

Issue Date : July 27, 1998

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***EMC*EMISSION – TEST REPORT**

JQA APPLICATION No. : KL8080230Model/Type No. : IC-R2Name of Product : COMMUNICATIONS RECEIVERFCC ID : AFJ IC-R2Applicant : ICOM INCORPORATEDAddress : 1-6-19, Kami-Kuratsukuri, Hirano-ku 547-0004 , JAPANManufacturer : ICOM INCORPORATEDAddress : 1-6-19, Kami-Kuratsukuri, Hirano-ku 547-0004 , JAPAN**Final Judgement** : Passed

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

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

DIRECTORY

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B) Test data

Conducted Emission	450 kHz - 30 MHz	<u>N/A</u>
Radiated Emission (Electric Field)	30 MHz - 2.2 GHz	<u>17 -26</u>
Antenna-Conducted Power	30 MHz - 2.2 GHz	<u>27 -36</u>

TEST REGULATION

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

- - Superheterodyne Receiver

Test procedure:

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

GENERAL INFORMATION

Test facility:

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

Description of the Equipment Under Test (EUT):

- | | | |
|-------------------------------------|---|---|
| 1) Name | : | COMMUNICATIONS RECEIVER |
| 2) Model/Type No. | : | IC-R2 |
| 3) Product Type | : | Pre-Production(S/N 0008) |
| 4) Category | : | Triple-Superheterodyne Receiver |
| 5) EUT Authorization | : | ○ - Verification ● - Notification ○ - Certification |
| 6) Highest frequency used/generated | : | 1090.6950 MHz |
| 4) Tuning Frequency | : | 0.5000 MHz - 1309.9950 MHz(Refer to page 9) |
| 4) Accessories | : | Helical Antenna / Earphone |
| 7) Power Rating | : | DC3V(Dry Battery LR6X2) |

Definitions for symbols used in this test report:

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

TEST CONDITIONS

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

Test location:

KITA-KANSAI Testing Center

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

0 - Shielded room

KAMEOKA EMC Branch

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

0 - Shielded room

0 - On metal plane of open site

Used test instruments and sites:

Model No.	Device I.D No.	Last Cal. Date	Cal. Interval
0 - ESH 3	A - 1		
0 - ESH 2	A - 2		
0 - ESH 2	A - 3		
○ - KNW-407	D - 6		
○ - KNW-242	D - 7		
0 - KNW-408	D - 14		
0 - KNW-341C	D - 13		
0 - IEEE	D - 1		
○ - ESH2-Z5	D - 10		
0 - ESH3-Z5	D - 12		
0 - ESH2-Z3	D - 17		
0 - 8568B	A - 10		
0 - 8566B	A - 13		
0 - 8593A	A - 15		
0 - Cable	H - 5		
0 - Cable	H - 8		

Environmental conditions:

Temperature: _____°C Humidity: % _____

The measurement of the Radiated Emission (Electric Field)

was performed under 500hm terminated, as radiation from chassis of EUT in horizontal and vertical polarization over the frequency range(30 MHz - 1000 MHz)

Test location:

KITA-KANSAI Testing Center

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

0 - 1st site (3 meters)

● - 2nd site (3 meters)

KAMEOKA EMC Branch

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

0 - 3 meters

0 - 10 meters

Validation of Site Attenuation:

1) Last Confirmed Date: December 8, 1997

2) Interval : 1 Year

Used test instruments:

Model No.	Device I.D No.	Last Cal. Date	Cal. Interval
0 - ESV/ESV-Z3	A - 7 / A - 1 7	December, 1997	1 Year
● - ESV/ESV-Z3	A - 6 / A - 1 8		
○ - ESV/ESV-Z3	A - 5 / A - 1 6		
0 - ESV/ESV-Z3	A - 4 / A - 2 0		
○ - ESV/ESV-Z3	A - 8 / A - 1 9	December, 1997	1 Year
● - KBA-511A	c - 13		
● - KBA-611	c - 19		
● - Cable	H - 6	November, 1997	1 Year
○ -			

Environmental conditions:

Temperature: 31 °C Humidity: 34 %

The measurement of the Radiated Emission (Electric Field)

was performed under 500hm terminated, as radiation from chassis of EUT in horizontal and vertical polarization over the frequency range(1GHz~2.2GHz)

Test location:

KITA-KANSAI Testing Center

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

0 - 1st site (3 meters)

● - 2nd site (3 meters)

KAMEOKA EMC Branch

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

0 - 3 meters

0 - 10 meters

Used test instruments:

Model No.	Device I.D No.	Last Cal. Date	Cal. Interval
● - 8566B	A - 13	September, 1997	1 Year
0 - 8593A	A - 15		
● - 4T-10	D - 73	May, 1998	1 Year
● - 4T-10	D - 74	May, 1998	1 Year
● - WJ-6611-513	A - 23	May, 1998	1 Year
0 - WJ-6882-824	A - 21		
● - 91888-2	c - 41-1	May, 1998	1 Year
● - 91889-2	C - 41-2	May, 1998	1 Year
○ - 94613-1	c - 40		
● - Cable	H - 9	May, 1998	1 Year
● - Cable	H - 10	May, 1998	1 Year
○ -			

Environmental conditions: Temperature: 31 °C Humidity: 34 %

The measurement of the Antenna-Conducted Power

was performed in the following test site over the frequency range(1GHz-2.2GHz).

Test location:

KITA-KANSAI Testing Center

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

● - Shielded room

0 - Anechoic Chamber

KAMEOKA EMC Branch

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

0 - Shielded room

Used test instruments:

Model No.	Device I.D No.	Last Cal. Date	Cal. Interval
○ - ESV/ESV-Z3	A - 7 / A - 17		
○ - ESV/ESV-Z3	A - 6 / A - 18		
0 - ESV/ESV-Z3	A - 5 / A - 16		
○ - ESV/ESV-Z3	A - 4 / A - 20		
0 - ESV/ESV-Z3	A - 8 / A - 19		
● - 8566B	A - 13	September, 1997	1 Year
● - 4T-10	D-73	May, 1998	1 Year

Environmental conditions:

Temperature: 24 °C Humidity: 40 %

CONFIGURATION OF EUT

The Equipment Under Test (EUT) consists of:

Description	Applicant (Manufacturer)	Model No. (Serial No.)	FCC ID
Communications Receiver	ICOM INCORPORATED (ICOM INCORPORATED)	IC-R2 (0008)	AFJ IC-R2

The measurement was carried out with the following equipment connected:

Description	Applicant (Manufacturer)	Model No. (Serial No.)	FCC ID
Earphone	ICOM INCORPORATED (ICOM INCORPORATED)	SP-13 (-)	N/A

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

No.	Cable	Shielded	Ferrite Core	Length
1	EUT / Earphone			

Detailed receiver portion:

