

EMC EMISSION - TEST REPORT

JQA APPLICATION No. : KL80010450

Name of Product : VHF Transceiver

Model/Type No. : IC-V8000

FCC ID : AFJ IC-V8000

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 : November 22, 2001

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.

DIRECTORY

	Page
A) Documentation	
Directory	<u>2</u>
Test Regulation / General Information	<u>3</u>
Test Conditions	<u>4 - 8</u>
Configuration of EUT / Operation mode of the EUT	<u>9 - 11</u>
EUT Modification / Responsible Party / Deviation from Standard	<u>12</u>
Test results / Measurement Uncertainty	<u>13 - 14</u>
Summary	<u>15</u>
Test System-Arrangement (Drawings)	<u>16</u>
Preliminary Test and Test-setup (Drawings)	<u>17 - 20</u>
Test-setup (Photographs) at worst case	<u>21</u>
B) Test data	
Conducted Emission	450 kHz - 30 MHz <u>22</u>
Electromagnetic Field Radiated Emission	30 MHz - 1000 MHz <u>23 - 24</u>
Antenna-Conducted Power	30 MHz - 1000 MHz <u>25 - 26</u>
38dB Rejection Test	<u>27 - 28</u>

TEST REGULATION

FCC Rules and Regulations Part 15 Subpart A and B (February 28, 2001)

- 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 : VHF Transceiver
- 2) Model/Type No. : IC-V8000
- 3) Product Type : Pre-Production (S/N: 00015)
- 4) Category : Scanning Receiver
- 5) EUT Authorization : - Verification - Certification - D.o.C.
- 6) Highest local frequency : 152.300 MHz
- 7) Other highest frequency used/generated : 21.25 MHz
- 8) Power Rating : DC 13.8V

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, 2000	1 Year
○ - ESH 2	A - 3		
● - KNW-407	D - 6	January, 2001	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	January, 2001	1 Year

Environmental conditions:

Temperature: 25 °C Humidity: 32 %

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 9, 2001

2) Interval : 1 Year

Used test instruments:

Model No.	Device ID	Last Cal. Date	Cal. Interval
○ - ESV/ESV-Z3	A - 7 / A - 17		
● - ESV/ESV-Z3	A - 6 / A - 18	December, 2000	1 Year
○ - ESV/ESV-Z3	A - 4 / A - 20		
○ - ESV/ESV-Z3	A - 8 / A - 19		
○ - ESVS 10	A - 5		
○ - KBA-511A	C - 13		
○ - KBA-611	C - 19		
● - VHA9103/BBA9106	C - 43	August, 2001	1 Year
● - UHALP9107	C - 42	August, 2001	1 Year
○ - VHA9103/FBAB9177	C - 25		
○ - UHALP9108-A1	C - 28		
○ - Cable	H - 1		
○ - Cable	H - 2		
○ - Cable	H - 5		
● - Cable	H - 6	November, 2001	1 Year
○ - Cable	H - 9		

Environmental conditions:

Temperature: 13 °C Humidity: 44 %

Electromagnetic Field Radiated Emission Measurement

was performed in horizontal and vertical polarization, in the frequency range of 1 GHz - 2 GHz, 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		
○ - 8566B	A - 13		
○ - 8593A	A - 15		
○ - ESV	A - 6		
○ - 4T-10	D - 73		
○ - 4T-10	D - 74		
○ - WJ-6611-513	A - 23		
○ - WJ-6882-824	A - 21		
○ - DBL-0618N515	A - 33		
○ - 91888-2	C - 41 - 1		
○ - 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		
○ - Cable	C - 40 - 12		

Environmental conditions:

Temperature: _____ °C Humidity: _____ %

Antenna-Conducted Power Measurement

was performed 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

● - 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, 2001	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	June, 2001	1 Year
○ - 1506A	D - 21		
● - Cable	C - 40 - 9	June, 2001	1 Year

Environmental conditions:

Temperature: 18 °C Humidity: 40 %

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
○ - MG645A	B - 4		
● - 6062A	B - 44	May, 2001	1 Year
○ - 339A	--		

