

Issue Date : January 8, 2003
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***EMC* EMISSION - TEST REPORT**

JQA APPLICATION No. : KL80020280

Name of Product : Communication Receiver

Model / Type No. : IC-R5

FCC ID : AFJ IC-R5

Applicant : ICOM Incorporated

Address : 1-6-19, Kuratsukuri, Kami, Hirano-ku, Osaka, Japan

Manufacturer : ICOM Incorporated

Address : 1-6-19, Kuratsukuri, Kami, Hirano-ku, Osaka, Japan

Receive date of EUT : September 26, 2002

Final Judgement : Passed

TEST RESULTS IN THIS REPORT are obtained in use of equipment that is traceable to National Institute of Advanced Industrial Science and Technology(AIST) under METI Japan and Communications Research Lab.(CRL) under MPHPT Japan.

THE TEST RESULTS only responds to the test sample. This test report shall not be reproduced except in full.

Authorized by:



Takashi Yamanaka, Director
JQA KITA-KANSAI Testing Center

DIRECTORY

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TEST REGULATION

FCC Rules and Regulations Part 15 Subpart A and B (August 20, 2002)

- ☐ - Class A Digital Device
- ☐ - Class B Digital Device
- ☒ - Scanning Receiver

Test procedure:

The tests 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 : 1st Open Site (3, 10 and 30 m, on common plane)
: 2nd Open Site (3 and 10 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.
NVLAP Lab Code: 200191-0

Description of the Equipment Under Test (EUT):

- 1) Name : Communication Receiver
- 2) Model/Type No. : IC-R5
- 3) Product Type : Pre-Production (S/N: 00304)
- 4) Category : Scanning Receiver
- 5) EUT Authorization : ☐ - Verification ☒ - Certification ☐ - D.o.C.
- 6) Highest frequency used/generated : 6.75 MHz
- 7) Highest local frequency : 1043.2950 MHz
- 8) Power Rating : DC 6.0V (AC Adapter : BC-149A)

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

AC Powerline Conducted Emission Measurement

was performed in the following test site.

Test location:

KITA-KANSAI Testing Center

7-7, Ishimaru, 1-Chome, Mino-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 ID	Last Cal. Date	Cal. Interval
○ - ESCS 30	A - 1		
● - ESH 2	A - 2	May, 2002	1 Year
○ - ESH 2	A - 3		
● - KNW-407	D - 6	October, 2002	1 Year
○ - KNW-408	D - 11		
○ - KNW-242	D - 7		
○ - ESH3-Z5	D - 12		
○ - KNW-341C	D - 13		
○ - KNW-408	D - 14		
○ - KNW-244C	D - 77		
○ - KNW-408	D - 78		
○ - ESH2-Z5	D - 10		
○ - ESH2-Z3	D - 17		
○ - 65 BNC-50-0-1	H - 26		
○ - 65 BNC-50-0-1	H - 27		
○ - Cable	H - 7		
● - Cable	H - 8	October, 2002	1 Year

Environmental conditions:

Temperature: 21 °C Humidity: 40 %

Electromagnetic Field Radiated Emission Measurement

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, Mino-Shi, Osaka, 562-0027, Japan

● - 1st open test site (3 meters)

○ - 2nd open test site (3 meters)

KAMEOKA EMC Branch

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

○ - 1st open test site ○ - 3 m ○ - 10 m ○ - 30 m

○ - 2nd open test site ○ - 3 m ○ - 10 m

Validation of Site Attenuation:

1) Last Confirmed Date : October 4, 2002

2) Interval : 1 Year

Used test instruments:

Model No.	Device ID	Last Cal. Date	Cal. Interval
● - ESV/ESV-Z3	A - 7 / A - 17	November, 2002	1 Year
○ - ESV/ESV-Z3	A - 6 / A - 18		
○ - ESV/ESV-Z3	A - 4 / A - 20		
○ - ESV/ESV-Z3	A - 8 / A - 19		
○ - ESVS 10	A - 5		
○ - ESCS 30	A - 1	August, 2002	1 Year
○ - KBA-511A	C - 11		
○ - KBA-611	C - 21		
● - VHA9103/BBA9106	C - 43		
● - UHALP9107	C - 42		
○ - VHA9103/FBAB9177	C - 25	November, 2002	1 Year
○ - UHALP9108-A1	C - 28		
● - Cable	H - 5		

Environmental conditions:

Temperature: 15 °C Humidity: 30 %

Electromagnetic Field Radiated Emission Measurement

was performed in horizontal and vertical polarization, in the frequency range of 1 GHz - 2.10GHz, in the following test site.

Test location:

KITA-KANSAI Testing Center

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

● - 1st open test site (3 meters)

○ - 2nd open test site (3 meters)

KAMEOKA EMC Branch

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

○ - 1st open test site ○ - 3 m ○ - 10 m ○ - 30 m

○ - 2nd open test site ○ - 3 m ○ - 10 m

Used test instruments:

Model No.	Device ID	Last Cal. Date	Cal. Interval
● - ESCS 30	A - 1	August, 2002	1 Year
○ - 8566B	A - 13		
○ - 8593A	A - 15		
○ - ESV	A - 6		
● - 4T-10	D - 73	May, 2002	1 Year
● - 4T-10	D - 74	May, 2002	1 Year
● - WJ-6611-513	A - 23	May, 2002	1 Year
○ - WJ-6882-824	A - 21		
○ - DBL-0618N515	A - 33		
● - 91888-2	C - 41 - 1	May, 2002	1 Year
○ - 91889-2	C - 41 - 2		
○ - 94613-1	C - 41 - 3		
○ - 91891-2	C - 41 - 4		
○ - 94614-1	C - 41 - 5		
○ - 3160-09	C - 48		
○ - 355C	D - 22		
○ - 355D	D - 23		
○ - MZ5010C	D - 81		
● - Cable	C - 40 - 11	May, 2002	1 Year
● - Cable	C - 40 - 12	May, 2002	1 Year

Environmental conditions:

Temperature: 20 °C Humidity: 48 %

Antenna-Conducted Power Measurement

was performed in the frequency range of 30 MHz - 2.10 GHz, in the following test site.

Test location:

KITA-KANSAI Testing Center

7-7, Ishimaru, 1-Chome, Mino-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 ID	Last Cal. Date	Cal. Interval
● - ESCS 30	A - 1	August, 2002	1 Year
○ - 8566B	A - 13		
○ - 8593A	A - 15		
○ - ESV	A - 6		
○ - LSG-221	B - 15		
○ - 216/1	B - 16		
○ - MP614A	D - 56		
○ - 12B50/75	D - 55		
○ - 12N50/75B	D - 72		
● - 2-10	D - 40		
○ - 1506A	D - 21	June, 2002	1 Year
● - Cable	C - 40 - 9	June, 2002	1 Year

Environmental conditions:

Temperature: 20 °C Humidity: 48 %

38dB Rejection Test (§15.121(b))

was performed in the following test site.

Test location:

KITA-KANSAI Testing Center

7-7, Ishimaru, 1-Chome, Mino-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 ID	Last Cal. Date	Cal. Interval
● - MG3681A	B - 3	January, 2002	1 Year
● - E-2001B	N47099003	October, 2002	1 Year
○ - 339A			

Environmental conditions:

Temperature: 24 °C Humidity: 60 %

CONFIGURATION OF EUT

The Equipment Under Test (EUT) consists of:

Description	Applicant (Manufacturer)	Model No. (Serial No.)	FCC ID
Communication Receiver	ICOM Incorporated (ICOM Incorporated)	IC-R5 (00304)	AFJ IC-R5
AC Adapter	ICOM Incorporated (ICOM Incorporated)	BC-149A (---)	N/A

The measurement was carried out with the following equipment connected:

Description	Grantee/Distributor	Model No. (Serial No.)	FCC ID
Earphone	ICOM Incorporated	SP-13 (---)	N/A

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

	Description	Port	Shielded Cable	Shell Material	Ferrite Core	Cable Length
1	EUT (DC Power Cord) 1 ϕ 2-pin plug	DC IN	NO	--	YES (1)	1.9 m
	AC Adapter	--		--		
2	EUT	Earphone	NO	--	NO	0.9 m
	Earphone	--		--		

Operation - mode of the EUT:

1) Relation between receiving frequency, local frequency and Intermediate Frequency

