

EMC EMISSION - TEST REPORT

JQA APPLICATION No. : KL80000447

Name of Product : VHF/UHF Transceiver

Model/Type No. : IC-910H

FCC ID : AFJ IC-910H

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 27, 2000

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. This test report shall not be reproduced except in full.

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TEST REGULATION

FCC Rules and Regulations Part 15 Subpart A and B (September 20, 2000)

- 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 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.
NVLAP Lab Code: 200191-0

Description of the Equipment Under Test (EUT):

- 1) Name : VHF/UHF Transceiver
- 2) Model/Type No. : IC-910H
- 3) Product Type : Pre-Production (S/N: 000047)
- 4) Category : Scanning Receiver
- 5) EUT Authorization : - Verification - Certification - D.o.C.
- 6) Highest frequency used/generated : 32 MHz
- 7) Power Rating : DC 13.8V (Power Supply IC-5P : AC120V 60Hz)

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

Environmental conditions:

Temperature: 22 °C Humidity: 38 %

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 26, 2000

2) Interval : 1 Year

Used test instruments:

Model No.	Device ID	Last Cal. Date	Cal. Interval
<input type="radio"/> - ESV/ESV-Z3	A - 7 / A - 17		
<input checked="" type="radio"/> - ESV/ESV-Z3	A - 6 / A - 18	December, 1999	1 Year
<input type="radio"/> - ESV/ESV-Z3	A - 4 / A - 20		
<input type="radio"/> - ESV/ESV-Z3	A - 8 / A - 19		
<input type="radio"/> - ESVS 10	A - 5		
<input type="radio"/> - KBA-511A	C - 12		
<input type="radio"/> - KBA-611	C - 22		
<input checked="" type="radio"/> - KBA-511A	C - 13	November, 2000	1 Year
<input checked="" type="radio"/> - KBA-611	C - 19	November, 2000	1 Year
<input type="radio"/> - KBA-511A	C - 11		
<input type="radio"/> - KBA-611	C - 21		
<input type="radio"/> - Cable	H - 1		
<input type="radio"/> - Cable	H - 2		
<input type="radio"/> - Cable	H - 5		
<input checked="" type="radio"/> - Cable	H - 6	November, 2000	1 Year
<input type="radio"/> - Cable	H - 9		

Environmental conditions:

Temperature: 14 °C Humidity: 53 %

Electromagnetic Field Radiated Emission Measurement

was performed in horizontal and vertical polarization, in the frequency range of 1000 MHz - 2200 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

Used test instruments:

Model No.	Device ID	Last Cal. Date	Cal. Interval
● - ESCS 30	A - 1	August, 2000	1 Year
○ - 8566B	A - 13		
○ - 8593A	A - 15		
○ - ESV	A - 6		
● - 4T-10	D - 73	May, 2000	1 Year
● - 4T-10	D - 74	May, 2000	1 Year
● - WJ-6611-513	A - 23	May, 2000	1 Year
● - WJ-6882-824	A - 21	May, 2000	1 Year
○ - DBL-0618N515	A - 33		
● - 91888-2	C - 41 - 1	May, 2000	1 Year
● - 91889-2	C - 41 - 2	May, 2000	1 Year
○ - 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		
○ - 8494H/8595H	D - 76		
○ - MZ5010C	D - 81		
● - Cable	C - 40 - 11	May, 2000	1 Year
● - Cable	C - 40 - 12	May, 2000	1 Year

Environmental conditions:

Temperature: 14 °C Humidity: 53 %

Antenna-Conducted Power Measurement

was performed in the frequency range of 30 MHz - 2200 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, 2000	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, 2000	1 Year
○ - 1506A	D - 21		
● - Cable	C - 40 - 9	June, 2000	1 Year

Environmental conditions:

Temperature: 22 °C Humidity: 38 %

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	April, 2000	1 Year
● - 339A	--	May, 2000	1 Year

Environmental conditions:

Temperature: 22 °C Humidity: 38 %

CONFIGURATION OF EUT

The Equipment Under Test (EUT) consists of:

Description	Applicant (Manufacturer)	Model No. (Serial No.)	FCC ID
VHF/UHF Transceiver	ICOM Incorporated (ICOM Incorporated)	IC-910H (000047)	AFJ IC-910H

The measurement was carried out with the following equipment connected:

Description	Grantee/Distributor	Model No. (Serial No.)	FCC ID
Power Supply	ICOM Incorporated	IC-5P (1793)	N/A
External Speaker (MAIN)	ICOM Incorporated	SP-21 (--)	N/A
External Speaker (SUB)	ICOM Incorporated	SP-21 (--)	N/A
CI-V Level Converter	ICOM Incorporated	CT-17 (0006)	N/A
Microphone	ICOM Incorporated	HM-12 (--)	N/A
Headphones	Matsushita Electric Industrial Co., Ltd.	RP-HT242 (--)	N/A
Pre-Amplifier (144 MHz)	ICOM Incorporated	AG-25 (--)	N/A
Pre-Amplifier (430 MHz)	ICOM Incorporated	AG-35 (--)	N/A
Pre-Amplifier (1.2 GHz)	ICOM Incorporated	AG-1200 (--)	N/A

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

	Description	Port	Shielded Cable	Shell Material	Ferrite Core	Cable Length
1	EUT	SP(MAIN)	NO	--	NO	1.0 m
	External Speaker (MAIN)	--		--		
2	EUT	SP(SUB)	NO	--	NO	1.0 m
	External Speaker (SUB)	--		--		
3	EUT	REMOTE	NO	--	NO	1.0 m
	CI-V Level Converter	CI-V REMOTE		--		
4	EUT	MIC	YES	Metal	NO	0.5 m
	Microphone	--		--		
5	EUT	PHONES	NO	--	NO	3.0 m
	Headphones	--		--		
6	EUT	KEY	NO	--	NO	1.2 m
	No termination	--		--		
7	EUT	DATA(MAIN)	NO	Metal	NO	1.2 m
	No termination	--		--		
8	EUT	DATA(SUB)	NO	Metal	NO	1.2 m
	No termination	--		--		
9	EUT	ACC(1)	NO	Metal	NO	1.2 m
	No termination	--		--		

	Description	Port	Shielded Cable	Shell Material	Ferrite Core	Cable Length
10	EUT	144MHz ANT	YES	Metal	NO	0.2 m
	-----	TRANSCEIVER		Metal		
11	EUT	430MHz ANT	YES	Metal	NO	0.2 m
	-----	TRANSCEIVER		Metal		
12	EUT	1.2GHz ANT	YES	Metal	NO	0.4 m
	-----	TRANSCEIVER		Metal		
13	EUT	DC 13.8V	NO	--	NO	1.0 m
	-----	Power Supply		--		
14	AC Power Cord (Power Supply) 1φ 2-pin plug	--	NO	--	NO	1.5 m
15	Earth Cord (Power Supply)	--	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.
The test was performed for both MAIN and SUB bands.

Test system:

The EUT has three ANT (144 MHz, 430 MHz, 1.2 GHz) ports, two speaker (MAIN, SUB) ports, a KEY port, a REMOTE port, two DATA (MAIN, SUB) ports, an ACC port, a PHONES port, and a MIC port.