Environmental conditions:

Temperature: 23 °C Humidity: 58 %

CONFIGURATION OF EUT

The Equipment Under Test (EUT) consists of:

Description	Applicant (Manufacturer)	Model No. (Serial No.)	FCC ID
VHF Transceiver	ICOM Incorporated (ICOM Incorporated)	IC-V8000 (00015)	AFJ IC-V8000
Microphone	ICOM Incorporated (ICOM Incorporated)	HM-133V (--)	N/A
External Speaker	ICOM Incorporated (ICOM Incorporated)	SP-10 (--)	N/A

The measurement was carried out with the following equipment connected:

Description	Grantee/Distributor	Model No. (Serial No.)	FCC ID
DC Power Supply	ICOM Incorporated	IC-5P (1793)	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	MIC	NO	Nonmetal	NO	0.5 m
	----- Microphone	--		--		
2	EUT	SP	NO	--	YES (1 pcs.)	1.4 m
	----- External Speaker	--		--		
3	DC Power Cord (EUT / DC Power Supply)	DC 13.8V	NO	--	NO	3.0 m
4	AC Power Cord (DC Power Supply) 1φ 2-pin plug	--	NO	--	NO	1.6 m
5	Earth Cord (DC Power Supply)	GND	NO	--	NO	1.4 m

Operation - mode of the EUT:

The EUT was operated during the measurement under "FM receiving" mode with the antenna terminals terminated with a 50Ω termination.

Test system:

The EUT has an ANT port, a SP port and a MIC port.
The microphone was connected to the MIC port, and the external speaker was connected to the SP port.

Detailed receiver portion:

1) Relation between receiving frequency and local frequency

Receiving Frequency	:	136.000 MHz - 174.000 MHz
1st Local Frequency	:	114.300 MHz - 152.300 MHz
2nd Local Frequency	:	21.250 MHz

2) Respective Intermediate Frequency

1st Intermediate Frequency	:	21.700 MHz (lower)
2nd Intermediate Frequency	:	450 kHz (lower)

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

4) Receiving mode : FM

Special accessories:

The speaker cable with a ferrite core is an exclusive use of the external speaker as the special accessory of which is defined §15.27 in FCC rule.

The external speaker is to be marketed together with the VHF transceiver (EUT).

Other used (generated) frequencies in the EUT:

CPU	:	9.2 MHz
REF OSC	:	21.25 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 450 kHz - 30 MHz

The requirements are	● - Passed	○ - Not Passed
Min. limit margin	<u>30.1</u> dB at <u>27.60</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 - 1000 MHz

The requirements are	● - Passed	○ - Not Passed
Min. limit margin	More than <u>9.4</u> dB at <u>36.8</u> MHz	
Max. limit exceeding	<u> </u> dB at <u> </u> MHz	
Uncertainty of measurement results	<u>+ 4.9</u> dB(2σ)	<u>- 5.0</u> dB(2σ)

Remarks: _____

Antenna-Conducted Power 30 MHz - 1000 MHz

The requirements are	● - Passed	○ - Not Passed
Min. limit margin	<u>24.0</u> dB at <u>133.300</u> MHz and <u>152.300</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

___ - ___ dB at ___ - ___ MHz

Max. limit exceeding

_____ dB at _____ MHz

Uncertainty of measurement results

___ - ___ dB(2 σ) ___ - ___ dB(2 σ)

Remarks: No frequency of response was detected.

SUMMARY

GENERAL REMARKS :

The EUT was tested according to the requirements of FCC Rules and Regulations Part 15 Subpart A and B (February 28, 2001) under the test configuration, as shown in page 16.