No.	Receiving Frequency [MHz]		1st LO Equation	Local Frequency [MHz] 1st LO 1st IF = 266.7 MHz	
1	0.1500	- 29.995	F+IF	266.850	- 296.695
2	30.000	- 113.295	F+IF	296.700	- 379.995
3	113.300	- 117.995	F+IF	380.000	- 384.695
4	118.000	- 174.995	F+IF	384.700	- 441.695
5	175.000	- 282.995	F+IF	441.700	- 549.695
6	283.000	- 329.995	(F+IF)/2	549.700	- 596.695
7	330.000	- 469.995	(F+IF)/2	596.700	- 736.695
8	470.000	- 493.295	(F+IF)/2	736.700	- 759.995
9	493.300	- 509.995	(F+IF)/2	760.000	- 776.695
10	510.000	- 821.995	(F+IF)/2	776.700	- 1088.695
×11	851.000	- 1026.695	(F-IF)/2	584.300	- 759.995
12	1026.70	- 1309.995	(F-IF)/2	760.000	- 1043.295

× : Cellular Blocked Frequency Range : 867.000 MHz - 895.995 MHz

2) Respective Intermediate Frequencies and Other Local Frequencies

1st IF : 266.7 MHz

2nd IF : 19.65 MHz

3rd IF : 450 kHz

2nd LO : 1) 286.35 MHz(Receiving Frequency :82.540MHz-83.495MHz, 246.950MHz-247.145MHz, 493.300MHz-494.9950MHz, 607.300MHz-608.295MHz,741.050MHz-741.2450MHz, 988.100MHz-988.195MHz,1235.150MHz-1235.245MHz)
2) 247.05 MHz(Other Receiving Frequency)

3rd LO : 19.20 MHz

3) Type of Antenna Terminal : SMA-Type 50 Ω (Unbalanced)

Test system:

The EUT has one ANT port, one Earphone jack and one DC IN port.

Special accessories:

The AC Adapter with a ferrite core is an exclusive use of the AC converter as the special accessory of which is defined Sec. 15.27 in FCC rule.

The AC Adapter is to be marketed together with the EUT.

The used (generated) frequencies in the EUT:

CPU : 6.75 MHz

EUT Modification

- - No modifications were conducted by JQA to achieve compliance to applied levels.
- - To achieve compliance to applied levels, 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 : N/A Date : N/A

Typed Name : N/A Position : N/A

Responsible Party

— Responsible Party of Test Item(Product) —

Responsible party :

Contact Person :

Signatory

Deviation from Standard

- - No deviations from the standard described in page 3.
- - The following deviations were employed from the standard described in page 3.

TEST RESULTS

AC Powerline Conducted Emission 150 kHz - 30 MHz

The requirements are		● - Passed	○ - Not Passed
Min. limit margin	More than	<u>35.6</u> dB at <u>5.00</u> MHz	
Max. limit exceeding		<u> </u> dB at <u> </u> MHz	
Uncertainty of measurement results		<u>+ 2.1</u> dB(2σ)	<u>- 2.1</u> dB(2σ)

Remarks: _____

Electromagnetic Field Radiated Emission 30 MHz - 2100 MHz

The requirements are		● - Passed	○ - Not Passed
Min. limit margin		<u>4.1</u> dB at <u>549.700</u> MHz	
Max. limit exceeding		<u> </u> dB at <u> </u> MHz	
Uncertainty of measurement results(30MHz - 1GHz)		<u>+4.1</u> dB(2σ)	<u>- 4.2</u> dB(2σ)
Uncertainty of measurement results(1GHz - 2.1GHz)		<u>+3.1</u> dB(2σ)	<u>- 3.2</u> dB(2σ)

Remarks: The measured result is below the specification limit by a margin less than the measurement uncertainty; it is therefore not possible to state compliance based on the 95% level of confidence. However, the result indicates that compliance is more probable than non-compliance with the specification limit.

Antenna-Conducted Power 30 MHz - 2100 MHz

The requirements are		● - Passed	○ - Not Passed
Min. limit margin		<u>10.0</u> dB at <u>1899.975</u> MHz	
Max. limit exceeding		<u> </u> dB at <u> </u> MHz	
Uncertainty of measurement results		<u>+ 2.3</u> dB(2σ)	<u>- 2.3</u> dB(2σ)

Remarks: _____

38dB Rejection Test (§15.121(b))

The requirements are

● - **Passed**

○ - **Not Passed**

Min. limit margin

4.3 dB at 1040.51 MHz

Max. limit exceeding

 dB at MHz

Uncertainty of measurement results

- dB(2 σ) - 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 (August 20, 2002) under the test configuration, as shown in page 15.

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 : September 27, 2002

End of testing : January 7, 2003

- JAPAN QUALITY ASSURANCE ORGANIZATION -

Approved by :



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

Issued by :



Shigeru Kinoshita
Deputy Manager
EMC Div.
JQA KITA-KANSAI Testing Center

AC Powerline Conducted Emission Measurement

Receiving Frequency : 500.0000 MHz

Test Date: November 19, 2002

Temp.: 21 °C ; Humi.: 40 %

Frequency [MHz]	Correction Factor [dB]	Meter Readings [dB(μV)]				Limits [dB(μV)]		Results [dB(μV)]		Margin [dB]	Remarks (Note 2)
		VA		VB		QP	AV	QP	AV		
		QP	AV	QP	AV	QP	AV	QP	AV		
0.15	0.2	<20.0	-	<20.0	-	66.0	56.0	<20.2	-	>+45.8	A
0.20	0.2	<20.0	-	<20.0	-	63.6	53.6	<20.2	-	>+43.4	A
0.45	0.1	<20.0	-	<20.0	-	56.9	46.9	<20.1	-	>+36.8	A
1.00	0.1	<20.0	-	<20.0	-	56.0	46.0	<20.1	-	>+35.9	A
3.00	0.3	<20.0	-	<20.0	-	56.0	46.0	<20.3	-	>+35.7	A
5.00	0.4	<20.0	-	<20.0	-	56.0	46.0	<20.4	-	>+35.6	A
10.00	0.5	<20.0	-	<20.0	-	60.0	50.0	<20.5	-	>+39.5	A
20.00	0.8	<20.0	-	<20.0	-	60.0	50.0	<20.8	-	>+39.2	A
30.00	0.9	<20.0	-	<20.0	-	60.0	50.0	<20.9	-	>+39.1	A

Sample of calculated result at 5.00 MHz, as the Minimum Margin point:

Correction Factor = 0.4 dB

+ Meter Reading = <20.0 dB(μV)

Result = <20.4 dB(μV)

Minimum Margin : 56.0 - <20.4 = >35.6(dB)

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

Note 1:

1)The correction factor includes the LISN insertion loss and the cable loss.

Remarks:

Note 2	Detector Function	IF Bandwidth
A	CISPR QP	9 kHz
B	Average	10 kHz

Tester Signature : Shigeru Kinoshita

Test for $\geq 1\text{GHz}$: Test Date: December 25, 2002
Temp.: 20 °C ; Humi.: 48 %

