000	4.0	V	25.0	46.0	29.0	A
	875.0000	<-10.0	-	32.9	46.0	<22.9	A
	1312.5000	32.0	V	-3.3	54.0	28.7	B&C
	1750.0000	37.0	V	-6.3	54.0	30.7	B&C
	2187.5000	30.0	V	0.1	54.0	30.1	B&C
716.1500	491.4250	5.0	V	26.3	46.0	31.3	A
	982.8500	3.0	V	34.6	54.0	37.6	A
	1474.2750	28.0	V	-3.4	54.0	24.6	B&C
	1965.7000	39.0	V	-5.9	54.0	33.1	B&C
823.9950	545.3475	7.5	V	27.4	46.0	34.9	A
	1090.6950	41.0	V	-4.7	54.0	36.3	B&C
	1636.0425	33.0	V	-5.8	54.0	27.2	B&C
	2181.3900	35.0	V	0.1	54.0	35.1	B&C

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Temp.: 16°C; Hum.: 32%

Tuning Range : 849.0000 MHz - 960.0000 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency							
849.0000	291.1500	6.0	H	20.7	46.0	26.7	A
	582.3000	10.0	V	28.1	46.0	38.1	A
	873.4500	-5.0	H	32.9	46.0	27.9	A
	1164.6000	31.0	V	-4.7	54.0	26.3	B&C
	1455.7500	24.0	H	-3.1	54.0	20.9	B&C
	1746.9000	33.0	V	-6.3	54.0	26.7	B&C
	2038.0500	27.0	H	-0.2	54.0	26.8	B&C
904.5000	318.9000	<-5.0	-	21.6	46.0	<16.6	A
	637.8000	9.0	V	29.1	46.0	38.1	A
	956.7000	<-10.0	-	34.2	46.0	<24.2	A
	1275.6000	35.0	V	-3.7	54.0	31.3	B&C
	1594.5000	26.0	V	-5.3	54.0	20.7	B&C
	1913.4000	31.0	V	-6.0	54.0	25.0	B&C
960.0000	346.6500	<-5.0	-	22.5	46.0	<17.5	A
	693.3000	1.0	V	30.1	46.0	31.1	A
	1039.9500	33.0	V	-5.0	54.0	28.0	B&C
	1386.6000	42.0	V	-2.5	54.0	39.5	B&C
	1733.2500	35.0	H	-6.2	54.0	28.8	B&C
	2079.9000	30.0	V	0.0	54.0	30.0	B&C

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Temp.: 16°C; Hum.: 32%

Tuning Range : 470.0000 MHz - 608.2950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
2nd Local Oscillator and 2nd VCO Frequency							
608.2950	286.3500	2.0	H	20.5	46.0	22.5	A
	572.7000	12.0	V	28.0	46.0	40.0	A
	859.0500	3.0	V	32.7	46.0	35.7	A
	1145.4000	28.0	V	-4.7	54.0	23.3	B&C
	1431.7500	24.0	V	-2.8	54.0	21.2	B&C
	1718.1000	28.0	V	-6.2	54.0	21.8	B&C
	2004.4500	37.0	V	-0.3	54.0	36.7	B&C

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Test Date: March 12, 1998

Temp.: 16°C; Hum.: 32%

Tuning Range : 849.0000 MHz - 960.0000 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
2nd Local Oscillator and 2nd VCO Frequency							
960.0000	247.0500	1.0	H	19.1	46.0	20.1	A
	494.1000	11.0	V	26.4	46.0	37.4	A
	741.1500	<-10.0	-	30.8	46.0	<20.8	A
	988.2000	<-10.0	-	34.7	54.0	<24.7	A
	1235.2500	<23.0	-	-4.2	54.0	<18.8	B&C
	1482.3000	<23.0	-	-3.6	54.0	<19.4	B&C
	1729.3500	<25.0	-	-6.2	54.0	<18.8	B&C
	1976.4000	31.0	V	-5.8	54.0	25.2	B&C

Sample of calculated result at 572.7 MHz, as the Minimum Margin point:

Corretion Factor = 28.0 dB(1/m)

+)Meter Reading = 12.0 dB(uV)

Result = 40.0 dB(uV/m)

Minimum Margin : 46.0 - 40.0 =6.0(dB)

The point shown on "___" is the Minimum Margin Point.

Note 1:

1)The highest frequency generated or used in the EUT: 1090.695 MHz

2)The upper frequency of measurement range : 2.2 GHz

3)The spectrum was scanned 30 MHz to 2.2 GHz and all emissions not reported were more than 20dB below the applied limits.