The DATA (MAIN, SUB) ports and the ACC port is used for the packet (AFSK) data communication, and the KEY port is used for the transmission by a puddle or an electric key at CW mode.
These ports are not used under receiving mode, therefore they were not connected during the test.

Special accessories:

None

The used (generated) frequencies in the EUT:

CPU : 14.7456 MHz
MAIN UNIT : 0.8 MHz, 10.85 MHz, 15.99 MHz, 30.98 MHz
PLL UNIT : 30.2 MHz

Local Frequency : refer to the detailed receiver portion (see page 13)
Intermediate Frequency : refer to the detailed receiver portion (see page 13)

Detailed receiver portion:

1) Relation between receiving frequency and local frequency

BAND	Receiving Frequency [MHz]	Local Frequency [MHz]		
		1st LO	2nd LO	3rd LO
MAIN	136.000 - 174.000	125.150 - 163.150	10.395	--
	420.000 - 480.000	348.750 - 408.750	60.400	10.395
	1240.000 - 1320.000	996.100 - 1076.100	233.050	10.395
SUB	136.000 - 174.000	125.050 - 163.050	10.495	--
	420.000 - 480.000	348.650 - 408.650	60.400	10.495
	1240.000 - 1320.000	996.100 - 1076.100	232.950	10.495

2) Respective Intermediate Frequency

BAND	Receiving Frequency [MHz]	Local Frequency [MHz]		
		1st IF	2nd IF	3rd IF
MAIN	136.000 - 174.000	10.850 (lower)	0.455 (lower)	--
	420.000 - 480.000	71.250 (lower)	10.850 (lower)	0.455 (lower)
	1240.000 - 1320.000	243.900 (lower)	10.850 (lower)	0.455 (lower)
SUB	136.000 - 174.000	10.950 (lower)	0.455 (lower)	--
	420.000 - 480.000	71.350 (lower)	10.950 (lower)	0.455 (lower)
	1240.000 - 1320.000	243.900 (lower)	10.950 (lower)	0.455 (lower)

3) Type of Antenna Terminal : 144 MHz ANT / M-Type 50 Ω (Unbalanced)
 430 MHz ANT / N-Type 50 Ω (Unbalanced)
 1.2 GHz ANT / N-Type 50 Ω (Unbalanced)

4) Receiving mode : FM

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 32.9 dB at 0.45 MHz
Max. limit exceeding _____ dB at _____ MHz
Uncertainty of measurement results + 2.1 dB(2 σ) - 2.1 dB(2 σ)

Remarks: _____

Electromagnetic Field Radiated Emission 30 MHz - 2200 MHz

The requirements are **● - Passed** **○ - Not Passed**
Min. limit margin 8.2 dB at 348.650 MHz
and 348.750 MHz
Max. limit exceeding _____ dB at _____ MHz
Uncertainty of measurement results \leq 1000 MHz + 4.9 dB(2 σ) - 5.0 dB(2 σ)
Uncertainty of measurement results \geq 1000 MHz + 3.1 dB(2 σ) - 3.2 dB(2 σ)

Remarks: _____

Antenna-Conducted Power 30 MHz - 2200 MHz

The requirements are **● - Passed** **○ - Not Passed**
Min. limit margin 9.0 dB at 348.750 MHz
Max. limit exceeding _____ dB at _____ MHz
Uncertainty of measurement results + 2.3 dB(2 σ) - 2.3 dB(2 σ)

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(2σ) ___ - ___ dB(2σ)

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 (September 20, 2000) under the test configuration, as shown in page 18.

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 : December 4, 2000

End of testing : December 7, 2000

- JAPAN QUALITY ASSURANCE ORGANIZATION -

Approved by :

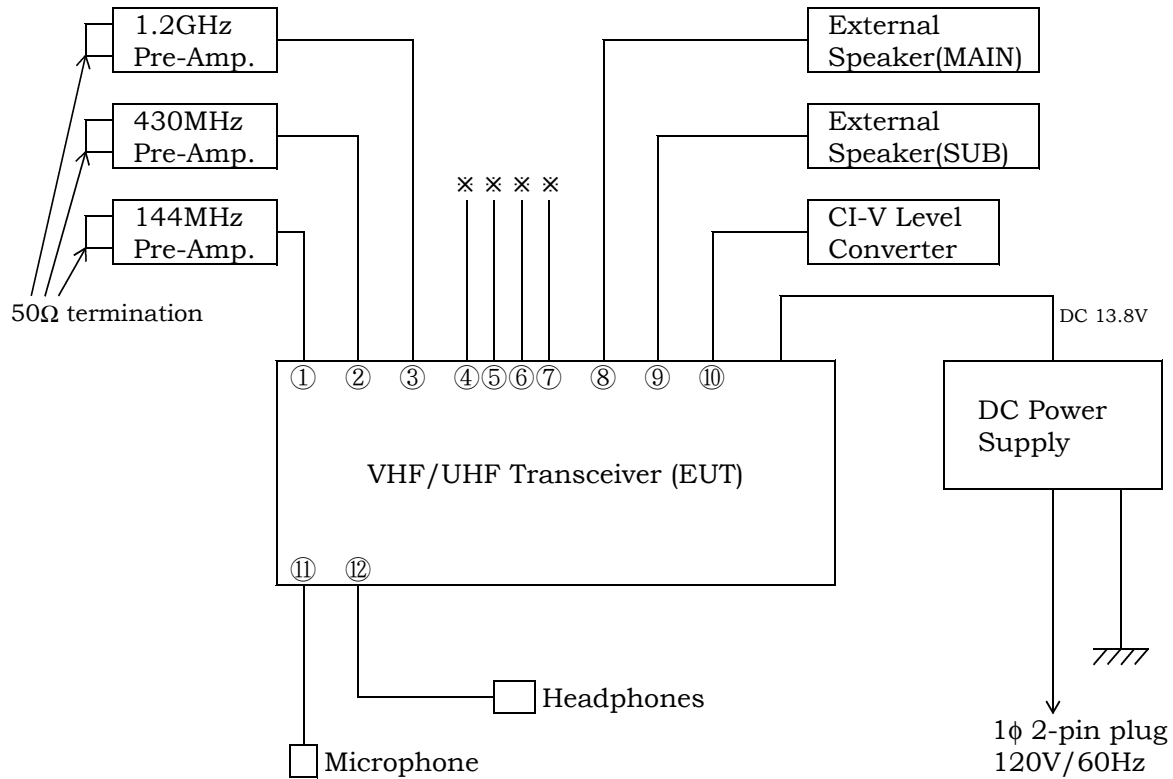
Issued by :



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)



Note)