Tuning Range : 0.1500 MHz - 29.995 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Antenna Factor [dB(1/m)]	Corr. Factor [dB]	Meter Readings		Limits [dB(μV/m)]	Results		Margin [dB]	Remarks (Note 2)
				[dB(μV)]			[dB(μV/m)]			
				Hori.	Vert.		Hori.	Vert.		
0.150	266.850	18.1	2.3	< 0.0	< 0.0	46.0	< 20.4	< 20.4	> +25.6	A
	533.700	20.2	3.3	< 9.0	2.0	46.0	< 32.5	25.5	> +13.5	A
	800.550	22.8	4.2	0.0	-1.0	46.0	27.0	26.0	+19.0	A
	1067.400	21.0	-26.6	< 30.0	< 30.0	54.0	< 24.4	< 24.4	> +29.6	B
	1334.250	21.4	-25.4	< 30.0	< 30.0	54.0	< 26.0	< 26.0	> +28.0	B
	1601.100	20.5	-26.8	< 30.0	< 30.0	54.0	< 23.7	< 23.7	> +30.3	B
	1867.950	21.4	-28.6	31.0	37.0	54.0	23.8	29.8	+24.2	B
	2134.800	21.4	-21.5	< 30.0	34.0	54.0	< 29.9	33.9	+20.1	B
15.100	281.800	19.0	2.4	< 0.0	0.0	46.0	< 21.4	21.4	+24.6	A
	563.600	20.9	3.4	-2.0	5.0	46.0	22.3	29.3	+16.7	A
	845.400	23.3	4.4	4.0	< 5.0	46.0	31.7	< 32.7	> +13.3	A
	1127.200	21.1	-26.6	< 30.0	< 30.0	54.0	< 24.5	< 24.5	> +29.5	B
	1409.000	21.5	-24.9	< 30.0	31.0	54.0	< 26.6	27.6	+26.4	B
	1690.800	20.8	-27.8	< 30.0	33.0	54.0	< 23.0	26.0	+28.0	B
	1972.600	21.4	-28.0	< 30.0	< 30.0	54.0	< 23.4	< 23.4	> +30.6	B
29.995	296.695	19.9	2.4	< 0.0	< 0.0	46.0	< 22.3	< 22.3	> +23.7	A
	593.390	21.5	3.5	-2.0	5.0	46.0	23.0	30.0	+16.0	A
	890.085	23.9	4.4	8.0	5.0	46.0	36.3	33.3	+ 9.7	A
	1186.780	21.2	-26.6	< 30.0	< 30.0	54.0	< 24.6	< 24.6	> +29.4	B
	1483.475	21.1	-25.6	< 30.0	32.0	54.0	< 25.5	27.5	+26.5	B
	1780.170	21.3	-28.8	34.0	39.0	54.0	26.5	31.5	+22.5	B
	2076.865	21.4	-21.5	< 30.0	< 30.0	54.0	< 29.9	< 29.9	> +24.1	B

Band 2

Tuning Range : 30.000 MHz - 113.295 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Antenna Factor [dB(1/m)]	Corr. Factor [dB]	Meter Readings [dB(μV)]		Limits [dB(μV/m)]	Results [dB(μV/m)]		Margin [dB]	Remarks (Note 2)
				Hori.	Vert.		Hori.	Vert.		
30.000	296.700	19.9	2.4	< 0.0	< 0.0	46.0	< 22.3	< 22.3	> +23.7	A
	593.400	21.5	3.5	-2.0	4.0	46.0	23.0	29.0	+17.0	A
	890.100	23.9	4.4	8.0	5.0	46.0	36.3	33.3	+ 9.7	A
	1186.800	21.2	-26.6	< 30.0	30.0	54.0	< 24.6	24.6	+29.4	B
	1483.500	21.1	-25.6	< 30.0	31.0	54.0	< 25.5	26.5	+27.5	B
	1780.200	21.3	-28.8	33.0	39.0	54.0	25.5	31.5	+22.5	B
	2076.900	21.4	-21.5	< 30.0	< 30.0	54.0	< 29.9	< 29.9	> +24.1	B
71.650	338.350	16.8	2.6	-1.0	< -5.0	46.0	18.4	< 14.4	+27.6	A
	676.700	22.2	3.8	< 2.0	2.0	46.0	< 28.0	28.0	+18.0	A
	1015.050	21.1	-26.6	33.0	34.0	54.0	27.5	28.5	+25.5	B
	1353.400	21.4	-25.2	34.0	35.0	54.0	30.2	31.2	+22.8	B
	1691.750	20.8	-27.8	36.0	45.0	54.0	29.0	38.0	+16.0	B
	2030.100	21.2	-21.5	< 30.0	33.0	54.0	< 29.7	32.7	+21.3	B
113.295	379.995	17.2	2.8	< -5.0	-3.0	46.0	< 15.0	17.0	+29.0	A
	759.990	22.6	4.1	-3.0	5.0	46.0	23.7	31.7	+14.3	A
	1139.985	21.1	-26.6	35.0	36.0	54.0	29.5	30.5	+23.5	B
	1519.980	20.9	-26.0	31.0	40.0	54.0	25.9	34.9	+19.1	B
	1899.975	21.4	-28.4	40.0	49.0	54.0	33.0	42.0	+12.0	B

Band 3

Tuning Range : 113.300 MHz - 117.995 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Antenna Factor [dB(1/m)]	Corr. Factor [dB]	Meter Readings [dB(μV)]		Limits [dB(μV/m)]	Results [dB(μV/m)]		Margin [dB]	Remarks (Note 2)
				Hori.	Vert.		Hori.	Vert.		
113.300	380.000	17.2	2.8	-3.0	-1.0	46.0	17.0	19.0	+27.0	A
	760.000	22.6	4.1	-3.0	-2.0	46.0	23.7	24.7	+21.3	A
	1140.000	21.1	-26.6	33.0	34.0	54.0	27.5	28.5	+25.5	B
	1520.000	20.9	-26.0	< 30.0	31.0	54.0	< 24.9	25.9	+28.1	B
	1900.000	21.4	-28.4	45.0	51.0	54.0	38.0	44.0	+10.0	B
115.650	382.350	17.2	2.8	< -5.0	-1.0	46.0	< 15.0	19.0	+27.0	A
	764.700	22.7	4.1	-2.0	-2.0	46.0	24.8	24.8	+21.2	A
	1147.050	21.1	-26.6	33.0	34.0	54.0	27.5	28.5	+25.5	B
	1529.400	20.8	-26.0	< 30.0	32.0	54.0	< 24.8	26.8	+27.2	B
	1911.750	21.4	-28.3	44.0	50.0	54.0	37.1	43.1	+10.9	B
117.995	384.695	17.3	2.8	-3.0	-1.0	46.0	17.1	19.1	+26.9	A
	769.390	22.7	4.1	-3.0	-3.0	46.0	23.8	23.8	+22.2	A
	1154.085	21.1	-26.6	34.0	34.0	54.0	28.5	28.5	+25.5	B
	1538.780	20.8	-26.1	< 30.0	32.0	54.0	< 24.7	26.7	+27.3	B
	1923.475	21.4	-28.3	44.0	50.0	54.0	37.1	43.1	+10.9	B

Band 4

Tuning Range : 118.000 MHz - 174.995 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Antenna Factor [dB(1/m)]	Corr. Factor [dB]	Meter Readings [dB(μV)]		Limits [dB(μV/m)]	Results [dB(μV/m)]		Margin [dB]	Remarks (Note 2)
				Hori.	Vert.		Hori.	Vert.		
118.000	384.700	17.3	2.8	< -5.0	-1.0	46.0	< 15.1	19.1	+26.9	A
	769.400	22.7	4.1	-3.0	-3.0	46.0	23.8	23.8	+22.2	A
	1154.100	21.1	-26.6	36.0	36.0	54.0	30.5	30.5	+23.5	B
	1538.800	20.8	-26.1	< 30.0	32.0	54.0	< 24.7	26.7	+27.3	B
	1923.500	21.4	-28.3	44.0	50.0	54.0	37.1	43.1	+10.9	B
146.500	413.200	17.7	2.9	-3.0	2.0	46.0	17.6	22.6	+23.4	A
	826.400	23.1	4.3	0.0	< 8.0	46.0	27.4	< 35.4	> +10.6	A
	1239.600	21.1	-26.3	40.0	40.0	54.0	34.8	34.8	+19.2	B
	1652.800	20.5	-27.3	< 30.0	34.0	54.0	< 23.2	27.2	+26.8	B
	2066.000	21.3	-21.5	33.0	40.0	54.0	32.8	39.8	+14.2	B
174.995	441.695	18.2	3.0	< -5.0	1.0	46.0	< 16.2	22.2	+23.8	A
	883.390	23.8	4.4	-3.0	< 3.0	46.0	25.2	< 31.2	> +14.8	A
	1325.085	21.3	-25.5	39.0	40.0	54.0	34.8	35.8	+18.2	B
	1766.780	21.3	-28.6	32.0	44.0	54.0	24.7	36.7	+17.3	B