1) Relation between Receiving Frequency and Local Frequency

No	Receiving Frequency Band [MHz]	1st Local Frequency [MHz]	2nd Local Frequency [MHz]	3rd Local Frequency [MHz]
1	30.0000 - 82.5350	296.7000 - 349.2350(F+IF)	247.0500	19.2000
2	82.5400 - 83.4950	349.2400 - 350.1950(F+IF)	286.3500	19.2000
3	83.5000 - 113.2950	350.2000 - 379.9950(F+IF)	247.0500	19.2000
4	113.3000 - 117.9950	380.0000 - 384.6950(F+IF)	247.0500	19.2000
5	118.0000 - 174.9950	384.7000 - 441.6950(F+IF)	247.0500	19.2000
6	175.0000 - 246.9450	441.7000 - 513.6450(F+IF)	247.0500	19.2000
7	246.9500 - 247.1450	513.6500 - 513.8450(F+IF)	286.3500	19.2000
8	247.1500 - 282.9950	513.8500 - 549.6950(F+IF)	247.0500	19.2000
9	283.0000 - 329.9950	549.7000 - 596.6950(F+IF)	247.0500	19.2000
10	330.0000 - 469.9950	596.7000 - 736.6950(F+IF)	247.0500	19.2000
11	470.0000 - 493.2950	736.7000 - 759.9950(F+IF)	247.0500	19.2000
12	493.3000 - 494.9950	760.0000 - 761.6950(F+IF)	286.3500	19.2000
13	495.0000 - 607.2950	761.7000 - 873.9950(F+IF)	247.0500	19.2000
14	607.3000 - 608.2950	874.0000 - 874.9950(F+IF)	286.3500	19.2000
15	608.3000 - 741.0450	875.0000 - 1007.7450(F+IF)	247.0500	19.2000
16	741.0500 - 741.2450	1007.7500 - 1007.9450(F+IF)	286.3500	19.2000
17	741.2500 - 823.9950	1007.9500 - *1090.6950(F+IF)	247.0500	19.2000
18	849.0000 - 868.9950	582.3000 - 602.2950(F-IF)	247.0500	19.2000
19	894.0000 - 960.0000	627.3000 - 693.3000(F-IF)	247.0500	19.2000

Respective Intermediate Frequency :

1st IF : 266.7 MHz / 2nd IF : 19.65 MHz / 3rd IF : 0.45 MHz

Note * The highest local frequency

2) The frequency bands of which are tuned without the above testing frequency bands :

0.5000MHz-29.9950MHz/960.0050MHz- 1309.9950 MHz

3) Type of Antenna terminal :

SMA Connector / 50 Ω (Unbalanced)

4)Receiving Mode :

FM/WFM/AM

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

CPU : 4.935 MHz

PLL : 19.200 MHz

1st,2nd,3rd Local frequency(VC0) : Refer to 1)

EUT Modification

● - No modifications were conducted by JQA to achieve compliance to the applied limits.

0 - To achieve compliance to the applied limits, the following change(s) were made by JQA during the compliance test.

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

Applicant : _____ Date :

Typed Name : _____ Position :

Responsible Party

Responsible Party of Test Item(Product)

Responsible party :

Contact Person :

Signatory

TEST RESULTS

Conducted Emission 450 kHz - 30 MHz

The requirements are ☐ - KEPT ☐ - NOT KEPT

Min. limit margin a _____ dB _____ t MHz

Max. limit exceeding a _____ dB _____ t MHz

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

Remarks: Not Applicable

Radiated Emission (Electric Field) 30 MHz - 2.2 GHz

The requirements are ☒ - KEPT ☐ - NOT KEPT

Min. limit margin dB6.8 at 531.775 MHz

Max. limit exceeding a _____ dB _____ t MHz

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

Remarks: _____

Antenna-Conducted Power 30 MHz - 2.2 GHz

The requirements are ☒ - KEPT ☐ - NOT KEPT

Min. limit margin dB3.0 at 1154.085 MHz

Max. limit exceeding a _____ dB _____ t MHz

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

Remarks: _____

SUMMARY

GENERAL REMARKS :

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

FINAL JUDGEMENT :

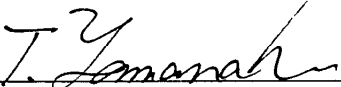
The "as received" sample;

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

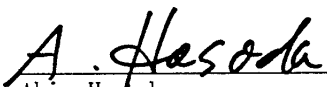
Begin of testing : July 14, 1998

End of testing : July 24, 1998

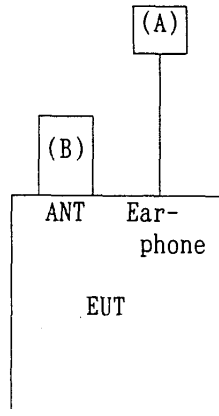
- JAPAN QUALITY ASSURANCE ORGANIZATION -


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

Approved Signatory :


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

Test System-Arrangement (Drawings)

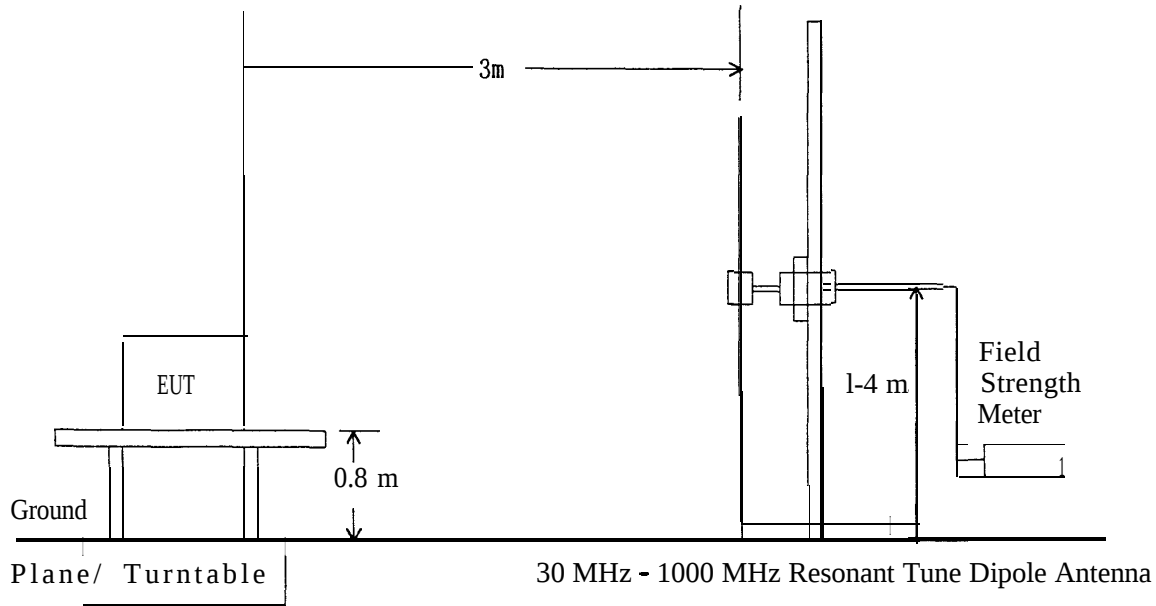


Power Supply : DC3V(Dry Battery LR6X2)

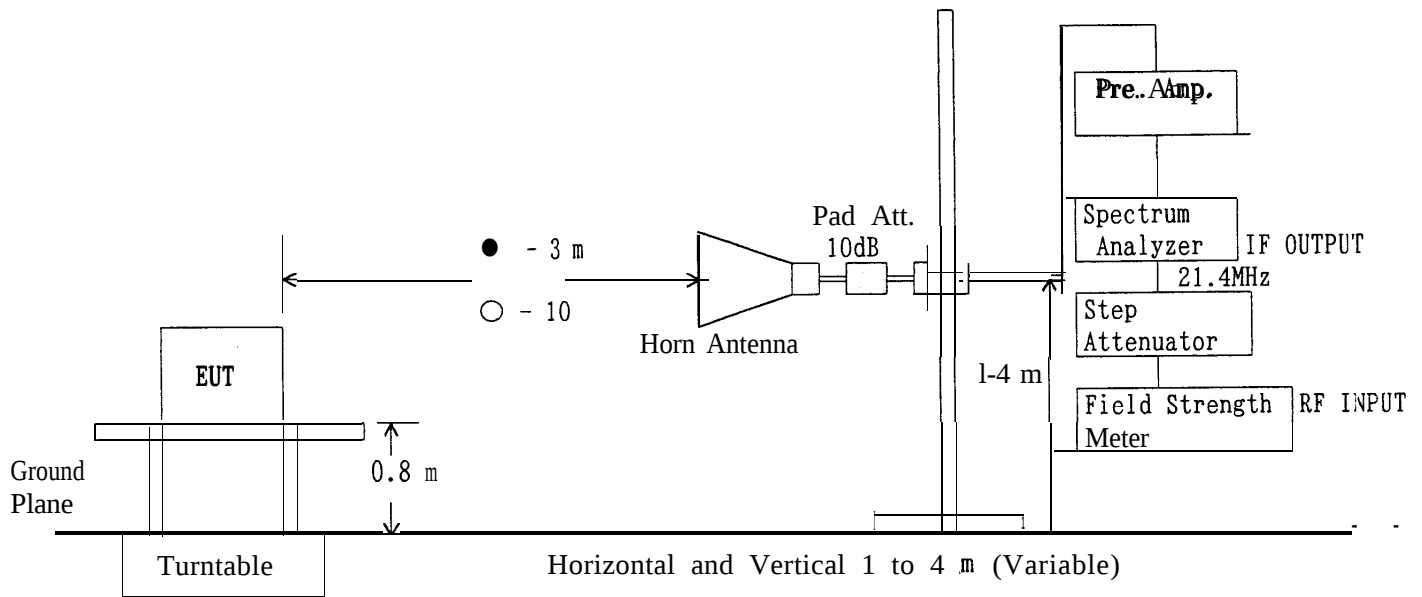
- (A) Headphones / Earphone
- (B) Antenna Terminal with 50 Ω SMA Connector