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 : November 28, 2001

End of testing : December 12, 2001

- JAPAN QUALITY ASSURANCE ORGANIZATION -

Approved by :

Issued by :



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

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

AC Powerline Conducted Emission Measurement Scanning Receiver

Receiving Frequency : 155.000 MHz

Test Date: November 28, 2001
 Temp.: 25 °C ; Humi.: 32 %

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		
0.45	0.1	<10.0	-	<10.0	-	48.0	<10.1	-	>+37.9	A
1.00	0.1	<10.0	-	<10.0	-	48.0	<10.1	-	>+37.9	A
2.30	0.2	<10.0	-	<10.0	-	48.0	<10.2	-	>+37.8	A
5.00	0.4	<10.0	-	<10.0	-	48.0	<10.4	-	>+37.6	A
10.00	0.5	<10.0	-	<10.0	-	48.0	<10.5	-	>+37.5	A
15.00	0.7	<10.0	-	<10.0	-	48.0	<10.7	-	>+37.3	A
27.60	0.9	15.0	-	17.0	-	48.0	17.9	-	+30.1	A

Sample of calculated result at 27.60 MHz, as the Minimum Margin point:

Correction Factor = 0.9 dB
 +) Meter Reading = 17.0 dB(μV)
 Result = 17.9 dB(μV)

Minimum Margin : 48.0 - 17.9 = 30.1(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 : Yuzo Tanaka

Electromagnetic Field Radiated Emission Measurement
 Scanning Receiver

Test Date: December 7, 2001
 Temp.: 13 °C ; Humi.: 44 %

Measurement for local frequency

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Antenna Factor [dB(1/m)]	Cable Loss [dB]	Meter Readings [dB(μV)]		Limits [dB(μV/m)]	Results [dB(μV/m)]		Margin [dB]	Remarks (Note 2)
				Hori.	Vert.		Hori.	Vert.		
136.000	114.300	12.3	0.9	< 0.0	< 0.0	43.5	<13.2	<13.2	>+30.3	A
	228.600	16.9	1.3	< 0.0	< 0.0	46.0	<18.2	<18.2	>+27.8	A
	342.900	16.7	1.7	<-5.0	<-5.0	46.0	<13.4	<13.4	>+32.6	A
	457.200	18.3	2.1	<-5.0	<-5.0	46.0	<15.4	<15.4	>+30.6	A
	571.500	20.5	2.4	<-5.0	<-5.0	46.0	<17.9	<17.9	>+28.1	A
	685.800	22.1	2.6	<-5.0	<-5.0	46.0	<19.7	<19.7	>+26.3	A
	800.100	23.0	2.9	<-5.0	<-5.0	46.0	<20.9	<20.9	>+25.1	A
	914.400	24.4	3.0	<-5.0	<-5.0	46.0	<22.4	<22.4	>+23.6	A
155.000	133.300	13.9	1.0	4.0	2.0	43.5	18.9	16.9	+24.6	A
	266.600	18.0	1.5	< 0.0	< 0.0	46.0	<19.5	<19.5	>+26.5	A
	399.900	17.2	1.9	-2.0	<-5.0	46.0	17.1	<14.1	+28.9	A
	533.200	19.8	2.4	<-5.0	<-5.0	46.0	<17.2	<17.2	>+28.8	A
	666.500	21.9	2.5	<-5.0	<-5.0	46.0	<19.4	<19.4	>+26.6	A
	799.800	23.0	2.9	<-5.0	<-5.0	46.0	<20.9	<20.9	>+25.1	A
	933.100	24.6	3.0	<-5.0	<-5.0	46.0	<22.6	<22.6	>+23.4	A
	174.000	152.300	14.7	1.0	6.0	3.0	43.5	21.7	18.7	+21.8
304.600		16.4	1.6	-5.0	<-5.0	46.0	13.0	<13.0	+33.0	A
456.900		18.3	2.1	<-5.0	<-5.0	46.0	<15.4	<15.4	>+30.6	A
609.200		21.2	2.4	<-5.0	<-5.0	46.0	<18.6	<18.6	>+27.4	A
761.500		22.7	2.7	<-5.0	<-5.0	46.0	<20.4	<20.4	>+25.6	A
913.800		24.4	3.0	<-5.0	<-5.0	46.0	<22.4	<22.4	>+23.6	A