Band 5

Tuning Range : 175.000 MHz - 282.995 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Antenna Factor [dB(1/m)]	Corr. Factor [dB]	Meter Readings [dB(μV)]		Limits [dB(μV/m)]	Results [dB(μV/m)]		Margin [dB]	Remarks (Note 2)
				Hori.	Vert.		Hori.	Vert.		
175.000	441.700	18.2	3.0	-3.0	1.0	46.0	18.2	22.2	+23.8	A
	883.400	23.8	4.4	-1.0	< 2.0	46.0	27.2	< 30.2	> +15.8	A
	1325.100	21.3	-25.5	38.0	40.0	54.0	33.8	35.8	+18.2	B
	1766.800	21.3	-28.6	33.0	44.0	54.0	25.7	36.7	+17.3	B
229.000	495.700	19.3	3.2	-2.0	5.0	46.0	20.5	27.5	+18.5	A
	991.400	25.6	4.8	-2.0	3.0	54.0	28.4	33.4	+20.6	A
	1487.100	21.0	-25.6	35.0	44.0	54.0	30.4	39.4	+14.6	B
	1982.800	21.4	-27.9	38.0	44.0	54.0	31.5	37.5	+16.5	B
282.995	549.695	20.5	3.4	0.0	7.0	46.0	23.9	30.9	+15.1	A
	1099.390	21.0	-26.6	36.0	38.0	54.0	30.4	32.4	+21.6	B
	1649.085	20.5	-27.3	38.0	48.0	54.0	31.2	41.2	+12.8	B
	2198.780	21.4	-21.6	< 30.0	37.0	54.0	< 29.8	36.8	+17.2	B

Band 6

Tuning Range : 283.000 MHz - 329.995 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Antenna Factor [dB(1/m)]	Corr. Factor [dB]	Meter Readings [dB(μV)]		Limits [dB(μV/m)]	Results [dB(μV/m)]		Margin [dB]	Remarks (Note 2)
				Hori.	Vert.		Hori.	Vert.		
283.000	274.850	18.6	2.3	< 0.0	< 0.0	46.0	< 20.9	< 20.9	> +25.1	A
	549.700	20.5	3.4	7.0	18.0	46.0	30.9	41.9	+ 4.1	A
	824.550	23.1	4.3	0.0	< 4.0	46.0	27.4	< 31.4	> +14.6	A
	1099.400	21.0	-26.6	< 30.0	< 30.0	54.0	< 24.4	< 24.4	> +29.6	B
	1374.250	21.5	-25.0	< 30.0	< 30.0	54.0	< 26.5	< 26.5	> +27.5	B
	1649.100	20.5	-27.3	< 30.0	32.0	54.0	< 23.2	25.2	+28.8	B
	1923.950	21.4	-28.3	< 30.0	38.0	54.0	< 23.1	31.1	+22.9	B
306.500	286.600	19.3	2.4	< 0.0	< 0.0	46.0	< 21.7	< 21.7	> +24.3	A
	573.200	21.1	3.5	< 9.0	15.0	46.0	< 33.6	39.6	+ 6.4	A
	859.800	23.5	4.4	1.0	< 0.0	46.0	28.9	< 27.9	+17.1	A
	1146.400	21.1	-26.6	< 30.0	< 30.0	54.0	< 24.5	< 24.5	> +29.5	B
	1433.000	21.4	-25.1	< 30.0	33.0	54.0	< 26.3	29.3	+24.7	B
	1719.600	21.0	-28.1	< 30.0	41.0	54.0	< 22.9	33.9	+20.1	B
	2006.200	21.1	-21.5	< 30.0	< 30.0	54.0	< 29.6	< 29.6	> +24.4	B
329.995	298.348	20.0	2.4	< 0.0	< 0.0	46.0	< 22.4	< 22.4	> +23.6	A
	596.695	21.6	3.6	6.0	12.0	46.0	31.2	37.2	+ 8.8	A
	895.043	23.9	4.5	5.0	0.0	46.0	33.4	28.4	+12.6	A
	1193.390	21.2	-26.6	< 30.0	< 30.0	54.0	< 24.6	< 24.6	> +29.4	B
	1491.738	21.0	-25.7	30.0	37.0	54.0	25.3	32.3	+21.7	B
	1790.085	21.4	-28.9	33.0	42.0	54.0	25.5	34.5	+19.5	B
	2088.433	21.4	-21.5	< 30.0	34.0	54.0	< 29.9	33.9	+20.1	B

Band 7

Tuning Range : 330.000 MHz - 469.950MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Antenna Factor [dB(1/m)]	Corr. Factor [dB]	Meter Readings [dB(μV)]		Limits [dB(μV/m)]	Results [dB(μV/m)]		Margin [dB]	Remarks (Note 2)
				Hori.	Vert.		Hori.	Vert.		
330.000	298.350	20.0	2.4	< 0.0	< 0.0	46.0	< 22.4	< 22.4	> +23.6	A
	596.700	21.6	3.6	4.0	12.0	46.0	29.2	37.2	+ 8.8	A
	895.050	23.9	4.5	5.0	0.0	46.0	33.4	28.4	+12.6	A
	1193.400	21.2	-26.6	< 30.0	< 30.0	54.0	< 24.6	< 24.6	> +29.4	B
	1491.750	21.0	-25.7	30.0	37.0	54.0	25.3	32.3	+21.7	B
	1790.100	21.4	-28.9	34.0	42.0	54.0	26.5	34.5	+19.5	B
	2088.450	21.4	-21.5	< 30.0	35.0	54.0	< 29.9	34.9	+19.1	B
400.000	333.350	16.8	2.6	< 1.0	< -5.0	46.0	< 20.4	< 14.4	> +25.6	A
	666.700	22.2	3.8	0.0	2.0	46.0	26.0	28.0	+18.0	A
	1000.050	21.1	-26.6	33.0	34.0	54.0	27.5	28.5	+25.5	B
	1333.400	21.4	-25.4	37.0	38.0	54.0	33.0	34.0	+20.0	B
	1666.750	20.6	-27.5	34.0	44.0	54.0	27.1	37.1	+16.9	B
	2000.100	21.0	-21.5	< 30.0	39.0	54.0	< 29.5	38.5	+15.5	B
469.950	368.325	17.1	2.7	2.0	0.0	46.0	21.8	19.8	+24.2	A
	736.650	22.5	4.0	8.0	6.0	46.0	34.5	32.5	+11.5	A
	1104.975	21.1	-26.6	33.0	34.0	54.0	27.5	28.5	+25.5	B
	1473.300	21.2	-25.5	32.0	36.0	54.0	27.7	31.7	+22.3	B
	1841.625	21.5	-28.8	38.0	48.0	54.0	30.7	40.7	+13.3	B

Band 8

Tuning Range : 470.000 MHz - 493.295 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Antenna Factor [dB(1/m)]	Corr. Factor [dB]	Meter Readings [dB(μV)]		Limits [dB(μV/m)]	Results [dB(μV/m)]		Margin [dB]	Remarks (Note 2)
				Hori.	Vert.		Hori.	Vert.		
470.000	368.350	17.1	2.7	1.0	0.0	46.0	20.8	19.8	+25.2	A
	736.700	22.5	4.0	5.0	5.0	46.0	31.5	31.5	+14.5	A
	1105.050	21.1	-26.6	32.0	33.0	54.0	26.5	27.5	+26.5	B
	1473.400	21.2	-25.5	31.0	35.0	54.0	26.7	30.7	+23.3	B
	1841.750	21.5	-28.8	38.0	48.0	54.0	30.7	40.7	+13.3	B
481.650	374.175	17.2	2.7	3.0	1.0	46.0	22.9	20.9	+23.1	A
	748.350	22.6	4.0	5.0	6.0	46.0	31.6	32.6	+13.4	A
	1122.525	21.1	-26.6	32.0	33.0	54.0	26.5	27.5	+26.5	B
	1496.700	21.0	-25.7	35.0	40.0	54.0	30.3	35.3	+18.7	B
	1870.875	21.4	-28.6	38.0	48.0	54.0	30.8	40.8	+13.2	B
493.295	379.998	17.2	2.8	3.0	2.0	46.0	23.0	22.0	+23.0	A
	759.995	22.6	4.1	4.0	7.0	46.0	30.7	33.7	+12.3	A
	1139.993	21.1	-26.6	33.0	35.0	54.0	27.5	29.5	+24.5	B
	1519.990	20.9	-26.0	36.0	41.0	54.0	30.9	35.9	+18.1	B
	1899.988	21.4	-28.4	38.0	47.0	54.0	31.0	40.0	+14.0	B