Test-setup(Drawings)

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



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



Spectrum Analyzer Setting:

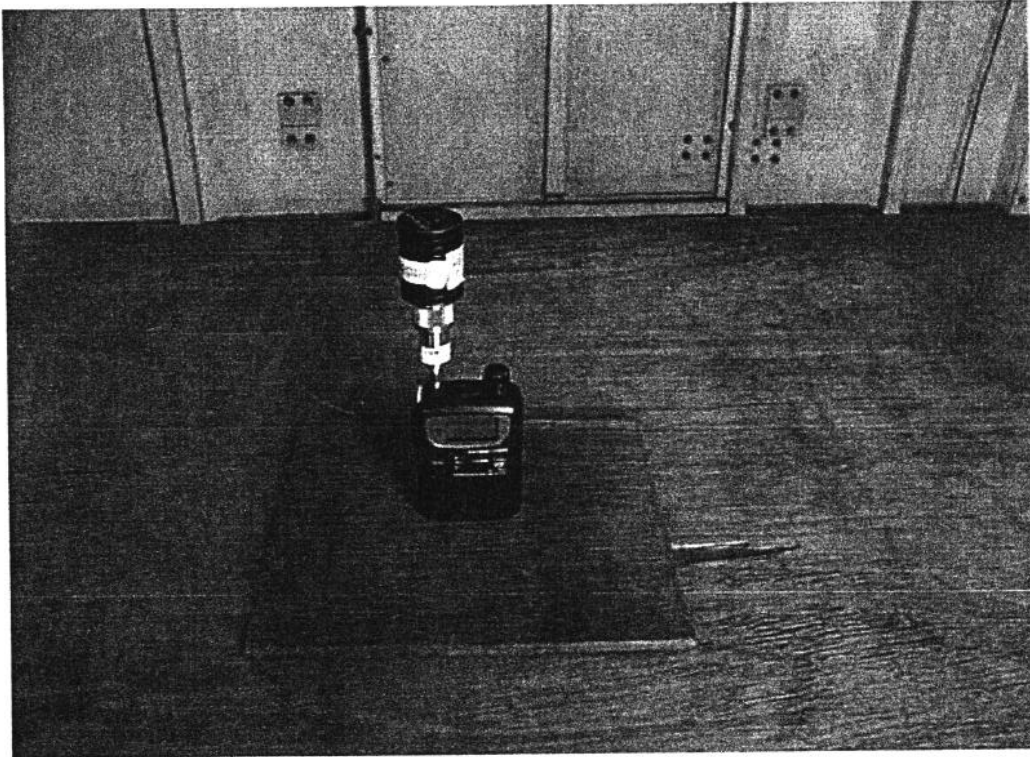
SCALE	LIN
RBW	3 MHz
VBW	3 MHz
SPAN	0 Hz

Field Strength Meter Setting:

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

Test-Setup (Photographs) at worst case

Radiated Emission 30MHz - 1000MHz



Electromagnetic Radiation Disturbance Measurement

Test Date: July 24, 1998

Temp. : 31°C Hum. : 34%

Frequency of Tuning [MHz]	Frequency of Emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
<u>Tuning Range : 30.0000 MHz - 82.5350 MHz</u>							
30.0000	296.7000	< 0.0	-	20.9	46.0	< 20.9	A
	593.4000	< 0.0		28.3	46.0	< 28.3	A
	890.1000	< 0.0		33.2	46.0	< 33.2	A
	1186.8000	< 41.0		-14.6	54.0	< 26.4	B&C
	1483.5000	< 37.0		-13.6	54.0	< 23.4	B&C
	1780.2000	52.0	V	-16.4	54.0	35.6	B&C
	2076.9000	42.0	V	-10.0	54.0	32.0	B&C
56.2700	322.9700	< 0.0		21.7	46.0	< 21.7	A
	645.9400	< 0.0		29.3	46.0	< 29.3	A
	968.9100	< 0.0		34.4	54.0	< 34.4	A
	129 1.8800	< 38.0		-13.6	54.0	< 24.4	B&C
	1614.8500	< 40.0		-15.5	54.0	< 24.5	B&C
	1937.8200	47.0	V	-15.9	54.0	31.1	B&C
82.5350	349.2350	< 0.0		22.5	46.0	< 22.5	A
	698.4700	< 0.0		30.2	46.0	< 30.2	A
	1047.7050	< 40.0		-15.0	54.0	< 25.0	B&C
	1396.9400	42.0	V	-12.3	54.0	29.7	B&C
	1746.1750	43.0	V	-16.3	54.0	26.7	B&C
	2095.4100	44.0	V	- 9.9	54.0	34.1	B&C
<u>uning Range : 82.5400 MHz - 83.4950 MHz</u>							
83.0200	349.7200	< 0.0		22.6	46.0	< 22.6	A
	699.4400	< 0.0		30.2	46.0	< 30.2	A
	1049.1600	40.0	V	-15.0	54.0	25.0	B&C
	1398.8800	43.0	V	-12.3	54.0	30.7	B&C
	1748.6000	43.0	V	-16.3	54.0	26.7	B&C
	2098.3200	44.0	V	- 9.9	54.0	34.1	B&C

Electromagnetic Radiation Disturbance Measurement

Test Date: July 24, 1998

Temp. : 31°C Hum. : 34%

Frequency of Tuning [MHz]	Frequency of Emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
<u>Tuning Range : 83.5000 MHz - 113.2950 MHz</u>							
83.5000	350.2000	< 0.0	-	22.6	46.0	< 22.6	A
	700.4000	< 0.0	-	30.2	46.0	< 30.2	A
	1050.6000	40.0	V	-15.0	54.0	25.0	B&C
	1400.8000	44.0	V	-12.3	54.0	31.7	B&C
	1751.0000	43.0	V	-16.3	54.0	26.7	B&C
	2101.2000	44.0	V	- 9.9	54.0	34.1	B&C
98.4000	365.1000	< 0.0	-	23.1	46.0	< 23.1	A
	730.2000	< 0.0	-	30.7	46.0	< 30.7	A
	1095.3000	41.0	V	-14.7	54.0	26.3	B&C
	1460.4000	47.0	V	-13.2	54.0	33.8	B&C
	1825.5000	46.0	V	-16.4	54.0	29.6	B&C
113.2950	379.9950	3.0	V	23.5	46.0	26.5	A
	759.9900	< 0.0	-	31.2	46.0	< 31.2	A
	1139.9850	46.0	V	-14.7	54.0	31.3	B&C
	1519.9800	48.0	V	-14.2	54.0	33.8	B&C
	1899.9750	48.0	V	-16.1	54.0	31.9	B&C
<u>Tuning Range : 113.3000 MHz - 117.9950 MHz</u>							
113.3000	380.0000	2.0	V	23.5	46.0	25.5	A
	760.0000	< 0.0		31.2	46.0	< 31.2	A
	1140.0000	47.0	V	-14.7	54.0	32.3	B&C
	1520.0000	47.0	V	-14.2	54.0	32.8	B&C
	1900.0000	52.0	V	-16.1	54.0	35.9	B&C
117.9950	384.6950	1.0	V	23.6	46.0	24.6	A
	769.3900	< 0.0		31.3	46.0	< 31.3	A
	1154.0850	47.0	V	-14.7	54.0	32.3	B&C
	1538.7800	47.0	V	-14.5	54.0	32.5	B&C
	1923.4750	53.0	V	-16.0	54.0	37.0	B & C