Remarks:

Note 2	Detector Function	IF Bandwidth
A	CISPR QP	120 KHz

Note 2	Detector Function	RES. B.W	V.B.W	Sweep Time	Span
B	Peak (SP)	1MHz	3MHz	20 msec	0 Hz
* C	Average(ESV)	1MHz(3 MHz)	3MHz	20 msec	0 Hz

():Setting of spectrum analyzer

*)For the avarage measurement method, it is made measurement using a test receiver, a step attenuator and a spectrum analyzer.

Tester Signature : Akio Hosoda

Type Name : Akio Hosoda

Antenna-Conducted Power Measurement

Test Date: March 16, 1998

Temp.: 16°C; Hum.: 32%

Tuning Range : 30.0000 MHz - 117.9950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits dB(uV)	Results dB(uV)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency						
30.0000	296.7000	12.0	10.0	50.0	22.0	A
	593.4000	13.0	10.0	50.0	23.0	A
	890.1000	<10.0	10.0	50.0	<20.0	A
	1186.8000	23.0	10.0	50.0	33.0	B&C
	1483.5000	<10.0	10.0	50.0	<20.0	B&C
	1780.2000	<10.0	10.0	50.0	<20.0	B&C
	2076.9000	<10.0	10.0	50.0	<20.0	B&C
74.0000	340.7000	20.0	10.0	50.0	30.0	A
	681.4000	13.0	10.0	50.0	23.0	A
	1022.1000	<10.0	10.0	50.0	<20.0	B&C
	1362.8000	23.0	10.0	50.0	33.0	B&C
	1703.5000	13.0	10.0	50.0	23.0	B&C
	2044.2000	<10.0	10.0	50.0	<20.0	B&C
117.9950	384.6950	22.0	10.0	50.0	32.0	A
	769.3900	18.0	10.0	50.0	28.0	A
	1154.0850	<10.0	10.0	50.0	<20.0	B&C
	1538.7800	15.0	10.0	50.0	25.0	B&C
	1923.4750	10.0	10.0	50.0	20.0	B&C

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Temp.: 16°C; Hum.: 32%

Tuning Range : 118.0000 MHz - 174.9950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits dB(uV)	Results dB(uV)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency						
118.0000	384.7000	<10.0	10.0	50.0	<20.0	A
	769.4000	16.0	10.0	50.0	26.0	A
	1154.1000	<10.0	10.0	50.0	<20.0	B&C
	1538.8000	18.0	10.0	50.0	28.0	B&C
	1923.5000	<10.0	10.0	50.0	<20.0	B&C
146.5000	413.2000	19.0	10.0	50.0	29.0	A
	826.4000	<10.0	10.0	50.0	<20.0	A
	1239.6000	17.0	10.0	50.0	27.0	B&C
	1652.8000	18.0	10.0	50.0	28.0	B&C
	2066.0000	15.0	10.0	50.0	25.0	B&C
174.9950	441.6950	22.0	10.0	50.0	32.0	A
	883.3900	15.0	10.0	50.0	25.0	A
	1325.0850	18.0	10.0	50.0	28.0	B&C
	1766.7800	11.0	10.0	50.0	21.0	B&C

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FCC ID : AFJ IC-Q7A

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Temp.: 16°C; Hum.: 32%

Tuning Range : 175.0000 MHz - 282.9950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits dB(uV)	Results dB(uV)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency						
175.0000	441.7000	21.0	10.0	50.0	31.0	A
	883.4000	11.0	10.0	50.0	21.0	A
	1325.1000	14.0	10.0	50.0	24.0	B&C
	1766.8000	11.0	10.0	50.0	21.0	B&C
229.0000	495.7000	21.0	10.0	50.0	31.0	A
	991.4000	14.0	10.0	50.0	24.0	A
	1487.1000	19.0	10.0	50.0	29.0	B&C
	1982.8000	18.0	10.0	50.0	28.0	B&C
282.9950	549.6950	13.0	10.0	50.0	23.0	A
	1099.3900	20.0	10.0	50.0	30.0	B&C
	1649.0850	<10.0	10.0	50.0	<20.0	B&C
	2198.7800	<10.0	10.0	50.0	<20.0	B&C