Band 9

Tuning Range : 493.300 MHz - 509.995 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Antenna Factor [dB(1/m)]	Corr. Factor [dB]	Meter Readings [dB(μV)]		Limits [dB(μV/m)]	Results [dB(μV/m)]		Margin [dB]	Remarks (Note 2)
				Hori.	Vert.		Hori.	Vert.		
493.300	380.000	17.2	2.8	-1.0	3.0	46.0	19.0	23.0	+23.0	A
	760.000	22.6	4.1	3.0	4.0	46.0	29.7	30.7	+15.3	A
	1140.000	21.1	-26.6	< 30.0	32.0	54.0	< 24.5	26.5	+27.5	B
	1520.000	20.9	-26.0	< 30.0	33.0	54.0	< 24.9	27.9	+26.1	B
	1900.000	21.4	-28.4	42.0	50.0	54.0	35.0	43.0	+11.0	B
501.600	384.150	17.3	2.8	2.0	3.0	46.0	22.1	23.1	+22.9	A
	768.300	22.7	4.1	3.0	5.0	46.0	29.8	31.8	+14.2	A
	1152.450	21.1	-26.6	< 30.0	33.0	54.0	< 24.5	27.5	+26.5	B
	1536.600	20.8	-26.1	< 30.0	32.0	54.0	< 24.7	26.7	+27.3	B
	1920.750	21.4	-28.3	42.0	50.0	54.0	35.1	43.1	+10.9	B
509.995	388.348	17.3	2.8	1.0	3.0	46.0	21.1	23.1	+22.9	A
	776.695	22.7	4.1	3.0	5.0	46.0	29.8	31.8	+14.2	A
	1165.043	21.2	-26.6	< 30.0	34.0	54.0	< 24.6	28.6	+25.4	B
	1553.390	20.7	-26.3	< 30.0	32.0	54.0	< 24.4	26.4	+27.6	B
	1941.738	21.4	-28.2	39.0	48.0	54.0	32.2	41.2	+12.8	B

Band 10

Tuning Range : 510.000 MHz - 821.995 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Antenna Factor [dB(1/m)]	Corr. Factor [dB]	Meter Readings [dB(μV)]		Limits [dB(μV/m)]	Results [dB(μV/m)]		Margin [dB]	Remarks (Note 2)
				Hori.	Vert.		Hori.	Vert.		
510.000	388.350	17.3	2.9	-4.0	< -5.0	46.0	16.2	< 15.2	+29.8	A
	776.700	22.7	4.3	4.0	4.0	46.0	31.0	31.0	+15.0	A
	1165.050	21.2	-26.6	36.0	36.0	54.0	30.6	30.6	+23.4	B
	1553.400	20.7	-26.3	< 30.0	32.0	54.0	< 24.4	26.4	+27.6	B
	1941.750	21.4	-28.2	37.0	40.0	54.0	30.2	33.2	+20.8	B
666.500	466.600	18.7	3.2	< -5.0	-4.0	46.0	< 16.9	17.9	+28.1	A
	933.200	24.6	4.9	9.0	9.0	46.0	38.5	38.5	+ 7.5	A
	1399.800	21.5	-24.8	36.0	39.0	54.0	32.7	35.7	+18.3	B
	1866.400	21.4	-28.6	36.0	38.0	54.0	28.8	30.8	+23.2	B
821.995	544.348	20.4	3.4	< -5.0	3.0	46.0	< 18.8	26.8	+19.2	A
	1088.695	21.0	-26.6	36.0	38.0	54.0	32.4	32.4	+21.6	B
	1633.043	20.5	-27.1	34.0	39.0	54.0	27.4	32.4	+21.6	B

Band 11

Tuning Range : 851.000 MHz - 1026.695 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Antenna Factor [dB(1/m)]	Corr. Factor [dB]	Meter Readings [dB(μV)]		Limits [dB(μV/m)]	Results [dB(μV/m)]		Margin [dB]	Remarks (Note 2)
				Hori.	Vert.		Hori.	Vert.		
851.000	292.150	19.6	2.5	-4.0	< -5.0	46.0	18.1	< 17.1	+27.9	A
	584.300	21.3	3.5	2.0	6.0	46.0	26.8	30.8	+15.2	A
	876.450	23.7	4.7	< 0.0	< 4.0	46.0	< 28.4	< 32.4	> +13.6	A
	1168.600	21.2	-26.6	< 30.0	< 30.0	54.0	< 24.6	< 24.6	> +29.4	B
	1460.750	21.3	-25.4	< 30.0	< 30.0	54.0	< 25.9	< 25.9	> +28.1	B
	1752.900	21.2	-28.5	< 30.0	< 30.0	54.0	< 22.7	< 22.7	> +31.3	B
	2045.050	21.2	-21.5	< 30.0	< 30.0	54.0	< 29.7	< 29.7	> +24.3	B
939.000	336.150	16.8	2.7	3.0	< -5.0	46.0	22.5	< 14.5	+23.5	A
	672.300	22.2	3.9	1.0	-3.0	46.0	27.1	23.1	+18.9	A
	1008.450	21.1	-26.6	< 30.0	34.0	54.0	< 24.5	28.5	+25.5	B
	1344.600	21.4	-25.3	< 30.0	37.0	54.0	< 26.1	33.1	+20.9	B
	1680.750	20.7	-27.7	34.0	38.0	54.0	27.0	31.0	+23.0	B
	2016.900	21.1	-21.5	< 30.0	< 30.0	54.0	< 29.6	< 29.6	> +24.4	B
1026.695	379.998	17.2	2.8	4.0	-2.0	46.0	24.0	18.0	+22.0	A
	759.995	22.6	4.1	6.0	4.0	46.0	32.7	30.7	+13.3	A
	1139.993	21.1	-26.6	34.0	34.0	54.0	28.5	28.5	+25.5	B
	1519.990	20.9	-26.0	< 30.0	36.0	54.0	< 24.9	30.9	+23.1	B
	1899.988	21.4	-28.4	39.0	44.0	54.0	32.0	37.0	+17.0	B

Band 12

Tuning Range : 1026.700 MHz - 1309.995 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Antenna Factor [dB(1/m)]	Corr. Factor [dB]	Meter Readings [dB(μV)]		Limits [dB(μV/m)]	Results [dB(μV/m)]		Margin [dB]	Remarks (Note 2)
				Hori.	Vert.		Hori.	Vert.		
1026.700	380.000	17.2	2.8	8.0	0.0	46.0	28.0	20.0	+18.0	A
	760.000	22.6	4.1	6.0	0.0	46.0	32.7	26.7	+13.3	A
	1140.000	21.1	-26.6	< 30.0	34.0	54.0	< 24.5	28.5	+25.5	B
	1520.000	20.9	-26.0	< 30.0	< 30.0	54.0	< 24.9	< 24.9	> +29.1	B
	1900.000	21.4	-28.4	34.0	36.0	54.0	27.0	29.0	+25.0	B
1168.500	450.900	18.4	3.0	-4.0	-4.0	46.0	17.4	17.4	+28.6	A
	901.800	24.0	4.5	7.0	8.0	46.0	35.5	36.5	+ 9.5	A
	1352.700	21.4	-25.2	38.0	40.0	54.0	34.2	36.2	+17.8	B
	1803.600	21.4	-29.0	40.0	42.0	54.0	32.4	34.4	+19.6	B
1309.995	521.648	19.9	3.3	< -5.0	-3.0	46.0	< 18.2	20.2	+25.8	A
	1043.295	21.0	-26.6	37.0	39.0	54.0	31.4	33.4	+20.6	B
	1564.943	20.7	-26.4	< 30.0	37.0	54.0	< 24.3	31.3	+22.7	B
	2086.590	21.4	-21.5	34.0	34.0	54.0	33.9	33.9	+20.1	B