※ - No termination

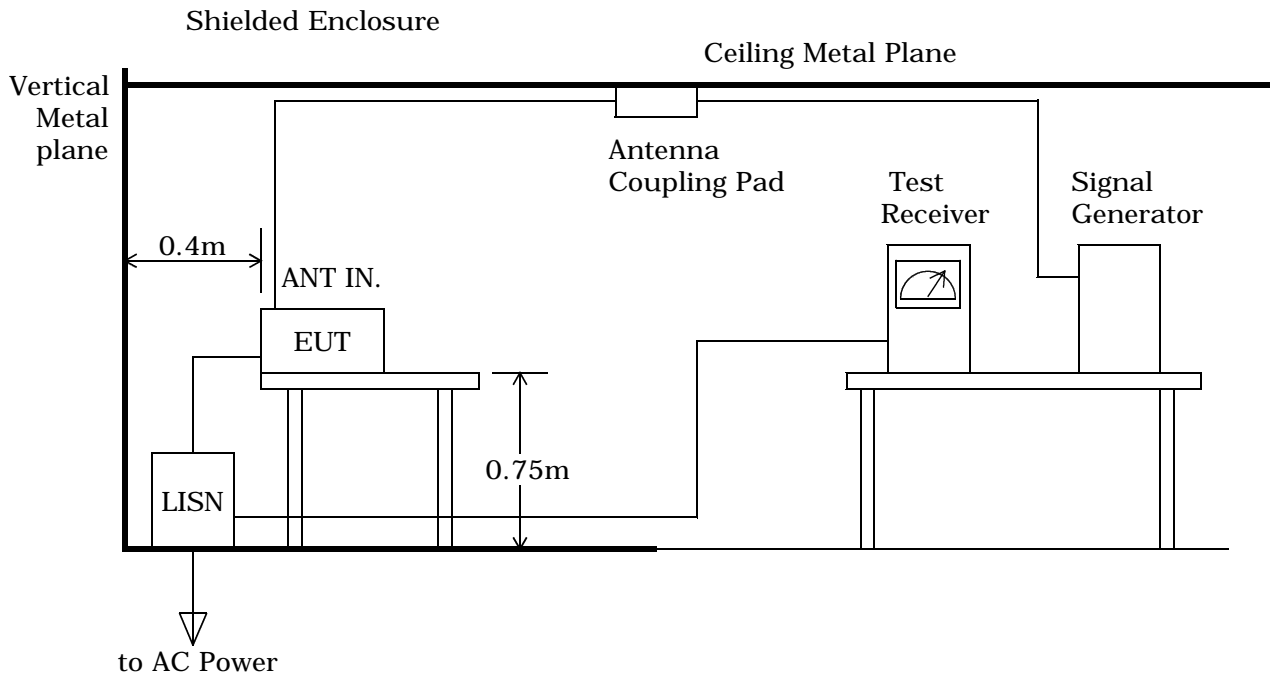
- | | |
|-----------------|---------------|
| ① - 144MHz ANT | ⑦ - ACC (1) |
| ② - 430MHz ANT | ⑧ - SP (MAIN) |
| ③ - 1.2GHz ANT | ⑨ - SP (SUB) |
| ④ - KEY | ⑩ - REMOTE |
| ⑤ - DATA (MAIN) | ⑪ - MIC |
| ⑥ - DATA (SUB) | ⑫ - PHONES |

Preliminary Test and Test-setup(Drawings)

AC Powerline Conducted Emission 450 kHz - 30 MHz:

Measurement Procedure: IEEE 213(1987) & ANSI C63.4(1992)

The preliminary test was performed receiving over each band, and the worst result was reported as the final test.



Electromagnetic Field Radiated Emission 30 MHz - 1000 MHz:

The preliminary test was performed according to the description of ANSI C63.4-1992 Sec.8.3.1.1 (Preliminary Radiated Emissions Tests) and Sec.6.2.1 (Tabletop Equipment Tests).

The preliminary test was carried out to investigate the frequency of the emission that has the highest amplitude relative to the limits within normal operating modes, cable positions, and a typical system configuration. In order to find out to the maximum emission, the preliminary test and a final test were performed in accordance with the following steps.

Step 1: One operation mode of the test system was setting.

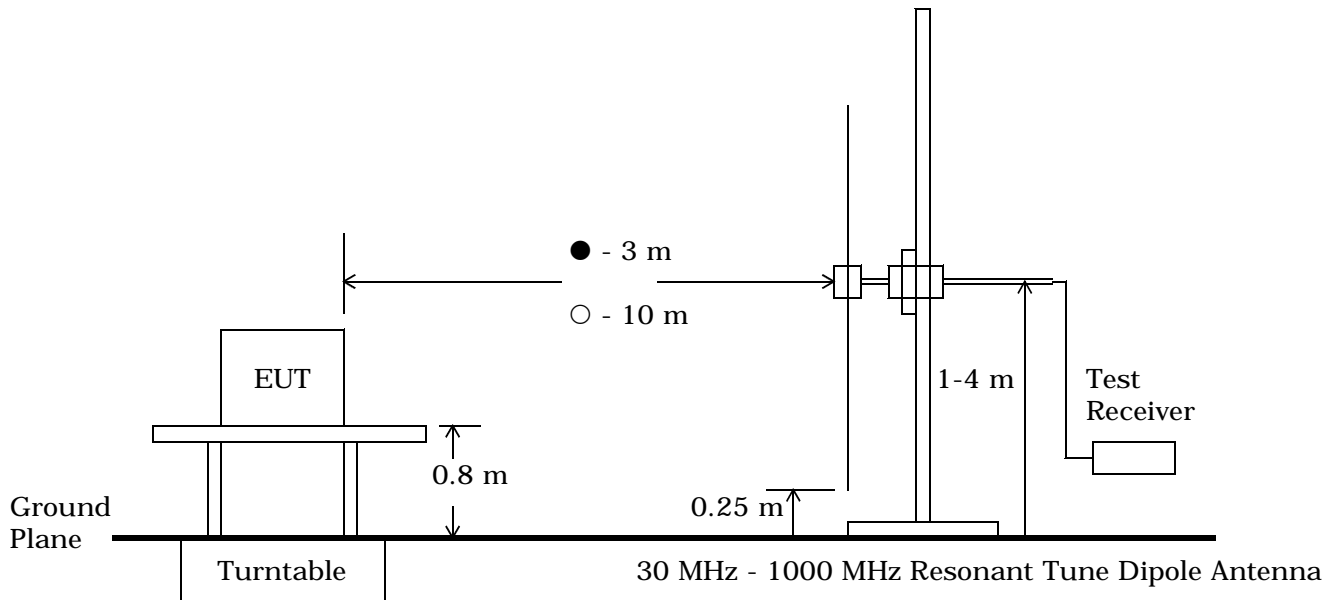
Step 2: Using a test receiver and a test antenna probe, the significant frequency of the emission's circumstance from the test system were investigated. These data were recorded every one of 22 divided bands in the specified frequency band (30 MHz - 1000 MHz).

Step 3: Using a test receiver and a resonant tuned dipole antenna, the emission's circumstance from the test system was measured in according with ANSI C63.4-1992 Sec.8.3.1.2 (Final Radiated Emissions Tests) at each frequency which was found the higher emission referred to level vs. frequency on the list and which was measured by the resonant tuned dipole antenna. The maximum emission was found by changing the cable positions or cable manipulation under a typical system configuration.

Step 4: Return to step 1, if the other operation mode was possible to be setting.

Step 5: The worst result was reported arranging data of which was obtained and performed by one or plural operation modes as the final test.

At the worst point that has the highest amplitude relative to the limit the repeatability of the level was reconfirmed. The photographs of the tests system setup on the worst point were taken and recorded.