Electromagnetic Radiation Disturbance Measurement

Test Date: July 24, 1998

Temp. : 31°C Hum. : 34%

Frequency of Tuning [MHz]	Frequency of emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
Tuning Range : 118.0000 MHz - 174.9950 MHz							
118.0000	384.7000	1.0	V	23.7	46.0	24.7	A
	769.4000	< 0.0		31.3	46.0	< 31.3	A
	1154.1000	46.0	V	-14.7	54.0	31.3	B&C
	1538.8000	47.0	V	-14.5	54.0	32.5	B&C
	1923.5000	54.0	V	-16.0	54.0	38.0	B&C
146.5000	413.2000	5.5	V	24.3	46.0	29.8	A
	826.4000	< 0.0	-	32.2	46.0	< 32.2	A
	1239.6000	47.0	V	-14.2	54.0	32.8	B&C
	1652.8000	52.0	V	-15.8	54.0	36.2	B&C
	2066.0000	45.0	V	-10.0	54.0	35.0	B&C
174.9950	441.6950	6.5	V	25.1	46.0	31.6	A
	883.3900	< 0.0		33.1	46.0	< 33.1	A
	1325.0850	47.0	V	-13.2	54.0	33.8	B&C
	1766.7800	52.0	V	-16.4	54.0	35.6	B&C
Tuning Range : 175.0000 MHz - 246.9450 MHz							
175.0000	441.7000	6.5	V	25.1	46.0	31.6	A
	883.4000	< 0.0		33.1	46.0	< 33.1	A
	1325.1000	47.0	V	-13.2	54.0	33.8	B&C
	1766.8000	54.0	V	-16.4	54.0	37.6	B&C
210.9750	477.6750	10.0	V	25.9	46.0	35.9	A
	955.3500	< 0.0	-	34.2	46.0	< 34.2	A
	1433.0250	45.0	V	-12.8	54.0	32.2	B&C
	1910.7000	52.0	V	-16.0	54.0	36.0	B&C
246.9450	513.6450	10.0	V	26.7	46.0	36.7	A
	1027.2900	< 38.0	-	-14.9	54.0	< 23.1	B&C
	1540.9350	44.0	V	-14.5	54.0	29.5	B&C
	2054.5800	42.0	V	-10.1	54.0	31.9	B&C
Tuning Range : 246.9500 MHz - 247.1450 MHz							
247.0500	513.7500	11.0	V	26.7	46.0	37.7	A
	1027.5000	< 38.0		-14.9	54.0	< 23.1	B&C
	1541.2500	44.0	V	-14.5	54.0	29.5	B&C
	2055.0000	42.0	V	-10.1	54.0	31.9	B&C

Electromagnetic Radiation Disturbance Measurement

Test Date: July 24, 1998

Temp. : 31°C Hum. : 34%

Frequency of Tuning [MHz]	Frequency of emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
<u>Tuning Range: 247.1500 MHz - 282.9950 MHz</u>							
247.1500	513.8500	11.0	V	26.7	46.0	37.7	A
	1027.7000	< 38.0		-14.9	54.0	< 23.1	B&C
	1541.5500	41.0	V	-14.5	54.0	29.5	B&C
	2055.4000	42.0	V	-10.1	54.0	31.9	B&C
265.0750	531.7750	12.0	V	27.2	46.0	39.2	A
	1063.5500	< 38.0		-15.0	54.0	< 23.0	B&C
	1595.3250	46.0	V	-15.3	54.0	30.7	B&C
	2127.1000	44.0	V	- 9.9	54.0	34.1	B&C
282.9950	549.6950	10.0	V	27.5	46.0	37.5	A
	1099.3900	< 43.0		-14.7	54.0	< 28.3	B&C
	1649.0850	51.0	V	-15.9	54.0	35.1	B&C
<u>Tuning Range: 283.0000 MHz - 329.9950 MHz</u>							
283.0000	274.8500	< 0.0		20.1	46.0	< 20.1	A
	549.7000	4.0	V	27.5	46.0	31.5	A
	824.5500	< 0.0		32.2	46.0	< 32.2	A
	1099.4000	< 40.0	-	-14.7	54.0	< 25.3	B&C
	1374.2500	< 39.0		-12.6	54.0	< 26.4	B&C
	1649.1000	51.0	V	-15.9	54.0	35.1	B&C
	1923.9500	46.0	V	-16.0	54.0	30.0	B&C
306.5000	286.6000	< 0.0		20.6	46.0	< 20.6	A
	573.2000	3.0	V	28.0	46.0	31.0	A
	859.8000	< 0.0		32.8	46.0	< 32.8	A
	1146.4000	< 41.0		-14.7	54.0	< 26.3	B&C
	1433.0000	40.0	V	-12.8	54.0	27.2	B&C
	1719.6000	52.0	V	-16.2	54.0	35.8	B&C
	2006.2000	< 37.0	-	-10.3	54.0	< 26.7	B&C
329.9950	298.3475	< 0.0		20.9	46.0	< 20.9	A
	596.6950	2.0	V	28.4	46.0	30.4	A
	895.0425	< 0.0		33.2	46.0	< 33.2	A
	1193.3900	< 42.0	-	-14.6	54.0	< 27.4	B&C
	1491.7375	50.0	H	-13.7	54.0	36.3	B&C
	1790.0850	51.0	V	-16.4	54.0	34.6	B&C
	2088.4325	40.0	V	- 9.9	54.0	30.1	B&C

Electromagnetic Radiation Disturbance Measurement

Test Date: July 24, 1998

Temp. : 31°C Hum. : 34%

Frequency of Tuning [MHz]	Frequency of emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
<u>Tuning Range : 330.0000 MHz - 469.9950 MHz</u>							
330.0000	298.3500	< 0.0		20.9	46.0	< 20.9	A
	596.7000	3.5	V	28.4	46.0	31.9	A
	895.0500	< 0.0		33.2	46.0	< 33.2	A
	1193.4000	45.0		-14.6	54.0	30.4	B&C
	1491.7500	50.0	V	-13.7	54.0	36.3	B&C
	1790.1000	52.0		-16.4	54.0	35.6	B&C
	2088.4500	40.0		- 9.9	54.0	30.1	B&C
400.0000	333.3500	< 0.0	-	22.1	46.0	< 22.1	A
	666.7000	< 0.0		29.6	46.0	< 29.6	A
	1000.0500	< 39.0		-14.6	54.0	< 24.4	B&C
	1333.4000	45.0	V	-13.1	54.0	31.9	B&C
	1666.7500	42.0	V	-16.0	54.0	26.0	B&C
	2000.1000	45.0	V	-10.3	54.0	34.7	B&C
469.9950	368.3475	1.0	V	23.1	46.0	24.1	A
	736.6950	< 0.0	-	30.8	46.0	< 30.8	A
	1105.0425	41.0	V	-14.7	54.0	26.3	B&C
	1473.3900	47.0	V	-13.4	54.0	33.6	B&C
	1841.7375	47.0	V	-16.3	54.0	30.7	B&C
<u>Tuning Range : 470.0000 MHz - 493.2950 MHz</u>							
470.0000	368.3500	1.0	V	23.1	46.0	24.1	A
	736.7000	< 0.0		30.8	46.0	< 30.8	A
	1105.0500	42.0	V	-14.7	54.0	27.3	B&C
	1473.4000	47.0	V	-13.4	54.0	33.6	B&C
	1841.7500	47.0	V	-16.3	54.0	30.7	B&C
481.6500	374.1750	2.0	V	23.3	46.0	25.3	A
	748.3500	< 0.0	-	30.9	46.0	< 30.9	A
	1122.5250	42.0	V	-14.7	54.0	42.0	B&C
	1496.7000	46.0	V	-13.8	54.0	46.0	B&C
	1870.8750	45.0	V	-16.2	54.0	45.0	B&C
493.2950	379.9975	2.0	V	23.5	46.0	25.5	A
	759.9950	< 0.0		31.2	46.0	< 31.2	A
	1139.9925	42.0	V	-14.7	54.0	27.3	B&C
	1519.9900	47.0	V	-14.2	54.0	32.8	B&C
	1899.9875	46.0	V	-16.3	54.0	29.9	B&C