Other Disturbance

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Antenna Factor [dB(1/m)]	Corr. Factor [dB]	Meter Readings [dB(μV)]		Limits [dB(μV/m)]	Results [dB(μV/m)]		Margin [dB]	Remarks (Note 2)
				Hori.	Vert.		Hori.	Vert.		
400.000	30.000	18.5	0.7	< 0.0	< 0.0	40.0	< 19.2	< 19.2	> +20.8	A
	50.000	11.1	0.9	< 0.0	< 0.0	40.0	< 12.0	< 12.0	> +28.0	A
	100.000	10.1	1.3	< 0.0	< 0.0	43.5	< 11.4	< 11.4	> +32.1	A
	200.000	16.6	2.0	< 0.0	< 0.0	43.5	< 18.6	< 18.6	> +24.9	A
	300.000	16.5	2.4	< -5.0	< -5.0	46.0	< 13.9	< 13.9	> +32.1	A
	500.000	19.4	3.2	< -5.0	< -5.0	46.0	< 17.6	< 17.6	> +28.4	A
	700.000	22.4	3.9	< -5.0	< -5.0	46.0	< 21.3	< 21.3	> +24.7	A
	1000.000	25.8	4.8	< -5.0	< -5.0	54.0	< 25.6	< 25.6	> +28.4	A
	1500.000	20.9	-25.8	< 30.0	< 30.0	54.0	< 25.1	< 25.1	> +28.9	B
	2100.000	21.5	-21.5	< 30.0	< 30.0	54.0	< 30.0	< 30.0	> +24.0	B

Sample of calculated result at 549.700 MHz, as the Minimum Margin point:

Antenna Factor = 20.5 dB(1/m)
Corr. Factor = 3.4 dB
+) Meter Reading = 18.0 dB(μV)
Result = 41.9 dB(μV/m)

Minimum Margin : 46.0 - 41.9 = 4.1(dB)

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

Note 1:

- 1)The highest frequency generated or used in the EUT : 6.75 MHz
- 2)The highest local frequency generated in the EUT : 1043.295 MHz
- 3)The upper frequency of measurement range : 2100 MHz
- 4)Corr. Factor [dB] (below 1 GHz) = Cable Loss [dB]
Corr. Factor (dB) (above 1 GHz) = Cable Loss(dB) + Pad Attenuator(dB) - Amp. Gain(dB)

Remarks:

Note 2	Detector Function	IF Bandwidth
A	CISPR QP	120 kHz
B	Peak	1 MHz
C	Average	1 MHz

Tester : Yuzo Tanaka

Antenna-Conducted Power Measurement Scanning Receiver

Test Date: January 7, 2003
 Temp.: 20 °C ; Humi.: 48 %

Band 1							
Tuning range: 0.150 MHz - 29.995 MHz							
Frequency to which tuned [MHz]	Measured Frequency [MHz]	Attenuation Pad Loss [dB]	Meter Readings [dB(μV)]	Limits at 50Ω [dB(μV)]	Results [dB(μV)]	Margin [dB]	Remarks (Note 2)
0.150	266.850	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	533.700	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	800.550	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	1067.400	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	1334.250	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	1601.100	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	1867.950	10.0	15.0	50.0	25.0	+25.0	B
15.100	281.800	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	563.600	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	845.400	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	1127.200	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	1409.000	10.0	16.0	50.0	26.0	+24.0	B
	1690.800	10.0	11.0	50.0	21.0	+29.0	B
	1972.600	10.0	< 10.0	50.0	< 20.0	> +30.0	B
29.995	296.695	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	593.390	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	890.085	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	1186.780	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	1483.475	10.0	17.0	50.0	27.0	+23.0	B
	1780.170	10.0	19.0	50.0	29.0	+21.0	B
	2076.865	10.0	21.0	50.0	31.0	+19.0	B

Band 2

Tuning range: 30.000 MHz - 113.295 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Attenuation Pad Loss [dB]	Meter Readings [dB(μV)]	Limits at 50Ω [dB(μV)]	Results [dB(μV)]	Margin [dB]	Remarks (Note 2)
30.000	296.700	10.0	12.0	50.0	22.0	+28.0	A
	593.400	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	890.100	10.0	13.0	50.0	23.0	+27.0	A
	1186.800	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	1483.500	10.0	16.0	50.0	26.0	+24.0	B
	1780.200	10.0	17.0	50.0	27.0	+23.0	B
	2076.900	10.0	15.0	50.0	25.0	+25.0	B
71.650	338.350	10.0	13.0	50.0	23.0	+27.0	A
	676.700	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	1015.050	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	1353.400	10.0	11.0	50.0	21.0	+29.0	B
	1691.750	10.0	11.0	50.0	21.0	+29.0	B
	2030.100	10.0	< 10.0	50.0	< 20.0	> +30.0	B
113.295	379.995	10.0	16.0	50.0	26.0	+24.0	A
	759.990	10.0	16.0	50.0	26.0	+24.0	A
	1139.985	10.0	14.0	50.0	24.0	+26.0	B
	1519.980	10.0	21.0	50.0	31.0	+19.0	B
	1899.975	10.0	30.0	50.0	40.0	+10.0	B

Band 3

Tuning range: 113.000 MHz - 117.995 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Attenuation Pad Loss [dB]	Meter Readings [dB(μ V)]	Limits at 50 Ω [dB(μ V)]	Results [dB(μ V)]	Margin [dB]	Remarks (Note 2)
113.300	380.000	10.0	19.0	50.0	29.0	+21.0	A
	760.000	10.0	16.0	50.0	26.0	+24.0	A
	1140.000	10.0	14.0	50.0	24.0	+26.0	B
	1520.000	10.0	14.0	50.0	24.0	+26.0	B
	1900.000	10.0	26.0	50.0	36.0	+14.0	B
115.650	382.350	10.0	19.0	50.0	29.0	+21.0	A
	764.700	10.0	16.0	50.0	26.0	+24.0	A
	1147.050	10.0	14.0	50.0	24.0	+26.0	B
	1529.400	10.0	17.0	50.0	27.0	+23.0	B
	1911.750	10.0	26.0	50.0	36.0	+14.0	B
117.995	384.695	10.0	19.0	50.0	29.0	+21.0	A
	769.390	10.0	16.0	50.0	26.0	+24.0	A
	1154.085	10.0	13.0	50.0	23.0	+27.0	B
	1538.780	10.0	18.0	50.0	28.0	+22.0	B
	1923.475	10.0	26.0	50.0	36.0	+14.0	B

Band 4

Tuning range: 118.000 MHz - 174.995 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Attenuation Pad Loss [dB]	Meter Readings [dB(μV)]	Limits at 50Ω [dB(μV)]	Results [dB(μV)]	Margin [dB]	Remarks (Note 2)
118.000	384.700	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	769.400	10.0	16.0	50.0	26.0	+24.0	A
	1154.100	10.0	12.0	50.0	22.0	+28.0	B
	1538.800	10.0	16.0	50.0	26.0	+24.0	B
	1923.500	10.0	26.0	50.0	36.0	+14.0	B
146.500	413.200	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	826.400	10.0	14.0	50.0	24.0	+26.0	A
	1239.600	10.0	14.0	50.0	24.0	+26.0	B
	1652.800	10.0	18.0	50.0	28.0	+22.0	B
	2066.000	10.0	18.0	50.0	28.0	+22.0	B
174.995	441.695	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	883.390	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	1325.085	10.0	18.0	50.0	28.0	+22.0	B
	1766.780	10.0	16.0	50.0	26.0	+24.0	B

Band 5

Tuning range: 175.000 MHz - 282.995 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Attenuation Pad Loss [dB]	Meter Readings [dB(μV)]	Limits at 50Ω [dB(μV)]	Results [dB(μV)]	Margin [dB]	Remarks (Note 2)
175.000	441.700	10.0	19.0	50.0	29.0	+21.0	A
	883.400	10.0	18.0	50.0	28.0	+22.0	A
	1325.100	10.0	22.0	50.0	32.0	+18.0	B
	1766.800	10.0	22.0	50.0	32.0	+18.0	B
229.000	495.700	10.0	23.0	50.0	33.0	+17.0	A
	991.400	10.0	14.0	50.0	24.0	+26.0	A
	1487.100	10.0	24.0	50.0	34.0	+16.0	B
	1982.800	10.0	26.0	50.0	36.0	+14.0	B
282.995	549.695	10.0	11.0	50.0	21.0	+29.0	A
	1099.390	10.0	18.0	50.0	28.0	+22.0	B
	1649.085	10.0	25.0	50.0	35.0	+15.0	B