Electromagnetic Field Radiated Emission 1000 MHz - 2200 MHz:

The preliminary test was performed according to the description of ANSI C63.4-1992 Sec.8.3.1.1 (Preliminary Radiated Emissions Tests) and Sec.6.2.1 (Tabletop Equipment Tests).

The preliminary test was carried out to investigate the frequency of the emission that has the highest amplitude relative to the limits within normal operating modes, cable positions, and a typical system configuration. In order to find out to the maximum emission, the preliminary test and a final test were performed in accordance with the following steps.

Step 1: One operation mode of the test system was setting.

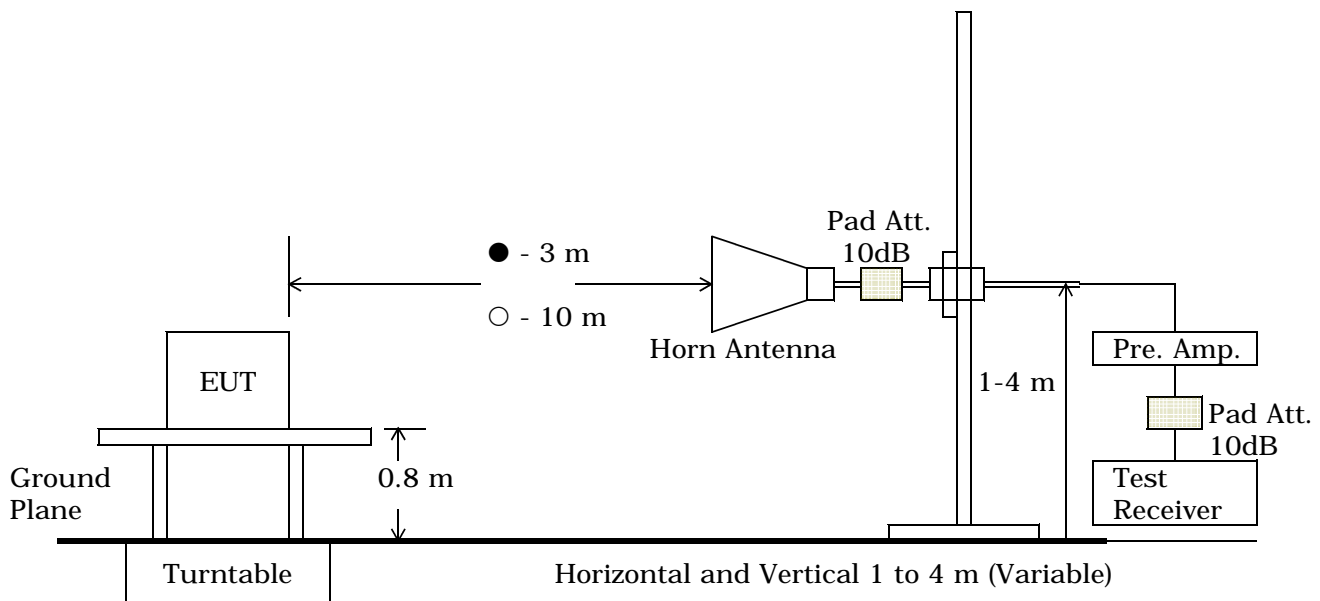
Step 2: In order to investigate the frequencies of maximum emissions, the horn antenna position was approached to the EUT and the significant frequency of the emission's circumstance from the test system were investigated. These data were recorded in the specified frequency band (1000 MHz - 1700 MHz).

Step 3: The emission's circumstance from the test system was measured in accordance with ANSI C63.4-1992, Sec.8.3.1.2 (Final Radiated Emissions Tests) at each frequency which was found higher emission referred to level vs. frequency on the list and which was measured in the specified distance using the horn antenna.

Step 4: Return to step 1, if the other operation mode was possible to be setting.

Step 5: The worst result was reported arranging data of which was obtained and performed by one or plural operation modes as the final test.

At the worst point that has the highest amplitude relative to the limit the repeatability of the level was reconfirmed. The photographs of the tests system setup on the worst point were taken and recorded.



Antenna-Conducted Power 30 MHz - 2200 MHz:

The test was performed according to the description of ANSI C63.4-1992 Sec.12.1.5 (Antenna-Conducted Power Measurements).



38dB Rejection Test (§15.121(b)):

The test(38dB Rejection Test) is carried out in accordance with procedure as follows.

1) Test system is composed as follows.



2) The setting frequencies of the signal generator were selected the bottom, the medium and the top frequency within each of the frequency bands allocated to the Cellular Radiotelephone Service in CFR 47 FCC Rules and Regulations Part 22 Subpart H.

For transmitter in Mobile : 824.040 MHz, 836.505 MHz, 848.970 MHz

For transmitter in Base : 869.040 MHz, 881.505 MHz, 893.970 MHz

The setting output of the signal generator was adjusted to a level 60dB(μ V). The setting frequency modulation was adjusted to an 1 kHz tone at 8 kHz deviation.

3) The EUT is capable of receiving over three bands, 136.000 MHz - 174.000 MHz, 420.000 MHz - 480.000 MHz and 1240.000 MHz - 1320.000 MHz.

For each frequency in step 2), each band of the EUT was scanned all over the range by stepping up every 1 kHz. Then the squelch of the EUT was adjusted to a minimum threshold level. Whenever the scanning stopped, the detected frequency was noted.

4) The EUT was tuning to the detected frequency under signal generator was setting to the same condition as step 3). At first, The volume position of the EUT was adjusted as the audio nominal power is set to 50mW at 8 Ω .

The level of the signal generator(12dB SINAD level at the injected frequency) was adjusted as the distortion meter is set to produce a 12dB SINAD measurement (audio nominal power 50mW at 8 Ω , and 25% of distortion).

5) The EUT was tuning to the detected frequency under signal generator was setting to the same detected frequency. At first, The volume position of the EUT was adjusted as the audio nominal power is set to 50mW at 8 Ω .

The level of the signal generator(12dB SINAD level at the detected frequency) was adjusted as the distortion meter is set to produce a 12dB SINAD measurement (audio nominal power 50mW at 8 Ω , and 25% of distortion).

6) The rejection ratio, i.e. the difference between the 12dB SINAD levels at the injected frequency and the detected frequency, must be at least 38dB.