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Temp.: 16°C; Hum.: 32%

Tuning Range : 283.0000 MHz - 329.9950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits dB(uV)	Results dB(uV)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency						
283.0000	274.8500	23.0	10.0	50.0	33.0	A
	549.7000	23.0	10.0	50.0	33.0	A
	824.5500	18.0	10.0	50.0	28.0	A
	1099.4000	23.0	10.0	50.0	33.0	B&C
	1374.2500	24.0	10.0	50.0	34.0	B&C
	1649.1000	<10.0	10.0	50.0	<20.0	B&C
	1923.9500	<10.0	10.0	50.0	<20.0	B&C
306.5000	286.6000	23.0	10.0	50.0	33.0	A
	573.2000	24.0	10.0	50.0	34.0	A
	859.8000	20.0	10.0	50.0	30.0	A
	1146.4000	24.0	10.0	50.0	34.0	B&C
	1433.0000	23.0	10.0	50.0	33.0	B&C
	1719.6000	<10.0	10.0	50.0	<20.0	B&C
	2006.2000	13.0	10.0	50.0	23.0	B&C
329.9950	298.3475	19.0	10.0	50.0	29.0	A
	596.6950	22.0	10.0	50.0	32.0	A
	895.0425	18.0	10.0	50.0	28.0	A
	1193.3900	27.0	10.0	50.0	37.0	B&C
	1491.7375	20.0	10.0	50.0	30.0	B&C
	1790.0850	<10.0	10.0	50.0	<20.0	B&C
	2088.4325	17.0	10.0	50.0	27.0	B&C

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Temp.: 16°C; Hum.: 32%

Tuning Range : 330.0000 MHz - 429.9950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits dB(uV)	Results dB(uV)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency						
330.0000	298.3500	20.0	10.0	50.0	30.0	A
	596.7000	30.0	10.0	50.0	40.0	A
	895.0500	15.0	10.0	50.0	25.0	A
	1193.4000	<10.0	10.0	50.0	<20.0	B&C
	1491.7500	14.0	10.0	50.0	24.0	B&C
	1790.1000	15.0	10.0	50.0	25.0	B&C
	2088.4500	<10.0	10.0	50.0	<20.0	B&C
380.0000	323.3500	18.0	10.0	50.0	28.0	A
	646.7000	16.0	10.0	50.0	26.0	A
	970.0500	<10.0	10.0	50.0	<20.0	A
	1293.4000	16.0	10.0	50.0	26.0	B&C
	1616.7500	10.0	10.0	50.0	20.0	B&C
	1940.1000	<10.0	10.0	50.0	<20.0	B&C
429.9950	348.3475	12.0	10.0	50.0	22.0	A
	696.6950	14.0	10.0	50.0	24.0	A
	1045.0425	<10.0	10.0	50.0	<20.0	B&C
	1393.3900	20.0	10.0	50.0	30.0	B&C
	1741.7375	20.0	10.0	50.0	30.0	B&C
	2090.0850	<10.0	10.0	50.0	<20.0	B&C

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Temp.: 16°C; Hum.: 32%

Tuning Range : 430.0000 MHz - 450.9950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits dB(uV)	Results dB(uV)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency						
430.0000	163.3000	19.0	10.0	50.0	29.0	A
	326.6000	13.0	10.0	50.0	23.0	A
	489.9000	14.0	10.0	50.0	24.0	A
	653.2000	18.0	10.0	50.0	28.0	A
	816.5000	11.0	10.0	50.0	21.0	A
	979.8000	<10.0	10.0	50.0	<20.0	A
	1143.1000	<10.0	10.0	50.0	<20.0	B&C
	1306.4000	<10.0	10.0	50.0	<20.0	B&C
	1469.7000	15.0	10.0	50.0	25.0	B&C
	1633.0000	10.0	10.0	50.0	20.0	B&C
	1796.3000	<10.0	10.0	50.0	<20.0	B&C
	1959.6000	10.0	10.0	50.0	20.0	B&C
	2122.9000	17.0	10.0	50.0	27.0	B&C
440.5000	173.8000	13.0	10.0	50.0	23.0	A
	347.6000	15.0	10.0	50.0	25.0	A
	521.4000	17.0	10.0	50.0	27.0	A
	695.2000	16.0	10.0	50.0	26.0	A
	869.0000	11.0	10.0	50.0	21.0	A
	1042.8000	<10.0	10.0	50.0	<20.0	B&C
	1216.6000	11.0	10.0	50.0	21.0	B&C
	1390.4000	<10.0	10.0	50.0	<20.0	B&C
	1564.2000	18.0	10.0	50.0	28.0	B&C
	1738.0000	<10.0	10.0	50.0	<20.0	B&C
	1911.8000	11.0	10.0	50.0	21.0	B&C
	2085.6000	12.0	10.0	50.0	22.0	B&C