Electromagnetic Radiation Disturbance Measurement

Test Date: July 24, 1998

Temp. : 31°C Hum. : 34%

Frequency of Tuning [MHz]	Frequency of emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
<u>Tuning Range : 493.3000 MHz - 494.9950 MHz</u>							
493.3000	380.0000	1.0	V	23.5	46.0	24.5	A
	760.0000	< 0.0		31.2	46.0	< 31.2	A
	1140.0000	42.0	V	-14.7	54.0	27.3	B&C
	1520.0000	45.0	V	-14.2	54.0	30.8	B&C
	1900.0000	53.0	V	-16.1	54.0	36.9	B&C
494.9950	380.8475	1.0	V	23.5	46.0	24.5	A
	761.6950	< 0.0		31.2	46.0	< 31.2	A
	1142.5425	42.0	V	-14.7	54.0	27.3	B&C
	1523.3900	45.0	V	-14.2	54.0	30.8	B&C
	1904.2500	55.0	V	-16.0	54.0	39.0	B&C
<u>Tuning Range : 495.0000 MHz - 607.2950 MHz</u>							
495.0000	380.8500	1.5	V	23.5	46.0	25.0	A
	761.7000	< 0.0		31.2	46.0	< 31.2	A
	1142.5500	42.0	V	-14.7	54.0	27.3	B&C
	1523.4000	45.0	V	-14.2	54.0	30.8	B&C
	1904.2500	55.0	V	-16.0	54.0	39.0	B&C
551.1500	408.9250	4.0	V	24.3	46.0	28.3	A
	817.8500	< 0.0		32.1	46.0	< 32.1	A
	1226.7750	43.0	V	-14.3	54.0	28.7	B&C
	1635.7000	48.0	V	-15.8	54.0	32.2	B&C
	2044.6250	42.0	V	-10.1	54.0	31.9	B&C
607.2950	436.9975	5.0	V	25.0	46.0	30.0	A
	873.9950	< 0.0		32.9	46.0	< 32.9	A
	1310.9925	44.0	V	-13.3	54.0	30.7	B&C
	1747.9900	50.0	V	-16.3	54.0	33.7	B&C
<u>Tuning Range : 607.3000 MHz - 608.2950 MHz</u>							
607.8000	437.2500	5.5	V	25.0	46.0	30.5	A
	874.5000	< 0.0	-	32.9	46.0	< 32.9	A
	1311.7500	44.0	V	-13.3	54.0	30.7	B&C
	1749.0000	50.0	V	-16.3	54.0	33.7	B&C

Electromagnetic Radiation Disturbance Measurement

Test Date: July 24, 1998

Temp. : 31°C Hum. : 34%

Frequency of Tuning [MHz]	Frequency of emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
Tuning Range : 608.3000 MHz - 741.0450 MHz							
608.3000	437.5000	5.0	V	25.0	46.0	30.0	A
	875.0000	< 0.0		32.9	46.0	< 32.9	A
	1312.5000	44.0	V	-13.3	54.0	30.7	B&C
	1750.0000	51.0	V	-16.3	54.0	34.7	B&C
674.6800	470.6900	11.0	V	25.8	46.0	36.8	A
	941.3800	< 0.0		33.9	46.0	< 33.9	A
	1412.0700	45.0	V	-12.5	54.0	32.5	B&C
	1882.7600	52.0	V	-16.2	54.0	35.8	B&C
741.0450	503.8725	11.0	V	26.6	46.0	37.6	A
	1007.7450	< 38.0	-	-14.7	54.0	< 23.3	B&C
	1511.6175	44.0	V	-14.0	54.0	30.0	B&C
	2015.4900	43.0	V	-10.3	54.0	32.7	B&C
Tuning Range : 741.0500 MHz - 741.2450 MHz							
741.1500	503.9250	11.0	V	26.6	46.0	37.6	A
	1007.8500	< 38.0	-	-14.7	54.0	< 23.3	B&C
	1511.7750	43.0	V	-14.0	54.0	29.0	B&C
	2015.7000	43.0	V	-10.3	54.0	32.7	B&C
Tuning Range : 741.2500 MHz - 823.9950 MHz							
741.2500	503.9750	10.5	V	26.6	46.0	37.1	A
	1007.9500	< 38.0		-14.7	54.0	< 23.3	B&C
	1511.9250	44.0	V	-14.0	54.0	30.0	B&C
	2015.9000	44.0	V	-10.3	54.0	33.7	B&C
782.6250	524.6625	12.0	V	27.0	46.0	39.0	A
	1049.3250	< 38.0		-15.0	54.0	< 23.0	B&C
	1573.9875	45.0	V	-15.0	54.0	30.0	B&C
	2098.6500	45.0	V	- 9.9	54.0	35.1	B&C
823.9950	545.3475	11.5	V	27.4	46.0	38.9	A
	1090.6950	< 44.0		-14.7	54.0	< 29.3	B&C
	1636.0425	46.0	V	-15.8	54.0	30.2	B&C
	2181.3900	47.0	V	- 9.9	54.0	37.1	B&C