Test-Setup (Photographs) at worst case

Conducted Emission 450kHz - 30MHz:



Front View

Radiated Emission 30MHz - 2200MHz:



Front View



Side View



Rear View

AC Powerline Conducted Emission Measurement Scanning Receiver

Receiving Frequency : 450.000 MHz

Test Date: December 5, 2000
 Temp.: 22 °C ; Humi.: 38 %

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	15.0	-	10.0	-	48.0	15.1	-	+32.9	A
0.50	0.1	12.0	-	<10.0	-	48.0	12.1	-	+35.9	A
1.00	0.1	<10.0	-	<10.0	-	48.0	<10.1	-	>+37.9	A
1.40	0.2	<10.0	-	<10.0	-	48.0	<10.2	-	>+37.8	A
3.50	0.3	<10.0	-	<10.0	-	48.0	<10.3	-	>+37.7	A
6.00	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
13.00	0.6	<10.0	-	<10.0	-	48.0	<10.6	-	>+37.4	A
22.00	0.8	<10.0	-	<10.0	-	48.0	<10.8	-	>+37.2	A
30.00	0.9	<10.0	-	<10.0	-	48.0	<10.9	-	>+37.1	A

Sample of calculated result at 0.45 MHz, as the Minimum Margin point:

$$\begin{array}{rcl}
 \text{Correction Factor} & = & 0.1 \text{ dB} \\
 +) \text{ Meter Reading} & = & 15.0 \text{ dB}(\mu\text{V}) \\
 \hline
 \text{Result} & = & 15.1 \text{ dB}(\mu\text{V})
 \end{array}$$

Minimum Margin : 48.0 - 15.1 = 32.9(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 : _____

Y. Sakai

Type Name : Yasuhisa Sakai

Electromagnetic Field Radiated Emission Measurement Scanning Receiver

Test Date: December 7, 2000
 Temp.: 14 °C ; Humi.: 53 %

Tuning range : 136.000 MHz - 174.000 MHz (MAIN BAND)

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.		
136.000	125.150	10.8	1.1	9.0	4.0	43.5	20.9	15.9	+22.6	A
	250.300	16.9	1.6	5.0	1.0	46.0	23.5	19.5	+22.5	A
	375.450	20.5	2.1	0.0	-3.0	46.0	22.6	19.6	+23.4	A
	500.600	23.3	2.5	6.0	8.0	46.0	31.8	33.8	+12.2	A
	625.750	25.4	2.7	<-5.0	<-5.0	46.0	<23.1	<23.1	>+22.9	A
	750.900	27.2	3.0	<-5.0	<-5.0	46.0	<25.2	<25.2	>+20.8	A
	876.050	28.6	3.3	<-5.0	<-5.0	46.0	<26.9	<26.9	>+19.1	A
	1001.200	21.2	-26.5	<30.0	<30.0	54.0	<24.7	<24.7	>+29.3	B
	1126.350	21.1	-26.5	<30.0	<30.0	54.0	<24.6	<24.6	>+29.4	B
	1251.500	21.1	-26.0	<30.0	<30.0	54.0	<25.1	<25.1	>+28.9	B
	1376.650	21.4	-24.8	<30.0	<30.0	54.0	<26.6	<26.6	>+27.4	B
	1501.800	20.9	-25.6	<30.0	<30.0	54.0	<25.3	<25.3	>+28.7	B
	1626.950	20.6	-26.9	<30.0	<30.0	54.0	<23.7	<23.7	>+30.3	B
	1752.100	21.2	-28.3	<30.0	<30.0	54.0	<22.9	<22.9	>+31.1	B
	1877.250	21.5	-28.5	<30.0	32.0	54.0	<23.0	25.0	+29.0	B
	2002.400	21.0	-21.6	<30.0	<30.0	54.0	<29.4	<29.4	>+24.6	B
2127.550	21.5	-21.7	<30.0	<30.0	54.0	<29.8	<29.8	>+24.2	B	
155.000	144.150	12.1	1.2	8.0	2.0	43.5	21.3	15.3	+22.2	A
	288.300	18.1	1.7	8.0	2.0	46.0	27.8	21.8	+18.2	A
	432.450	21.9	2.4	1.0	-1.0	46.0	25.3	23.3	+20.7	A
	576.600	24.6	2.7	-2.0	-3.0	46.0	25.3	24.3	+20.7	A
	720.750	26.8	2.9	<-5.0	<-5.0	46.0	<24.7	<24.7	>+21.3	A
	864.900	28.5	3.2	<-5.0	<-5.0	46.0	<26.7	<26.7	>+19.3	A
	1009.050	21.1	-26.5	<30.0	<30.0	54.0	<24.6	<24.6	>+29.4	B
	1153.200	21.2	-26.5	<30.0	<30.0	54.0	<24.7	<24.7	>+29.3	B
	1297.350	21.3	-25.6	<30.0	<30.0	54.0	<25.7	<25.7	>+28.3	B
	1441.500	21.3	-25.0	<30.0	<30.0	54.0	<26.3	<26.3	>+27.7	B
	1585.650	20.6	-26.5	<30.0	<30.0	54.0	<24.1	<24.1	>+29.9	B
	1729.800	21.0	-28.1	30.0	30.0	54.0	22.9	22.9	+31.1	B
	1873.950	21.6	-28.5	<30.0	31.0	54.0	<23.1	24.1	+29.9	B
	2018.100	21.1	-21.6	<30.0	<30.0	54.0	<29.5	<29.5	>+24.5	B

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.		
174.000	163.150	13.2	1.3	2.0	3.0	43.5	16.5	17.5	+26.0	A
	326.300	19.2	1.9	6.0	3.0	46.0	27.1	24.1	+18.9	A
	489.450	23.1	2.4	-2.0	-1.0	46.0	23.5	24.5	+21.5	A
	652.600	25.8	2.9	-2.0	<-5.0	46.0	26.7	<23.7	+19.3	A
	815.750	28.0	3.1	<-5.0	<-5.0	46.0	<26.1	<26.1	>+19.9	A
	978.900	29.7	3.5	<-5.0	<-5.0	54.0	<28.2	<28.2	>+25.8	A
	1142.050	21.2	-26.5	<30.0	<30.0	54.0	<24.7	<24.7	>+29.3	B
	1305.200	21.3	-25.5	<30.0	<30.0	54.0	<25.8	<25.8	>+28.2	B
	1468.350	21.2	-25.3	<30.0	<30.0	54.0	<25.9	<25.9	>+28.1	B
	1631.500	20.6	-27.0	30.0	33.0	54.0	23.6	26.6	+27.4	B
	1794.650	21.5	-28.8	<30.0	<30.0	54.0	<22.7	<22.7	>+31.3	B
	1957.800	21.5	-28.1	<30.0	<30.0	54.0	<23.4	<23.4	>+30.6	B
2120.950	21.5	-21.6	<30.0	<30.0	54.0	<29.9	<29.9	>+24.1	B	

Tuning range : 420.000 MHz - 480.000 MHz (MAIN BAND)

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.		
420.000	348.750	19.8	2.0	16.0	9.0	46.0	37.8	30.8	+ 8.2	A
	697.500	26.5	2.9	-2.0	-3.0	46.0	27.4	26.4	+18.6	A
	1046.250	20.9	-26.5	<30.0	34.0	54.0	<24.4	28.4	+25.6	B
	1395.000	21.4	-24.6	<30.0	30.0	54.0	<26.8	26.8	+27.2	B
	1743.750	21.1	-28.2	34.0	36.0	54.0	26.9	28.9	+25.1	B
	2092.500	21.5	-21.6	<30.0	34.0	54.0	<29.9	33.9	+20.1	B
450.000	378.750	20.6	2.1	4.0	1.0	46.0	26.7	23.7	+19.3	A
	757.500	27.2	3.0	1.0	-2.0	46.0	31.2	28.2	+14.8	A
	1136.250	21.1	-26.5	31.0	35.0	54.0	25.6	29.6	+24.4	B
	1515.000	20.8	-25.8	<40.0	<40.0	54.0	<35.0	<35.0	>+19.0	B
	1893.750	21.5	-28.4	32.0	33.0	54.0	25.1	26.1	+27.9	B
480.000	408.750	21.4	2.2	1.0	2.0	46.0	24.6	25.6	+20.4	A
	817.500	28.0	3.1	-2.0	-4.0	46.0	29.1	27.1	+16.9	A
	1226.250	21.1	-26.2	<30.0	<30.0	54.0	<24.9	<24.9	>+29.1	B
	1635.000	20.6	-27.0	<30.0	31.0	54.0	<23.6	24.6	+29.4	B
	2043.750	21.3	-21.6	<30.0	<30.0	54.0	<29.7	<29.7	>+24.3	B