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Temp.: 16°C; Hum.: 32%

Tuning Range : 430.0000 MHz ~ 450.9950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits dB(uV)	Results dB(uV)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency						
450.9950	184.2950	12.0	10.0	50.0	22.0	A
	368.5900	15.0	10.0	50.0	25.0	A
	552.8850	19.0	10.0	50.0	29.0	A
	737.1800	13.0	10.0	50.0	23.0	A
	921.4750	12.0	10.0	50.0	22.0	A
	1105.7700	<10.0	10.0	50.0	<20.0	B&C
	1290.0650	<10.0	10.0	50.0	<20.0	B&C
	1474.3600	13.0	10.0	50.0	23.0	B&C
	1658.6550	17.0	10.0	50.0	27.0	B&C
	1842.9500	11.0	10.0	50.0	21.0	B&C
	2027.2450	12.0	10.0	50.0	22.0	B&C

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Temp.: 16°C; Hum.: 32%

Tuning Range : 451.0000 MHz - 469.9950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits dB(uV)	Results dB(uV)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency						
451.0000	358.8500	13.0	10.0	50.0	23.0	A
	717.7000	14.0	10.0	50.0	24.0	A
	1076.5500	<10.0	10.0	50.0	<20.0	B&C
	1435.4000	15.0	10.0	50.0	25.0	B&C
	1794.2500	20.0	10.0	50.0	30.0	B&C
	2153.1000	12.0	10.0	50.0	22.0	B&C
460.5000	363.6000	14.0	10.0	50.0	24.0	A
	727.2000	14.0	10.0	50.0	24.0	A
	1090.8000	10.0	10.0	50.0	20.0	B&C
	1454.4000	16.0	10.0	50.0	26.0	B&C
	1818.0000	20.0	10.0	50.0	30.0	B&C
	2181.6000	13.0	10.0	50.0	23.0	B&C
469.9950	368.3475	15.0	10.0	50.0	25.0	A
	736.6950	20.0	10.0	50.0	30.0	A
	1105.0425	12.0	10.0	50.0	22.0	B&C
	1473.3900	19.0	10.0	50.0	29.0	B&C
	1841.7375	19.0	10.0	50.0	29.0	B&C

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Temp.: 16°C; Hum.: 32%

Tuning Range : 470.0000 MHz - 608.2950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits dB(uV)	Results dB(uV)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency						
470.0000	368.3500	15.0	10.0	50.0	25.0	A
	736.7000	20.0	10.0	50.0	30.0	A
	1105.0500	13.0	10.0	50.0	23.0	B&C
	1473.4000	11.0	10.0	50.0	21.0	B&C
	1841.7500	12.0	10.0	50.0	22.0	B&C
539.1450	402.9225	12.0	10.0	50.0	22.0	A
	805.8450	25.0	10.0	50.0	35.0	A
	1208.7675	<10.0	10.0	50.0	<20.0	B&C
	1611.6900	14.0	10.0	50.0	24.0	B&C
	2014.6125	10.0	10.0	50.0	20.0	B&C
608.2950	437.4975	21.0	10.0	50.0	31.0	A
	874.9950	31.0	10.0	50.0	41.0	A
	1312.4925	11.0	10.0	50.0	21.0	B&C
	1749.9900	18.0	10.0	50.0	28.0	B&C
	2187.4875	12.0	10.0	50.0	22.0	B&C

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Temp.: 16°C; Hum.: 32%

Tuning Range : 608.3000 MHz - 823.9950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits dB(uV)	Results dB(uV)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency						
608.3000	437.5000	21.0	10.0	50.0	31.0	A
	875.0000	31.0	10.0	50.0	41.0	A
	1312.5000	10.0	10.0	50.0	20.0	B&C
	1750.0000	17.0	10.0	50.0	27.0	B&C
	2187.5000	12.0	10.0	50.0	22.0	B&C
716.1500	491.4250	14.0	10.0	50.0	24.0	A
	982.8500	32.0	10.0	50.0	42.0	A
	1474.2750	<10.0	10.0	50.0	<20.0	B&C
	1965.7000	16.0	10.0	50.0	26.0	B&C
823.9950	545.3475	19.0	10.0	50.0	29.0	A
	1090.6950	21.0	10.0	50.0	31.0	B&C
	1636.0425	<10.0	10.0	50.0	<20.0	B&C
	2181.3900	15.0	10.0	50.0	25.0	B&C