Electromagnetic Radiation Disturbance Measurement

Test Date: July 24, 1998

Temp. : 31°C Hum. : 34%

Frequency of Tuning [MHz]	Frequency of emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
<u>Tuning Range : 849.0000 MHz ~ 868.9950 MHz</u>							
849.0000	291.1500	< 0.0	-	20.7	46.0	< 20.7	A
	582.3000	2.0	V	28.1	46.0	30.1	A
	873.4500	< 0.0		32.9	46.0	< 32.9	A
	1164.6000	< 38.0		-14.7	54.0	< 23.3	B&C
	1455.7500	42.0	V	-13.1	54.0	28.9	B&C
	1746.9000	50.0	V	-16.3	54.0	33.7	B&C
	2038.0500	39.0	V	-10.2	54.0	28.8	B&C
859.0000	296.1500	< 0.0		20.8	46.0	< 20.8	A
	592.3000	3.0	V	28.3	46.0	31.3	A
	888.4500	< 0.0	-	33.2	46.0	< 33.2	A
	1184.6000	< 38.0		-14.6	54.0	< 23.4	B&C
	1480.7500	42.0	V	-13.5	54.0	28.5	B&C
	1776.9000	50.0	V	-16.4	54.0	33.6	B&C
	2073.0500	39.0	V	-10.0	54.0	29.0	B&C
868.9950	301.1475	< 0.0		20.9	46.0	< 20.9	A
	602.2950	2.0	V	28.5	46.0	30.5	A
	903.4425	< 0.0		33.4	46.0	< 33.4	A
	1204.5900	< 38.0		-14.5	54.0	< 23.5	B&C
	1505.7375	39.0	V	-14.0	54.0	25.0	B&C
	1806.8850	52.0	V	-16.5	54.0	35.5	B&C
	2108.0325	40.0	V	-9.9	54.0	30.1	B&C
<u>Tuning Range : 894.0000 MHz ~ 960.0000 MHz</u>							
894.0000	313.6500	< 0.0		21.4	46.0	< 21.4	A
	627.3000	< 0.0		28.9	46.0	< 28.9	A
	940.9500	< 0.0		33.9	46.0	< 33.9	A
	1254.6000	40.0	V	-14.0	54.0	26.0	B&C
	1568.2500	< 38.0		-14.9	54.0	< 23.1	B&C
	1881.9000	53.0	V	-16.2	54.0	36.8	B&C
927.0000	330.1500	< 0.0	-	22.0	46.0	< 22.0	A
	660.3000	< 0.0	-	29.5	46.0	< 29.5	A
	990.4500	< 0.0	-	34.7	54.0	< 34.7	A
	1320.6000	40.0	V	-13.2	54.0	26.8	B&C
	1650.7500	42.0	V	-15.8	54.0	26.2	B&C
	1980.9000	51.0	V	-15.8	54.0	35.2	B&C
960.0000	346.6500	< 0.0		22.5	46.0	< 22.5	A
	693.3000	< 0.0	-	30.1	46.0	< 30.1	A
	1039.9500	40.0	V	-15.0	54.0	25.0	B&C
	1386.6000	43.0	V	-12.5	54.0	30.5	B&C
	1733.2500	44.0	V	-16.2	54.0	27.8	B&C
	2079.9000	44.0	V	-10.0	54.0	34.0	B&C

Electromagnetic Radiation Disturbance Measurement

Test Date: July 24, 1998

Temp. : 31°C Hum. : 34%

Frequency of Tuning [MHz]	Frequency of emission [MHz]	Meter readings at 3m dB(uV)	Polarization	Correction Factor dB(1/m)	Limits dB(uV/m)	Field Strength at 3m dB(uV/m)	Remarks (Note2)
<u>Tuning Range : 30.0000 MHz (2nd Local/247.05MHz)</u>							
30.0000	247.0500	< 0.0		19.1	46.0	< 19.1	A
	494.1000	9.0	V	26.4	46.0	35.4	A
	741.1500	< 0.0		30.8	46.0	< 30.8	A
	988.2000	< 0.0		34.7	54.0	< 34.7	A
	1235.2500	< 40.0		-14.2	54.0	< 25.8	B&C
	1482.3000	< 37.0		-13.7	54.0	< 23.3	B&C
	1729.3500	< 40.0	-	-16.2	54.0	< 23.8	B&C
	1976.4000	< 40.0		-15.8	54.0	< 24.2	B&C
<u>Tuning Range : 246.9500 MHz (2nd Local/286.95MHz)</u>							
246.9500	286.3500	< 0.0		20.5	46.0	< 20.5	A
	572.7000	15.5	V	28.0	46.0	38.5	A
	859.0500	< 0.0		32.7	46.0	< 32.7	A
	1145.4000	< 38.0	-	-14.7	54.0	< 23.3	B&C
	1431.7500	< 38.0	-	-12.8	54.0	< 25.2	B&C
	1718.1000	< 40.0		-16.2	54.0	< 23.8	B&C
	2004.4500	41.0	V	-10.3	54.0	30.7	B&C
<u>Tuning Range : 30.0000 MHz (3rd Local/19.2MHz)</u>							
30.0000	38.4000	< 0.0	-	1.5	46.0	< 1.5	A
	57.6000	< 0.0	-	5.1	46.0	< 5.1	A
	76.8000	< 0.0	-	7.8	46.0	< 7.8	A
	96.0000	< 0.0	-	9.8	46.0	< 9.8	A
	115.2000	< 0.0	-	11.6	46.0	< 11.6	A
	134.4000	< 0.0	-	13.0	46.0	< 13.0	A
	153.6000	< 0.0	-	14.4	46.0	< 14.4	A
	172.8000	< 0.0	-	15.6	46.0	< 15.6	A
	192.0000	< 0.0	-	16.6	46.0	< 16.6	A
	211.2000	< 0.0	-	17.5	46.0	< 17.5	A
<u>Tuning Range : 30.0000 MHz (Other/4.935MHz)</u>							
30.0000	34.5450	< 0.0	-	0.7	46.0	< 0.7	A
	39.4800	< 0.0	-	1.8	46.0	< 1.8	A
	44.4150	< 0.0	-	2.8	46.0	< 2.8	A
	49.3500	< 0.0	-	3.7	46.0	< 3.7	A
	54.2850	< 0.0	-	4.6	46.0	< 4.6	A
	59.2200	< 0.0	-	5.3	46.0	< 5.3	A
	64.1550	< 0.0	-	6.1	46.0	< 6.1	A
	69.0900	< 0.0	-	6.8	46.0	< 6.8	A
	74.0250	< 0.0	-	7.5	46.0	< 7.5	A
	78.9600	< 0.0	-	8.1	46.0	< 8.1	A

Sample of calculated result at 531.775MHz(Tuning Frequency,265.075MHz), as the Minimum Margin point:

$$\begin{aligned}\text{Corretion Factor} &= 27.2 \text{ dB(l/m)} \\ +) \text{Meter Reading} &= 12.0 \text{ dB(uV)} \\ \text{Result} &= 39.2 \text{ dB(uV/m)}\end{aligned}$$

Minimum Margin : $46.0 - 39.2 = 6.8(\text{dB})$

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

Note f:

- 1)The highest frequency generated or used in the EUT: 1090.695 MHz
- 2)The upper frequency of measurement range : 2.2 GHz
- 3)The spectrum was scanned 30 MHz to 2.2 GHz and all emissions not reported were more than 20dB below the applied limits.
- 4)Correction Factor(<1GHz) : Antenna Factor(dB)+Cable Loss(dB)
Correction Factor(>1GHz) : Antenna Factor(dB)+Cable Loss(dB)+10dB Pad Attenuator(dB)-Pre-Amplifier Gain(dB)

Remarks :

Note 2	Detector Function	IF Bandwidth
A	CISPR QP	120 KHz

Note 2	Detector Function	RES. B.W	V.B.W	Sweep Time	Span
B	P e a k (SP)	1MHz	3MHz	20 msec	0 Hz
* c	Average (ESV)	1MHz(3 MHz)	3MHz	20 msec	0 Hz

():Setting of spectrum analyzer

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

Tester Signature : A. Hosoda
Type Name : Akio Hosoda

Antenna-Conducted Power Measurement

Test Date: July 14, 1998

Temp. : 24°C Hum. : 40%

Frequency of Tuning [MHz]	Frequency of emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits at 500hm dB(uV)	Results dB(uV)	Remarks (Note2)
<u>Tuning Range : 30.0000 MHz - 82.5350 MHz</u>						
30.0000	296.7000	< 10.0	10.0	50.0	< 20.0	A
	593.4000	< 10.0	10.0	50.0	< 20.0	A
	890.1000	18.0	10.0	50.0	28.0	A
	1186.8000	18.0	10.0	50.0	28.0	B
	1483.5000	< 10.0	10.0	50.0	< 20.0	B
	1780.2000	18.0	10.0	50.0	28.0	B
	2076.9000	11.0	10.0	50.0	21.0	B
56.2700	322.9700	< 10.0	10.0	50.0	< 20.0	A
	645.9400	< 10.0	10.0	50.0	< 20.0	A
	968.9100	20.0	10.0	50.0	30.0	A
	1291.8800	16.0	10.0	50.0	26.0	B
	1614.8500	12.9	10.0	50.0	22.9	B
	1937.8200	11.7	10.0	50.0	21.7	B
82.5350	349.2350	< 10.0	10.0	50.0	< 20.0	A
	698.4700	< 10.0	10.0	50.0	< 20.0	A
	1047.7050	18.6	10.0	50.0	28.6	B
	1396.9400	16.2	10.0	50.0	26.2	B
	1746.1750	< 10.0	10.0	50.0	< 20.0	B
	2095.4100	18.1	10.0	50.0	28.1	B
<u>uning Range : 82.5400 MHz - 83.4950 MHz</u>						
83.0200	349.7200	< 10.0	10.0	50.0	< 20.0	A
	699.4400	< 10.0	10.0	50.0	< 20.0	A
	1049.1600	18.5	10.0	50.0	28.5	B
	1398.8800	16.6	10.0	50.0	26.6	B
	1748.6000	13.6	10.0	50.0	23.6	B
	2098.3200	17.8	10.0	50.0	27.8	B