Tuning range : 136.000 MHz - 174.000 MHz (SUB BAND)

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.		
136.000	125.050	10.8	1.1	9.0	4.0	43.5	20.9	15.9	+22.6	A
	250.100	16.9	1.6	5.0	1.0	46.0	23.5	19.5	+22.5	A
	375.150	20.5	2.1	0.0	-4.0	46.0	22.6	18.6	+23.4	A
	500.200	23.3	2.5	7.0	8.0	46.0	32.8	33.8	+12.2	A
	625.250	25.4	2.7	<-5.0	<-5.0	46.0	<23.1	<23.1	>+22.9	A
	750.300	27.2	3.0	<-5.0	<-5.0	46.0	<25.2	<25.2	>+20.8	A
	875.350	28.6	3.3	<-5.0	<-5.0	46.0	<26.9	<26.9	>+19.1	A
	1000.400	21.2	-26.5	<30.0	<30.0	54.0	<24.7	<24.7	>+29.3	B
	1125.450	21.1	-26.5	<30.0	<30.0	54.0	<24.6	<24.6	>+29.4	B
	1250.500	21.1	-26.0	<30.0	<30.0	54.0	<25.1	<25.1	>+28.9	B
	1375.550	21.4	-24.8	<30.0	<30.0	54.0	<26.6	<26.6	>+27.4	B
	1500.600	20.9	-25.6	<30.0	<30.0	54.0	<25.3	<25.3	>+28.7	B
	1625.650	20.6	-26.9	<30.0	<30.0	54.0	<23.7	<23.7	>+30.3	B
	1750.700	21.2	-28.3	<30.0	<30.0	54.0	<22.9	<22.9	>+31.1	B
	1875.750	21.5	-28.5	<30.0	32.0	54.0	<23.0	25.0	+29.0	B
	2000.800	21.0	-21.6	<30.0	<30.0	54.0	<29.4	<29.4	>+24.6	B
2125.850	21.5	-21.7	<30.0	<30.0	54.0	<29.8	<29.8	>+24.2	B	
155.000	144.050	12.1	1.2	8.0	2.0	43.5	21.3	15.3	+22.2	A
	288.100	18.1	1.7	8.0	2.0	46.0	27.8	21.8	+18.2	A
	432.150	21.9	2.4	2.0	-1.0	46.0	26.3	23.3	+19.7	A
	576.200	24.6	2.6	-2.0	-4.0	46.0	25.2	23.2	+20.8	A
	720.250	26.8	2.9	<-5.0	<-5.0	46.0	<24.7	<24.7	>+21.3	A
	864.300	28.5	3.2	<-5.0	<-5.0	46.0	<26.7	<26.7	>+19.3	A
	1008.350	21.1	-26.5	<30.0	<30.0	54.0	<24.6	<24.6	>+29.4	B
	1152.400	21.2	-26.5	<30.0	<30.0	54.0	<24.7	<24.7	>+29.3	B
	1296.450	21.3	-25.6	<30.0	<30.0	54.0	<25.7	<25.7	>+28.3	B
	1440.500	21.3	-25.0	<30.0	<30.0	54.0	<26.3	<26.3	>+27.7	B
	1584.550	20.6	-26.4	<30.0	<30.0	54.0	<24.2	<24.2	>+29.8	B
	1728.600	21.0	-28.1	30.0	31.0	54.0	22.9	23.9	+30.1	B
	1872.650	21.6	-28.5	<30.0	32.0	54.0	<23.1	25.1	+28.9	B
	2016.700	21.1	-21.6	<30.0	<30.0	54.0	<29.5	<29.5	>+24.5	B

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.		
174.000	163.050	13.1	1.3	2.0	3.0	43.5	16.4	17.4	+26.1	A
	326.100	19.2	1.9	7.0	3.0	46.0	28.1	24.1	+17.9	A
	489.150	23.1	2.4	-2.0	-1.0	46.0	23.5	24.5	+21.5	A
	652.200	25.8	2.9	-1.0	<-5.0	46.0	27.7	<23.7	+18.3	A
	815.250	27.9	3.1	<-5.0	<-5.0	46.0	<26.0	<26.0	>+20.0	A
	978.300	29.7	3.5	<-5.0	<-5.0	54.0	<28.2	<28.2	>+25.8	A
	1141.350	21.1	-26.5	<30.0	<30.0	54.0	<24.6	<24.6	>+29.4	B
	1304.400	21.3	-25.6	<30.0	<30.0	54.0	<25.7	<25.7	>+28.3	B
	1467.450	21.2	-25.3	<30.0	<30.0	54.0	<25.9	<25.9	>+28.1	B
	1630.500	20.6	-27.0	30.0	33.0	54.0	23.6	26.6	+27.4	B
	1793.550	21.5	-28.8	<30.0	<30.0	54.0	<22.7	<22.7	>+31.3	B
	1956.600	21.5	-28.1	<30.0	<30.0	54.0	<23.4	<23.4	>+30.6	B
2119.650	21.5	-21.6	<30.0	<30.0	54.0	<29.9	<29.9	>+24.1	B	

Tuning range : 420.000 MHz - 480.000 MHz (SUB BAND)

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.		
420.000	348.650	19.8	2.0	16.0	9.0	46.0	37.8	30.8	+ 8.2	A
	697.300	26.5	2.9	-2.0	-3.0	46.0	27.4	26.4	+18.6	A
	1045.950	20.9	-26.5	<30.0	34.0	54.0	<24.4	28.4	+25.6	B
	1394.600	21.4	-24.7	<30.0	32.0	54.0	<26.7	28.7	+25.3	B
	1743.250	21.1	-28.2	35.0	35.0	54.0	27.9	27.9	+26.1	B
	2091.900	21.5	-21.6	<30.0	35.0	54.0	<29.9	34.9	+19.1	B
450.000	378.650	20.6	2.1	5.0	1.0	46.0	27.7	23.7	+18.3	A
	757.300	27.2	3.0	1.0	-2.0	46.0	31.2	28.2	+14.8	A
	1135.950	21.1	-26.5	31.0	34.0	54.0	25.6	28.6	+25.4	B
	1514.600	20.8	-25.7	<40.0	<40.0	54.0	<35.1	<35.1	>+18.9	B
	1893.250	21.5	-28.4	32.0	33.0	54.0	25.1	26.1	+27.9	B
480.000	408.650	21.3	2.2	1.0	2.0	46.0	24.5	25.5	+20.5	A
	817.300	28.0	3.1	-2.0	-4.0	46.0	29.1	27.1	+16.9	A
	1225.950	21.1	-26.2	<30.0	<30.0	54.0	<24.9	<24.9	>+29.1	B
	1634.600	20.6	-27.0	<30.0	31.0	54.0	<23.6	24.6	+29.4	B
	2043.250	21.3	-21.6	<30.0	<30.0	54.0	<29.7	<29.7	>+24.3	B