Measurement for other disturbance frequency

Frequency [MHz]	Antenna Factor [dB(1/m)]	Cable Loss [dB]	Meter Readings [dB(μV)]		Limits [dB(μV/m)]	Results [dB(μV/m)]		Margin [dB]	Remarks (Note 2)
			Hori.	Vert.		Hori.	Vert.		
36.8	16.1	0.5	<10.0	<14.0	40.0	<26.6	<30.6	>+ 9.4	A
50.6	11.1	0.6	<12.0	<17.0	40.0	<23.7	<28.7	>+11.3	A
92.0	8.5	0.8	< 9.0	<13.0	43.5	<18.3	<22.3	>+21.2	A
110.4	11.7	0.9	<15.0	< 9.0	43.5	<27.6	<21.6	>+15.9	A
138.0	14.2	1.0	<14.0	< 9.0	43.5	<29.2	<24.2	>+14.3	A
165.6	15.5	1.1	< 2.0	<15.0	43.5	<18.6	<31.6	>+11.9	A
230.0	16.9	1.3	< 2.0	< 6.0	46.0	<20.2	<24.2	>+21.8	A
303.7	16.4	1.6	-1.0	< 1.0	46.0	17.0	<19.0	>+27.0	A

Sample of calculated result at 36.8 MHz, as the Minimum Margin point:

Antenna Factor = 16.1 dB(1/m)
 Cable Loss = 0.5 dB
 +) Meter Reading = <14.0 dB(μV)
 Result = <30.6 dB(μV/m)

Minimum Margin : 40.0 - <30.6 = >9.4(dB)

The point shown on “_____” is the Minimum Margin Point.

Note 1:

- 1)The highest local frequency generated : 152.300 MHz
- 2)Other highest frequency generated or used in the EUT: 21.25 MHz
- 3)The upper frequency of measurement range : 1 GHz

Remarks:

Note 2	Detector Function	IF Bandwidth
A	CISPR QP	120 kHz
B	Average	120 kHz
C	Average	12 kHz
D	Average	7.5 kHz

Tester : Yuzo Tanaka

Antenna-Conducted Power Measurement
 Scanning Receiver

Test Date: December 7, 2001
 Temp.: 18 °C ; Humi.: 40 %

Measurement for local frequency

Frequency to which tuned [MHz]	Measured Frequency [MHz]	Attenuation Pad Loss [dB]	Meter Readings [dB(μV)]	Limits at 50 Ω [dB(μV)]	Results [dB(μV)]	Margin [dB]	Remarks (Note 2)
136.000	114.300	10.0	15.0	50.0	25.0	+25.0	A
	228.600	10.0	<10.0	50.0	<20.0	>+30.0	A
	342.900	10.0	<10.0	50.0	<20.0	>+30.0	A
	457.200	10.0	<10.0	50.0	<20.0	>+30.0	A
	571.500	10.0	<10.0	50.0	<20.0	>+30.0	A
	685.800	10.0	<10.0	50.0	<20.0	>+30.0	A
	800.100	10.0	<10.0	50.0	<20.0	>+30.0	A
	914.400	10.0	<10.0	50.0	<20.0	>+30.0	A
155.000	133.300	10.0	16.0	50.0	26.0	+24.0	A
	266.600	10.0	<10.0	50.0	<20.0	>+30.0	A
	399.900	10.0	<10.0	50.0	<20.0	>+30.0	A
	533.200	10.0	<10.0	50.0	<20.0	>+30.0	A
	666.500	10.0	<10.0	50.0	<20.0	>+30.0	A
	799.800	10.0	<10.0	50.0	<20.0	>+30.0	A
	933.100	10.0	<10.0	50.0	<20.0	>+30.0	A
	174.000	152.300	10.0	16.0	50.0	26.0	+24.0
304.600		10.0	<10.0	50.0	<20.0	>+30.0	A
456.900		10.0	<10.0	50.0	<20.0	>+30.0	A
609.200		10.0	<10.0	50.0	<20.0	>+30.0	A
761.500		10.0	<10.0	50.0	<20.0	>+30.0	A
913.800		10.0	<10.0	50.0	<20.0	>+30.0	A