Antenna-Conducted Power Measurement

Test Date: July 14, 1998

Temp. : 24°C Hum. : 40%

Frequency of Tuning [MHz]	Frequency of emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits at 50ohm dB(uV)	Results dB(uV)	Remarks (Note2)
Tuning Range : 83.5000 MHz - 113.2950 MHz						
83.5000	350.2000	< 10.0	10.0	50.0	< 20.0	A
	700.4000	< 10.0	10.0	50.0	< 20.0	A
	1050.6000	17.6	10.0	50.0	27.6	B
	1400.8000	15.7	10.0	50.0	25.7	B
	1751.0000	14.1	10.0	50.0	24.1	B
	2101.2000	19.0	10.0	50.0	29.0	B
98.4000	365.1000	< 10.0	10.0	50.0	< 20.0	A
	730.2000	< 10.0	10.0	50.0	< 20.0	A
	1095.3000	15.7	10.0	50.0	25.7	B
	1460.4000	18.3	10.0	50.0	28.3	B
	1825.5000	10.2	10.0	50.0	20.2	B
113.2950	379.9950	< 10.0	10.0	50.0	< 20.0	A
	759.9900	< 10.0	10.0	50.0	< 20.0	A
	1139.9850	25.0	10.0	50.0	35.0	B
	1519.9800	20.0	10.0	50.0	30.0	B
	1899.9750	< 10.0	10.0	50.0	< 20.0	B
Tuning Range : 113.3000 MHz - 117.9950 MHz						
113.3000	380.0000	< 10.0	10.0	50.0	< 20.0	A
	760.0000	< 10.0	10.0	50.0	< 20.0	A
	1140.0000	25.0	10.0	50.0	35.0	B
	1520.0000	19.0	10.0	50.0	29.0	B
	1900.0000	15.0	10.0	50.0	25.0	B
117.9950	384.6950	< 10.0	10.0	50.0	< 20.0	A
	769.3900	< 10.0	10.0	50.0	< 20.0	A
	1154.0850	27.0	10.0	50.0	37.0	B
	1538.7800	19.0	10.0	50.0	29.0	B
	1923.4750	12.0	10.0	50.0	22.0	B

Antenna-Conducted Power Measurement

Test Date: July 14, 1998

Temp. : 24°C Hum. : 40%

Frequency of Tuning [MHz]	Frequency of emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits at 500hm dB(uV)	Results dB(uV)	Remarks (Note2)
<u>Tuning Range : 118.0000 MHz - 174.9950 MHz</u>						
118.0000	384.7000	< 10.0	10.0	50.0	< 20.0	A
	769.4000	< 10.0	10.0	50.0	< 20.0	A
	1154.1000	25.0	10.0	50.0	35.0	B
	1538.8000	12.0	10.0	50.0	22.0	B
	1923.5000	12.0	10.0	50.0	22.0	B
146.5000	413.2000	< 10.0	10.0	50.0	< 20.0	A
	826.4000	< 10.0	10.0	50.0	< 20.0	A
	1239.6000	18.0	10.0	50.0	28.0	B
	1652.8000	13.0	10.0	50.0	23.0	B
	2066.0000	18.0	10.0	50.0	28.0	B
174.9950	441.6950	< 10.0	10.0	50.0	< 20.0	A
	883.3900	< 10.0	10.0	50.0	< 20.0	A
	1325.0850	< 10.0	10.0	50.0	< 20.0	B
	1766.7800	< 10.0	10.0	50.0	< 20.0	B
<u>Tuning Range : 175.0000 MHz - 246.9450 MHz</u>						
175.0000	441.7000	< 10.0	10.0	50.0	< 20.0	A
	883.4000	< 10.0	10.0	50.0	< 20.0	A
	1325.1000	18.0	10.0	50.0	28.0	B
	1766.8000	16.0	10.0	50.0	26.0	B
210.9750	477.6750	< 10.0	10.0	50.0	< 20.0	A
	955.3500	< 10.0	10.0	50.0	< 20.0	A
	1433.0250	14.1	10.0	50.0	24.1	B
	1910.7000	15.0	10.0	50.0	25.0	B
246.9450	513.6450	14.0	10.0	50.0	24.0	A
	1027.2900	14.6	10.0	50.0	24.6	B
	1540.9350	22.9	10.0	50.0	32.9	B
	2054.5800	12.8	10.0	50.0	22.8	B
<u>Tuning Range : 246.9500 MHz - 247.1450 MHz</u>						
247.0500	513.7500	13.7	10.0	50.0	23.7	A
	1027.5000	14.0	10.0	50.0	24.0	B
	1541.2500	22.9	10.0	50.0	32.9	B
	2055.0000	11.9	10.0	50.0	21.9	B

Antenna-Conducted Power Measurement

Test Date: July 14, 1998

Temp. : 24°C Hum. : 40%

Frequency of Tuning [MHz]	Frequency of emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits at 500hm dB(uV)	Results dB(uV)	Remarks (Note2)
Tuning Range : 247.1500 MHz - 282.9950 MHz						
247.1500	513.8500	14.6	10.0	50.0	24.6	A
	1027.7000	15.0	10.0	50.0	25.0	B
	1541.5500	22.6	10.0	50.0	32.6	B
	2055.4000	14.0	10.0	50.0	24.0	B
265.0750	531.7750	13.3	10.0	50.0	23.3	A
	1063.5500	< 10.0	10.0	50.0	< 20.0	B
	1595.3250	18.2	10.0	50.0	28.2	B
	2127.1000	20.0	10.0	50.0	30.0	B
282.9950	549.6950	< 10.0	10.0	50.0	< 20.0	A
	1099.3900	13.0	10.0	50.0	23.0	B
	1649.0850	< 10.0	10.0	50.0	< 20.0	B
Tuning Range : 283.0000 MHz - 329.9950 MHz						
283.0000	274.8500	< 10.0	10.0	50.0	< 20.0	A
	549.7000	< 10.0	10.0	50.0	< 20.0	A
	824.5500	12.0	10.0	50.0	22.0	A
	1099.4000	< 10.0	10.0	50.0	< 20.0	B
	1374.2500	< 10.0	10.0	50.0	< 20.0	B
	1649.1000	21.0	10.0	50.0	31.0	B
	1923.9500	14.5	10.0	50.0	24.5	B
306.5000	286.6000	< 10.0	10.0	50.0	< 20.0	A
	573.2000	< 10.0	10.0	50.0	< 20.0	A
	859.8000	13.3	10.0	50.0	23.3	A
	1146.4000	13.7	10.0	50.0	23.7	B
	1433.0000	< 10.0	10.0	50.0	< 20.0	B
	1719.6000	18.0	10.0	50.0	28.0	B
	2006.2000	10.7	10.0	50.0	20.7	B
329.9950	298.3475	< 10.0	10.0	50.0	< 20.0	A
	596.6950	< 10.0	10.0	50.0	< 20.0	A
	895.0425	20.6	10.0	50.0	30.6	A
	1193.3900	20.2	10.0	50.0	30.2	B
	1491.7375	< 10.0	10.0	50.0	< 20.0	B
	1790.0850	18.4	10.0	50.0	28.4	B
	2088.4325	< 10.0	10.0	50.0	< 20.0	B