Tuning range : 1240.000 MHz - 1320.000 MHz (MAIN/SUB BAND)

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.		
1240.000	996.100	29.9	3.5	<-5.0	<-5.0	54.0	<28.4	<28.4	>+25.6	A
	1992.200	21.3	-27.8	<30.0	30.0	54.0	<23.5	23.5	+30.5	B
1280.000	1036.100	21.0	-26.5	35.0	40.0	54.0	29.5	34.5	+19.5	B
	2072.200	21.4	-21.6	<30.0	<30.0	54.0	<29.8	<29.8	>+24.2	B
1320.000	1076.100	20.9	-26.5	<30.0	<30.0	54.0	<24.4	<24.4	>+29.6	B
	2152.200	21.5	-21.7	<30.0	36.0	54.0	<29.8	35.8	+18.2	B

Other Disturbance

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.		
30.2	-0.6	0.5	< 5.0	<14.0	40.0	< 4.9	<13.9	>+26.1	A
60.4	4.5	0.8	< 2.0	< 4.0	40.0	< 7.3	< 9.3	>+30.7	A
151.0	12.5	1.2	3.0	< 0.0	43.5	16.7	<13.7	+26.8	A
181.2	14.1	1.3	< 0.0	< 0.0	43.5	<15.4	<15.4	>+28.1	A
211.4	15.4	1.5	6.0	2.0	43.5	22.9	18.9	+20.6	A
271.8	17.6	1.7	5.0	< 5.0	46.0	24.3	<24.3	+21.7	A
383.8	20.8	2.1	<-3.0	<-2.0	46.0	<19.9	<20.9	>+25.1	A
431.7	21.9	2.4	-1.0	< 3.0	46.0	23.3	<27.3	>+18.7	A
549.8	24.2	2.6	2.0	0.0	46.0	28.8	26.8	+17.2	A
629.8	25.5	2.8	0.0	-2.0	46.0	28.3	26.3	+17.7	A

Sample of calculated result at 348.750 MHz, as the Minimum Margin point:

Antenna Factor = 19.8 dB(1/m)
Corr. Factor = 2.0 dB
+) Meter Reading = 16.0 dB(μ V)
Result = 37.8 dB(μ V/m)

Minimum Margin : 46.0 - 37.8 = 8.2(dB)

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

Note 1:

1)The highest local frequency in the EUT : 1076.100 MHz

2)The upper frequency of measurement range : 2152.200 MHz

3)Corr. Factor [dB] (below 1 GHz) = Cable Loss [dB]

Corr. Factor [dB] (above 1 GHz) = Cable Loss [dB] + 20 dB Pad Attenuator [dB] - Pre-Amplifier Gain [dB]

Remarks:

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

Tester Signature : _____

Y. Sakai

Type Name : Yasuhisa Sakai

Antenna-Conducted Power Measurement Scanning Receiver

Test Date: December 5, 2000
 Temp.: 22 °C ; Humi.: 38 %

Tuning range : 136.000 MHz - 174.000 MHz (MAIN BAND)

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	125.150	10.0	24.0	50.0	34.0	+16.0	A
	250.300	10.0	26.5	50.0	36.5	+13.5	A
	375.450	10.0	12.5	50.0	22.5	+27.5	A
	500.600	10.0	<10.0	50.0	<20.0	>+30.0	A
	625.750	10.0	<10.0	50.0	<20.0	>+30.0	A
	750.900	10.0	<10.0	50.0	<20.0	>+30.0	A
	876.050	10.0	<10.0	50.0	<20.0	>+30.0	A
	1001.200	10.0	<10.0	50.0	<20.0	>+30.0	B
	1126.350	10.0	<10.0	50.0	<20.0	>+30.0	B
	1251.500	10.0	<10.0	50.0	<20.0	>+30.0	B
	1376.650	10.0	<10.0	50.0	<20.0	>+30.0	B
	1501.800	10.0	<10.0	50.0	<20.0	>+30.0	B
	1626.950	10.0	<10.0	50.0	<20.0	>+30.0	B
	1752.100	10.0	<10.0	50.0	<20.0	>+30.0	B
	1877.250	10.0	11.0	50.0	21.0	+29.0	B
2002.400	10.0	<10.0	50.0	<20.0	>+30.0	B	
2127.550	10.0	<10.0	50.0	<20.0	>+30.0	B	
155.000	144.150	10.0	21.5	50.0	31.5	+18.5	A
	288.300	10.0	21.5	50.0	31.5	+18.5	A
	432.450	10.0	<10.0	50.0	<20.0	>+30.0	A
	576.600	10.0	<10.0	50.0	<20.0	>+30.0	A
	720.750	10.0	<10.0	50.0	<20.0	>+30.0	A
	864.900	10.0	<10.0	50.0	<20.0	>+30.0	A
	1009.050	10.0	<10.0	50.0	<20.0	>+30.0	B
	1153.200	10.0	<10.0	50.0	<20.0	>+30.0	B
	1297.350	10.0	<10.0	50.0	<20.0	>+30.0	B
	1441.500	10.0	<10.0	50.0	<20.0	>+30.0	B
	1585.650	10.0	<10.0	50.0	<20.0	>+30.0	B
	1729.800	10.0	<10.0	50.0	<20.0	>+30.0	B
	1873.950	10.0	11.0	50.0	21.0	+29.0	B
	2018.100	10.0	<10.0	50.0	<20.0	>+30.0	B

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)
174.000	163.150	10.0	19.5	50.0	29.5	+21.5	A
	326.300	10.0	20.5	50.0	30.5	+19.5	A
	489.450	10.0	<10.0	50.0	<20.0	>+30.0	A
	652.600	10.0	<10.0	50.0	<20.0	>+30.0	A
	815.750	10.0	<10.0	50.0	<20.0	>+30.0	A
	978.900	10.0	<10.0	50.0	<20.0	>+30.0	A
	1142.050	10.0	<10.0	50.0	<20.0	>+30.0	B
	1305.200	10.0	<10.0	50.0	<20.0	>+30.0	B
	1468.350	10.0	<10.0	50.0	<20.0	>+30.0	B
	1631.500	10.0	<10.0	50.0	<20.0	>+30.0	B
	1794.650	10.0	<10.0	50.0	<20.0	>+30.0	B
	1957.800	10.0	<10.0	50.0	<20.0	>+30.0	B
	2120.950	10.0	<10.0	50.0	<20.0	>+30.0	B

Tuning range : 420.000 MHz - 480.000 MHz (MAIN BAND)