Band 6

Tuning range: 283.000 MHz - 329.995 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Attenuation Pad Loss [dB]	Meter Readings [dB(μ V)]	Limits at 50 Ω [dB(μ V)]	Results [dB(μ V)]	Margin [dB]	Remarks (Note 2)
283.000	274.850	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	549.700	10.0	27.0	50.0	37.0	+13.0	A
	824.550	10.0	17.0	50.0	27.0	+23.0	A
	1099.400	10.0	16.0	50.0	26.0	+24.0	B
	1374.250	10.0	15.0	50.0	25.0	+25.0	B
	1649.100	10.0	18.0	50.0	28.0	+22.0	B
	1923.950	10.0	19.0	50.0	29.0	+21.0	B
306.500	286.600	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	573.200	10.0	23.0	50.0	33.0	+17.0	A
	859.800	10.0	10.0	50.0	20.0	+30.0	A
	1146.400	10.0	10.0	50.0	20.0	+30.0	B
	1433.000	10.0	22.0	50.0	32.0	+18.0	B
	1719.600	10.0	20.0	50.0	30.0	+20.0	B
	2006.200	10.0	16.0	50.0	26.0	+24.0	B
329.995	298.348	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	596.695	10.0	20.0	50.0	30.0	+20.0	A
	895.043	10.0	10.0	50.0	20.0	+30.0	A
	1193.390	10.0	11.0	50.0	21.0	+29.0	B
	1491.738	10.0	21.0	50.0	31.0	+19.0	B
	1790.085	10.0	16.0	50.0	26.0	+24.0	B
	2088.433	10.0	15.0	50.0	25.0	+25.0	B

Band 7

Tuning range: 330.000 MHz - 469.950 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Attenuation Pad Loss [dB]	Meter Readings [dB(μV)]	Limits at 50Ω [dB(μV)]	Results [dB(μV)]	Margin [dB]	Remarks (Note 2)
330.000	298.350	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	596.700	10.0	18.0	50.0	28.0	+22.0	A
	895.050	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	1193.400	10.0	13.0	50.0	23.0	+27.0	B
	1491.750	10.0	16.0	50.0	26.0	+24.0	B
	1790.100	10.0	20.0	50.0	30.0	+20.0	B
	2088.450	10.0	18.0	50.0	28.0	+22.0	B
400.000	333.350	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	666.700	10.0	16.0	50.0	26.0	+24.0	A
	1000.050	10.0	13.0	50.0	23.0	+27.0	B
	1333.400	10.0	15.0	50.0	25.0	+25.0	B
	1666.750	10.0	16.0	50.0	26.0	+24.0	B
	2000.100	10.0	19.0	50.0	29.0	+21.0	B
469.950	368.325	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	736.650	10.0	17.0	50.0	27.0	+23.0	A
	1104.975	10.0	12.0	50.0	22.0	+28.0	B
	1473.300	10.0	19.0	50.0	29.0	+21.0	B
	1841.625	10.0	25.0	50.0	35.0	+15.0	B

Band 8

Tuning range: 470.000 MHz - 493.2950 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Attenuation Pad Loss [dB]	Meter Readings [dB(μV)]	Limits at 50Ω [dB(μV)]	Results [dB(μV)]	Margin [dB]	Remarks (Note 2)
470.000	368.350	10.0	17.0	50.0	27.0	+23.0	A
	736.700	10.0	21.0	50.0	31.0	+19.0	A
	1105.050	10.0	11.0	50.0	21.0	+29.0	B
	1473.400	10.0	14.0	50.0	24.0	+26.0	B
	1841.750	10.0	18.0	50.0	28.0	+22.0	B
481.650	374.175	10.0	17.0	50.0	27.0	+23.0	A
	748.350	10.0	22.0	50.0	32.0	+18.0	A
	1122.525	10.0	11.0	50.0	21.0	+29.0	B
	1496.700	10.0	19.0	50.0	29.0	+21.0	B
	1870.875	10.0	17.0	50.0	27.0	+23.0	B
493.295	379.998	10.0	19.0	50.0	29.0	+21.0	A
	759.995	10.0	20.0	50.0	30.0	+20.0	A
	1139.993	10.0	11.0	50.0	21.0	+29.0	B
	1519.990	10.0	21.0	50.0	31.0	+19.0	B
	1899.988	10.0	14.0	50.0	24.0	+26.0	B

Band 9

Tuning range: 493.300 MHz - 509.950 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Attenuation Pad Loss [dB]	Meter Readings [dB(μV)]	Limits at 50Ω [dB(μV)]	Results [dB(μV)]	Margin [dB]	Remarks (Note 2)
493.300	380.000	10.0	19.0	50.0	29.0	+21.0	A
	760.000	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	1140.000	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	1520.000	10.0	14.0	50.0	24.0	+26.0	B
	1900.000	10.0	18.0	50.0	28.0	+22.0	B
501.600	384.150	10.0	16.0	50.0	26.0	+24.0	A
	768.300	10.0	22.0	50.0	32.0	+18.0	A
	1152.450	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	1536.600	10.0	15.0	50.0	25.0	+25.0	B
	1920.750	10.0	18.0	50.0	28.0	+22.0	B
509.950	388.325	10.0	17.0	50.0	27.0	+23.0	A
	776.650	10.0	21.0	50.0	31.0	+19.0	A
	1164.975	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	1553.300	10.0	16.0	50.0	26.0	+24.0	B
	1941.625	10.0	20.0	50.0	30.0	+20.0	B

Band 10

Tuning range: 510.000 MHz - 821.995 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Attenuation Pad Loss [dB]	Meter Readings [dB(μV)]	Limits at 50Ω [dB(μV)]	Results [dB(μV)]	Margin [dB]	Remarks (Note 2)
510.000	388.350	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	776.700	10.0	15.0	50.0	25.0	+25.0	A
	1165.050	10.0	11.0	50.0	21.0	+29.0	B
	1553.400	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	1941.750	10.0	11.0	50.0	21.0	+29.0	B
666.500	466.600	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	933.200	10.0	22.0	50.0	32.0	+18.0	A
	1399.800	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	1866.400	10.0	14.0	50.0	24.0	+26.0	B
821.995	544.348	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	1088.695	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	1633.043	10.0	14.0	50.0	24.0	+26.0	B

Band 11

Tuning range: 851.000 MHz - 1026.695 MHz

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Attenuation Pad Loss [dB]	Meter Readings [dB(μ V)]	Limits at 50 Ω [dB(μ V)]	Results [dB(μ V)]	Margin [dB]	Remarks (Note 2)
851.000	292.150	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	584.300	10.0	19.0	50.0	29.0	+21.0	A
	876.450	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	1168.600	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	1460.750	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	1752.900	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	2045.050	10.0	13.0	50.0	23.0	+27.0	B
939.000	336.150	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	672.300	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	1008.450	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	1344.600	10.0	11.0	50.0	21.0	+29.0	B
	1680.750	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	2016.900	10.0	20.0	50.0	30.0	+20.0	B
1026.695	379.998	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	759.995	10.0	27.0	50.0	37.0	+13.0	A
	1139.993	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	1519.990	10.0	14.0	50.0	24.0	+26.0	B
	1899.988	10.0	19.0	50.0	29.0	+21.0	B

Band 12							
Tuning range: 1026.700 MHz - 1309.995 MHz							
Frequency to which tuned [MHz]	Measured Frequency [MHz]	Attenuation Pad Loss [dB]	Meter Readings [dB(μ V)]	Limits at 50 Ω [dB(μ V)]	Results [dB(μ V)]	Margin [dB]	Remarks (Note 2)
1026.700	380.000	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	760.000	10.0	23.0	50.0	33.0	+17.0	A
	1140.000	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	1520.000	10.0	16.0	50.0	26.0	+24.0	B
	1900.000	10.0	17.0	50.0	27.0	+23.0	B
1168.500	450.900	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	901.800	10.0	23.0	50.0	33.0	+17.0	A
	1352.700	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	1803.600	10.0	< 10.0	50.0	< 20.0	> +30.0	B
1309.995	521.648	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	1043.295	10.0	18.0	50.0	28.0	+22.0	B
	1564.943	10.0	< 10.0	50.0	< 20.0	> +30.0	B
	2086.590	10.0	20.0	50.0	30.0	+20.0	B