Measurement for other disturbance frequency

Frequency [MHz]	Attenuation Pad Loss [dB]	Meter Readings [dB(μV)]	Limits at 50 Ω [dB(μV)]	Results [dB(μV)]	Margin [dB]	Remarks (Note 2)
30.0	10.0	<10.0	50.0	<20.0	>+30.0	A
50.0	10.0	<10.0	50.0	<20.0	>+30.0	A
100.0	10.0	<10.0	50.0	<20.0	>+30.0	A
130.0	10.0	<10.0	50.0	<20.0	>+30.0	A
200.0	10.0	<10.0	50.0	<20.0	>+30.0	A
300.0	10.0	<10.0	50.0	<20.0	>+30.0	A
500.0	10.0	<10.0	50.0	<20.0	>+30.0	A
700.0	10.0	<10.0	50.0	<20.0	>+30.0	A

Sample of calculated result at 133.300 MHz, as the Minimum Margin point:

Attenuation Pad Loss	=	10.0 dB
+ Meter Reading	=	16.0 dB(μV)
Result	=	26.0 dB(μV)

Minimum Margin : 50.0 - 26.0 = 24.0(dB)

The point shown on “___” is the Minimum Margin Point.

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

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

Note 1:

- 1)The highest local frequency generated : 152.300 MHz
- 2)Other highest frequency generated or used in the EUT: 21.25 MHz
- 3)The upper frequency of measurement range : 1 GHz

Remarks:

Note 2	Detector Function	IF Bandwidth
A	CISPR QP	120 kHz
B	Average	120 kHz
C	Average	12 kHz
D	Average	7.5 kHz

Tester : Yuzo Tanaka

38dB Rejection Test for Mobile Band Scanning Receiver

Test Date: December 12, 2001
Temp.: 23 °C ; Humi.: 58 %

Injected Frequency [MHz]	Detected Frequency [MHz]	12dB SINAD Level at Injected Frequency [dBm]	12dB SINAD Level at Detected Frequency [dBm]	Rejection [dB]	Margin [dB]
824.040	No Point Detected	N/A	N/A	N/A	N/A
836.505	No Point Detected	N/A	N/A	N/A	N/A
848.970	No Point Detected	N/A	N/A	N/A	N/A

Sample of calculated result at N/A MHz, as the Minimum Margin point:

$$\begin{array}{rcl} 12\text{dB SINAD Level at Detected Frequency} & = & \text{N/A dBm} \\ -) 12\text{dB SINAD Level at Injected Frequency} & = & \text{N/A dBm} \\ \hline \text{Rejection} & = & \text{N/A dB} \end{array}$$

Minimum Margin : N/A

The point shown on “_____” is the Minimum Margin Point.

Tester : Yuzo Tanaka

38dB Rejection Test for Base Band Scanning Receiver

Test Date: December 12, 2001
Temp.: 23 °C ; Humi.: 58 %

Injected Frequency [MHz]	Detected Frequency [MHz]	12dB SINAD Level at Injected Frequency [dBm]	12dB SINAD Level at Detected Frequency [dBm]	Rejection [dB]	Margin [dB]
869.040	No Point Detected	N/A	N/A	N/A	N/A
881.505	No Point Detected	N/A	N/A	N/A	N/A
893.970	No Point Detected	N/A	N/A	N/A	N/A

Sample of calculated result at N/A MHz, as the Minimum Margin point:

$$\begin{array}{rcl} 12\text{dB SINAD Level at Detected Frequency} & = & \text{N/A dBm} \\ -) 12\text{dB SINAD Level at Injected Frequency} & = & \text{N/A dBm} \\ \hline \text{Rejection} & = & \text{N/A dB} \end{array}$$

Minimum Margin : N/A

The point shown on “ _____ ” is the Minimum Margin Point.

Tester : Yuzo Tanaka