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Temp.: 16°C; Hum.: 32%

Tuning Range : 849.0000 MHz - 960.0000 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits dB(uV)	Results dB(uV)	Remarks (Note2)
1st Local Oscillator and 1st VCO Frequency						
849.0000	291.1500	22.0	10.0	50.0	32.0	A
	582.3000	11.0	10.0	50.0	21.0	A
	873.4500	33.0	10.0	50.0	43.0	A
	1164.6000	33.0	10.0	50.0	43.0	B&C
	1455.7500	14.0	10.0	50.0	24.0	B&C
	1746.9000	<10.0	10.0	50.0	<20.0	B&C
	2038.0500	<10.0	10.0	50.0	<20.0	B&C
904.5000	318.9000	16.0	10.0	50.0	26.0	A
	637.8000	<10.0	10.0	50.0	<20.0	A
	956.7000	12.0	10.0	50.0	22.0	A
	1275.6000	<10.0	10.0	50.0	<20.0	B&C
	1594.5000	<10.0	10.0	50.0	<20.0	B&C
	1913.4000	10.0	10.0	50.0	20.0	B&C
960.0000	346.6500	10.0	10.0	50.0	20.0	A
	693.3000	16.0	10.0	50.0	26.0	A
	1039.9500	11.0	10.0	50.0	21.0	B&C
	1386.6000	17.0	10.0	50.0	27.0	B&C
	1733.2500	<10.0	10.0	50.0	<20.0	B&C
	2079.9000	<10.0	10.0	50.0	<20.0	B&C

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Tuning Range : 470.0000 MHz - 608.2950 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits dB(uV)	Results dB(uV)	Remarks (Note2)
2nd Local Oscillator and 2nd VCO Frequency						
608.2950	286.3500	<10.0	10.0	50.0	<20.0	A
	572.7000	<10.0	10.0	50.0	<20.0	A
	859.0500	14.0	10.0	50.0	24.0	A
	1145.4000	14.0	10.0	50.0	24.0	B&C
	1431.7500	<10.0	10.0	50.0	<20.0	B&C
	1718.1000	<10.0	10.0	50.0	<20.0	B&C
	2004.4500	12.0	10.0	50.0	22.0	B&C

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Temp.: 16°C; Hum.: 32%

Tuning Range : 849.0000 MHz - 960.0000 MHz

Frequency to which tuned [MHz]	Frequency of the emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits dB(uV)	Results dB(uV)	Remarks (Note2)
2nd Local Oscillator and 2nd VCO Frequency						
960.0000	247.0500	<10.0	10.0	50.0	<20.0	A
	494.1000	<10.0	10.0	50.0	<20.0	A
	741.1500	<10.0	10.0	50.0	<20.0	A
	988.2000	14.0	10.0	50.0	24.0	A
	1235.2500	<10.0	10.0	50.0	<20.0	B&C
	1482.3000	<10.0	10.0	50.0	<20.0	B&C
	1729.3500	<10.0	10.0	50.0	<20.0	B&C
	1976.4000	<10.0	10.0	50.0	<20.0	B&C

Sample of calculated result at 873.4500 MHz, as the Minimum Margin point:

Corretion Factor = 10.0 dB(1/m)
+)Meter Reading = 33.0 dB(uV)
Result = 43.0 dB(uV/m)

Minimum Margin : 50.0 - 43.0 = 7.0(dB)

The point shown on "___" is the Minimum Margin Point.

Note 1:

- 1)The highest frequency generated or used in the EUT: 1090.695 MHz
- 2)The upper frequency of measurement range : 2.2 GHz
- 3)The spectrum was scanned 30 MHz to 2.2 GHz and all emissions not reported were more than 20dB below the applied limits.

Remarks:

Note 2	Detector Function	IF Bandwidth
A	CISPR QP	120 KHz

Note 2	Detector Function	RES. B.W	V.B.W	Sweep Time	Span
B	Peak (SP)	100kHz	300kHz	20 msec	1MHz
* C	Average(ESV)	1MHz(3 MHz)	3MHz	20 msec	0 Hz

():Setting of spectrum analyzer

- *)For the avarage measurement method, it is made measurement using a test receiver, a step attenuator and a spectrum analyzer.

Tester Signature : Akio Hosoda

Type Name : Akio Hosoda