Other Disturbance

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Attenuation Pad Loss [dB]	Meter Readings [dB(μV)]	Limits at 50Ω [dB(μV)]	Results [dB(μV)]	Margin [dB]	Remarks (Note 2)
113.300	247.000	10.0	15.0	50.0	25.0	+25.0	A
	494.100	10.0	10.0	50.0	20.0	+30.0	A
	988.200	10.0	11.0	50.0	21.0	+29.0	A
	1482.230	10.0	23.0	50.0	33.0	+17.0	B
	1729.400	10.0	13.0	50.0	23.0	+27.0	B
	1976.400	10.0	10.0	50.0	20.0	+30.0	B
283.000	247.050	10.0	14.0	50.0	24.0	+26.0	A
	494.100	10.0	10.0	50.0	20.0	+30.0	A
	824.600	10.0	16.0	50.0	26.0	+24.0	A
	988.200	10.0	11.0	50.0	21.0	+29.0	A
	1482.300	10.0	21.0	50.0	31.0	+19.0	B
	1729.800	10.0	12.0	50.0	22.0	+28.0	B
400.000	247.000	10.0	< 10.0	50.0	< 20.0	> +30.0	A
	1482.300	10.0	15.0	50.0	25.0	+25.0	B
	1976.400	10.0	13.0	50.0	23.0	+27.0	B

Sample of calculated result at 1899.975 MHz , as the Minimum Margin point:

Attenuation Pad Loss	=	10.0 dB
+ Meter Reading	=	30.0 dB(μ V)
Result	=	40.0 dB(μ V)

Minimum Margin : 50.0 - 40.0 = 10.0(dB)

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

Conversion of applied limits (refer to §15.111(a))

$$50.0 \text{ [dB}(\mu\text{V})] = 20\log\{\sqrt{2[\text{nW}] \times 10^{-9} \times 50[\Omega]} \times 10^6\}$$

Note 1:

- 1)The highest frequency generated or used in the EUT : 6.75 MHz
- 2)The highest local frequency generated in the EUT : 1043.295 MHz
- 3)The upper frequency of measurement range : 2100 MHz

Remarks:

Note 2	Detector Function	IF Bandwidth
A	CISPR QP	120 kHz
B	Peak	1 MHz
C	Average	1 MHz

Tester Signature : Yuzo Tanaka

38dB Rejection Test
Scanning Receiver

Test Date: December 16-19, 2002
Temp.: 24 °C ; Humi.: 60 %

Mode : WFM						
Injected Frequency [MHz]	Detected Frequency [MHz]	12dB SINAD Level at Injected Frequency [dBm]	12dB SINAD Level at Detected Frequency [dBm]	Rejection [dB]	Limits [dB]	Margin [dB]
824.040	290.62500	-58.4	-102.0	43.6	38.0	+ 5.6
	516.26250	-28.3	-99.2	70.9	38.0	+32.9
	654.17500	-48.2	-100.5	52.3	38.0	+14.3
	993.88000	-44.1	-95.8	51.7	38.0	+13.7
	1152.34500	-32.4	-95.7	63.3	38.0	+25.3
	1191.85500	-32.5	-94.6	62.1	38.0	+24.1
	1224.10000	-35.1	-94.1	59.0	38.0	+21.0

Mode : WFM						
Injected Frequency [MHz]	Detected Frequency [MHz]	12dB SINAD Level at Injected Frequency [dBm]	12dB SINAD Level at Detected Frequency [dBm]	Rejection [dB]	Limits [dB]	Margin [dB]
836.505	303.19375	-53.0	-101.0	48.0	38.0	+10.0
	509.19375	-42.5	-100.0	57.5	38.0	+19.5
	589.46250	-37.2	-99.7	62.5	38.0	+24.5
	670.70000	-46.3	-100.5	54.2	38.0	+16.2
	703.15625	-44.2	-99.9	55.7	38.0	+17.7
	1002.19000	-45.3	-96.1	50.8	38.0	+12.8

Mode : WFM						
Injected Frequency [MHz]	Detected Frequency [MHz]	12dB SINAD Level at Injected Frequency [dBm]	12dB SINAD Level at Detected Frequency [dBm]	Rejection [dB]	Limits [dB]	Margin [dB]
848.970	24.24500	-42.9	-98.8	55.9	38.0	+17.9
	315.55000	-58.1	-101.5	43.4	38.0	+ 5.4
	477.05000	-50.3	-99.2	48.9	38.0	+10.9
	519.18750	-42.8	-93.1	50.3	38.0	+12.3
	687.49375	-46.0	-100.1	54.1	38.0	+16.1
	715.63125	-43.3	-99.8	56.5	38.0	+18.5
	982.32000	-42.2	-95.4	53.2	38.0	+15.2
	1010.49000	-46.3	-96.4	50.1	38.0	+12.1
	1127.55500	-36.2	-96.1	59.9	38.0	+21.9
	1220.86000	-40.5	-94.2	53.7	38.0	+15.7
	1249.02000	-40.3	-94.1	53.8	38.0	+15.8

Mode : WFM						
Injected Frequency [MHz]	Detected Frequency [MHz]	12dB SINAD Level at Injected Frequency [dBm]	12dB SINAD Level at Detected Frequency [dBm]	Rejection [dB]	Limits [dB]	Margin [dB]
869.040	490.47500	-46.4	-99.5	53.1	38.0	+15.1
	622.00625	-36.8	-100.5	63.7	38.0	+25.7
	714.24375	-44.9	-99.8	54.9	38.0	+16.9
	735.70625	-41.1	-98.9	57.8	38.0	+19.8
	1002.37500	-45.2	-95.9	50.7	38.0	+12.7
	1023.89000	-50.4	-95.9	45.5	38.0	+ 7.5
	1108.28000	-39.1	-95.9	56.8	38.0	+18.8
	1145.74000	-39.9	-95.7	55.8	38.0	+17.8
	1247.60000	-44.3	-93.9	49.6	38.0	+11.6
	1269.10000	-43.9	-93.1	49.2	38.0	+11.2

Mode : WFM						
Injected Frequency [MHz]	Detected Frequency [MHz]	12dB SINAD Level at Injected Frequency [dBm]	12dB SINAD Level at Detected Frequency [dBm]	Rejection [dB]	Limits [dB]	Margin [dB]
881.505	481.46250	-43.4	-99.6	56.2	38.0	+18.2
	498.78125	-42.3	-100.0	57.7	38.0	+19.7
	730.82500	-43.6	-99.2	55.6	38.0	+17.6
	964.35000	-39.6	-94.8	55.2	38.0	+17.2
	1014.84000	-45.5	-96.5	51.0	38.0	+13.0
	1032.19000	-50.9	-96.5	45.6	38.0	+ 7.6
	1094.97500	-42.4	-96.5	54.1	38.0	+16.1
	1134.20000	-43.4	-96.2	52.8	38.0	+14.8
	1264.24000	-44.4	-93.2	48.8	38.0	+10.8
	1281.65500	-43.1	-93.1	50.0	38.0	+12.0

Mode : WFM						
Injected Frequency [MHz]	Detected Frequency [MHz]	12dB SINAD Level at Injected Frequency [dBm]	12dB SINAD Level at Detected Frequency [dBm]	Rejection [dB]	Limits [dB]	Margin [dB]
893.970	493.94000	-41.3	-99.2	57.9	38.0	+19.9
	507.10000	-44.5	-100.0	55.5	38.0	+17.5
	970.58500	-41.3	-94.9	53.6	38.0	+15.6
	1027.26000	-39.2	-89.9	50.7	38.0	+12.7
	1040.51000	-53.9	-96.2	42.3	38.0	+ 4.3
	1088.48000	-41.0	-96.5	55.5	38.0	+17.5
	1088.59500	-43.7	-96.5	52.8	38.0	+14.8
	1121.74000	-43.5	-95.1	51.6	38.0	+13.6
	1280.84500	-43.6	-92.6	49.0	38.0	+11.0
	1294.05500	-45.1	-92.8	47.7	38.0	+ 9.7

Sample of calculated result at 1040.510 MHz, as the Minimum Margin point:

12dB SINAD Level at Detected Frequency	=	-53.9 dBm
-) 12dB SINAD Level at Injected Frequency	=	-96.2 dBm
Rejection	=	42.3 dB

Minimum Margin : 42.3 - 38.0 = 4.3(dB)

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

Tester : Shigeru Kinoshita

JQA Application No. : KL80020280
Model No. : IC-R5
FCC ID : AFJ IC-R5

Regulation : CFR 47 FCC Rules Part 15
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