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)
420.000	348.750	10.0	31.0	50.0	41.0	+ 9.0	A
	697.500	10.0	26.0	50.0	36.0	+14.0	A
	1046.250	10.0	<10.0	50.0	<20.0	>+30.0	B
	1395.000	10.0	13.0	50.0	23.0	+27.0	B
	1743.750	10.0	11.0	50.0	21.0	+29.0	B
	2092.500	10.0	12.0	50.0	22.0	+28.0	B
	450.000	378.750	10.0	27.0	50.0	37.0	+13.0
757.500		10.0	19.0	50.0	29.0	+21.0	A
1136.250		10.0	10.0	50.0	20.0	+30.0	B
1515.000		10.0	17.0	50.0	27.0	+23.0	B
1893.750		10.0	10.0	50.0	20.0	+30.0	B
480.000	408.750	10.0	27.5	50.0	37.5	+12.5	A
	817.500	10.0	14.0	50.0	24.0	+26.0	A
	1226.250	10.0	10.0	50.0	20.0	+30.0	B
	1635.000	10.0	18.5	50.0	28.5	+21.5	B
	2043.750	10.0	<10.0	50.0	<20.0	>+30.0	B

Tuning range : 136.000 MHz - 174.000 MHz (SUB BAND)

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	125.050	10.0	24.0	50.0	34.0	+16.0	A
	250.100	10.0	26.5	50.0	36.5	+13.5	A
	375.150	10.0	12.5	50.0	22.5	+27.5	A
	500.200	10.0	<10.0	50.0	<20.0	>+30.0	A
	625.250	10.0	<10.0	50.0	<20.0	>+30.0	A
	750.300	10.0	<10.0	50.0	<20.0	>+30.0	A
	875.350	10.0	<10.0	50.0	<20.0	>+30.0	A
	1000.400	10.0	<10.0	50.0	<20.0	>+30.0	B
	1125.450	10.0	<10.0	50.0	<20.0	>+30.0	B
	1250.500	10.0	<10.0	50.0	<20.0	>+30.0	B
	1375.550	10.0	<10.0	50.0	<20.0	>+30.0	B
	1500.600	10.0	<10.0	50.0	<20.0	>+30.0	B
	1625.650	10.0	<10.0	50.0	<20.0	>+30.0	B
	1750.700	10.0	<10.0	50.0	<20.0	>+30.0	B
	1875.750	10.0	11.5	50.0	21.5	+28.5	B
2000.800	10.0	<10.0	50.0	<20.0	>+30.0	B	
2125.850	10.0	<10.0	50.0	<20.0	>+30.0	B	
155.000	144.050	10.0	21.5	50.0	31.5	+18.5	A
	288.100	10.0	21.0	50.0	31.0	+19.0	A
	432.150	10.0	<10.0	50.0	<20.0	>+30.0	A
	576.200	10.0	<10.0	50.0	<20.0	>+30.0	A
	720.250	10.0	<10.0	50.0	<20.0	>+30.0	A
	864.300	10.0	<10.0	50.0	<20.0	>+30.0	A
	1008.350	10.0	<10.0	50.0	<20.0	>+30.0	B
	1152.400	10.0	<10.0	50.0	<20.0	>+30.0	B
	1296.450	10.0	<10.0	50.0	<20.0	>+30.0	B
	1440.500	10.0	<10.0	50.0	<20.0	>+30.0	B
	1584.550	10.0	<10.0	50.0	<20.0	>+30.0	B
	1728.600	10.0	<10.0	50.0	<20.0	>+30.0	B
	1872.650	10.0	12.0	50.0	22.0	+28.0	B
	2016.700	10.0	<10.0	50.0	<20.0	>+30.0	B

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)
174.000	163.050	10.0	19.5	50.0	29.5	+21.5	A
	326.100	10.0	21.0	50.0	31.0	+19.0	A
	489.150	10.0	<10.0	50.0	<20.0	>+30.0	A
	652.200	10.0	<10.0	50.0	<20.0	>+30.0	A
	815.250	10.0	<10.0	50.0	<20.0	>+30.0	A
	978.300	10.0	<10.0	50.0	<20.0	>+30.0	A
	1141.350	10.0	<10.0	50.0	<20.0	>+30.0	B
	1304.400	10.0	<10.0	50.0	<20.0	>+30.0	B
	1467.450	10.0	<10.0	50.0	<20.0	>+30.0	B
	1630.500	10.0	<10.0	50.0	<20.0	>+30.0	B
	1793.550	10.0	<10.0	50.0	<20.0	>+30.0	B
	1956.600	10.0	<10.0	50.0	<20.0	>+30.0	B
	2119.650	10.0	<10.0	50.0	<20.0	>+30.0	B

Tuning range : 420.000 MHz - 480.000 MHz (SUB BAND)

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)
420.000	348.650	10.0	30.0	50.0	40.0	+10.0	A
	697.300	10.0	26.0	50.0	36.0	+14.0	A
	1045.950	10.0	<10.0	50.0	<20.0	>+30.0	B
	1394.600	10.0	13.0	50.0	23.0	+27.0	B
	1743.250	10.0	<10.0	50.0	<20.0	>+30.0	B
	2091.900	10.0	12.0	50.0	22.0	+28.0	B
450.000	378.650	10.0	27.0	50.0	37.0	+13.0	A
	757.300	10.0	19.0	50.0	29.0	+21.0	A
	1135.950	10.0	11.0	50.0	21.0	+29.0	B
	1514.600	10.0	17.0	50.0	27.0	+23.0	B
	1893.250	10.0	10.0	50.0	20.0	+30.0	B
480.000	408.650	10.0	26.5	50.0	36.5	+13.5	A
	817.300	10.0	13.5	50.0	23.5	+26.5	A
	1225.950	10.0	10.0	50.0	20.0	+30.0	B
	1634.600	10.0	18.5	50.0	28.5	+21.5	B
	2043.250	10.0	<10.0	50.0	<20.0	>+30.0	B

Tuning range : 1240.000 MHz - 1320.000 MHz (MAIN/SUB BAND)

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)
1240.000	996.100	10.0	28.0	50.0	38.0	+12.0	A
	1992.200	10.0	18.0	50.0	28.0	+22.0	B
1280.000	1036.100	10.0	22.0	50.0	32.0	+18.0	B
	2072.200	10.0	19.0	50.0	29.0	+21.0	B
1320.000	1076.100	10.0	22.5	50.0	32.5	+17.5	B
	2152.200	10.0	19.0	50.0	29.0	+21.0	B

Other Disturbance

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)
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
1000.0	10.0	<10.0	50.0	<20.0	>+30.0	A
1300.0	10.0	<10.0	50.0	<20.0	>+30.0	B
2000.0	10.0	<10.0	50.0	<20.0	>+30.0	B

Sample of calculated result at 348.750 MHz, as the Minimum Margin point:

Attenuation Pad Loss = 10.0 dB
+) Meter Reading = 21.0 dB(μ V)

Result = 31.0 dB(μ V)

Minimum Margin : 50.0 - 31.0 = 19.0(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 local frequency in the EUT : 1076.100 MHz
- 2)The upper frequency of measurement range : 2152.200 MHz

Remarks:

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

Tester Signature : _____

Y. Sakai

Type Name : Yasuhisa Sakai

38dB Rejection Test for Mobile Band Scanning Receiver

Test Date: December 5, 2000
Temp.: 22 °C ; Humi.: 38 %

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 Signature : Y. Sakai

Type Name : Yasuhisa Sakai

38dB Rejection Test for Base Band Scanning Receiver

Test Date: December 5, 2000
Temp.: 22 °C ; Humi.: 38 %

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 Signature : Y. Sakai

Type Name : Yasuhisa Sakai