Antenna-Conducted Power Measurement

Test Date: July 14, 1998

Temp. : 24°C Hum.: 40%

Frequency of Tuning [MHz]	Frequency of emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits at 50ohm dB(uV)	Results dB(uV)	Remarks (Note2)
<u>Tuning Range : 330.0000 MHz - 469.9950 MHz]</u>						
330.0000	298.3500	< 10.0	10.0	50.0	< 20.0	A
	596.7000	18.5	10.0	50.0	28.5	A
	895.0500	19.3	10.0	50.0	29.3	A
	1193.4000	15.0	10.0	50.0	25.0	B
	1491.7500	< 10.0	10.0	50.0	< 20.0	B
	1790.1000	17.0	10.0	50.0	27.0	B
	2088.4500	< 10.0	10.0	50.0	< 20.0	B
400.0000	333.3500	< 10.0	10.0	50.0	< 20.0	A
	666.7000	12.0	10.0	50.0	22.0	A
	1000.0500	19.0	10.0	50.0	29.0	B
	1333.4000	17.0	10.0	50.0	27.0	B
	1666.7500	10.9	10.0	50.0	20.9	B
	2000.1000	16.0	10.0	50.0	26.0	B
469.9950	368.3475	< 10.0	10.0	50.0	< 20.0	A
	736.6950	10.8	10.0	50.0	20.8	A
	1105.0425	20.5	10.0	50.0	30.5	B
	1473.3900	12.6	10.0	50.0	22.6	B
	1841.7375	< 10.0	10.0	50.0	< 20.0	B
<u>Tuning Range : 470.0000 MHz - 493.2950 MHz]</u>						
470.0000	368.3500	< 10.0	10.0	50.0	< 20.0	A
	736.7000	20.0	10.0	50.0	30.0	A
	1105.0500	23.6	10.0	50.0	33.6	B
	1473.4000	18.0	10.0	50.0	28.0	B
	1841.7500	11.0	10.0	50.0	21.0	B
481.6500	374.1750	< 10.0	10.0	50.0	< 20.0	A
	748.3500	18.7	10.0	50.0	28.7	A
	1122.5250	23.7	10.0	50.0	33.7	B
	1496.7000	18.5	10.0	50.0	28.5	B
	1870.8750	< 10.0	10.0	50.0	< 20.0	B
493.2950	379.9975	< 10.0	10.0	50.0	< 20.0	A
	759.9950	17.7	10.0	50.0	27.7	A
	1139.9925	23.0	10.0	50.0	33.0	B
	1519.9900	19.3	10.0	50.0	29.3	B
	1899.9875	■ 10.0	10.0	50.0	■ 20.0	■

Antenna-Conducted Power Measurement

Test Date: July 14, 1998

Temp. : 24°C Hum. : 40%

Frequency of Tuning [MHz]	Frequency of emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits at 500hm dB(uV)	Results dB(uV)	Remarks (Note2)
Tuning Range : 493.3000 MHz ~ 494.9950 MHz						
493.3000	380.0000	17.8	10.0	50.0	27.8	A
	760.0000	24.0	10.0	50.0	34.0	A
	1140.0000	18.5	10.0	50.0	28.5	B
	1520.0000	15.3	10.0	50.0	25.3	B
	1900.0000	20.9	10.0	50.0	30.9	B
494.9950	380.8475	< 10.0	10.0	50.0	< 20.0	A
	761.6950	18.8	10.0	50.0	28.8	A
	1142.5425	22.8	10.0	50.0	32.8	B
	1523.3900	16.0	10.0	50.0	26.0	B
	1904.2500	15.2	10.0	50.0	25.2	B
Tuning Range : 495.0000 MHz ~ 607.2950 MHz						
495.0000	380.8500	< 10.0	10.0	50.0	< 20.0	A
	76 1.7000	18.1	10.0	50.0	28.1	A
	1142.5500	22.4	10.0	50.0	32.4	B
	1523.4000	14.9	10.0	50.0	24.9	B
	1904.2500	14.5	10.0	50.0	24.5	B
551.1500	408.9250	11.3	10.0	50.0	21.3	A
	817.8500	19.5	10.0	50.0	29.5	A
	1226.7750	11.6	10.0	50.0	21.6	B
	1635.7000	20.6	10.0	50.0	30.6	B
	2044.6250	< 10.0	10.0	50.0	< 20.0	B
607.2950	436.9975	11.2	10.0	50.0	21.2	A
	873.9950	18.7	10.0	50.0	28.7	A
	1310.9925	15.0	10.0	50.0	25.0	B
	1747.9900	20.8	10.0	50.0	30.8	B
Tuning Range : 607.3000 MHz ~ 608.2950 MHz						
607.8000	437.2500	10.8	10.0	50.0	20.8	A
	874.5000	19.0	10.0	50.0	29.0	A
	1311.7500	15.0	10.0	50.0	25.0	B
	1749.0000	21.8	10.0	50.0	31.8	B

Antenna-Conducted Power Measurement

Test Date: July 14, 1998

Temp. : 24°C Hum. : 40%

Frequency of Tuning [MHz]	Frequency of emission [MHz]	Meter readings dB(uV)	Correction Fac tor dB	Limits at 500hm dB(uV)	Results dB(uV)	Remarks (Note2)
<u>Tuning Range : 608.3000 MHz - 741.0450 MHz</u>						
608.3000	437.5000	11.8	10.0	50.0	21.8	A
	875.0000	18.8	10.0	50.0	28.8	A
	1312.5000	15.0	10.0	50.0	25.0	B
	1750.0000	21.6	10.0	50.0	31.6	B
674.6800	470.6900	12.3	10.0	50.0	22.3	A
	941.3800	20.4	10.0	50.0	30.4	A
	1412.0700	14.2	10.0	50.0	24.2	B
	1882.7600	20.0	10.0	50.0	30.0	B
741.0450	503.8725	17.0	10.0	50.0	27.0	A
	1007.7450	23.5	10.0	50.0	33.5	B
	1511.6175	10.4	10.0	50.0	20.4	B
	2015.4900	11.7	10.0	50.0	21.7	B
<u>uning Range : 741.0500 MHz - 741.2450 MHz</u>						
741.1500	503.9250	17.0	10.0	50.0	27.0	A
	1007.8500	24.0	10.0	50.0	34.0	B
	1511.7750	14.2	10.0	50.0	24.2	B
	2015.7000	12.3	10.0	50.0	22.3	B
<u>Tuning Range : 741.2500 MHz - 823.9950 MHz</u>						
741.2500	503.9750	20.7	10.0	50.0	30.7	A
	1007.9500	23.6	10.0	50.0	33.6	B
	1511.9250	11.5	10.0	50.0	21.5	B
	2015.9000	11.3	10.0	50.0	21.3	B
782.6250	524.6625	17.2	10.0	50.0	27.2	A
	1049.3250	24.5	10.0	50.0	34.5	B
	1573.9875	13.2	10.0	50.0	23.2	B
	2098.6500	15.3	10.0	50.0	25.3	B
823.9950	545.3475	14.8	10.0	50.0	24.8	A
	1090.6950	24.3	10.0	50.0	34.3	B
	1636.0425	16.3	10.0	50.0	26.3	B
	2181.3900	16.0	30.0	50.0	26.0	B

Antenna-Conducted Power Measurement

Test Date: July 14, 1998

Temp. : 24°C Hum. : 40%

Frequency of Tuning [MHz]	Frequency of emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits at 50ohm dB(uV)	Results dB(uV)	Remarks (Note2)
<u>Tuning Range : 849.0000 MHz - 868.9950 MHz</u>						
849.0000	291.1500	< 10.0	10.0	50.0	< 20.0	A
	582.3000	< 10.0	10.0	50.0	< 20.0	A
	873.4500	12.7	10.0	50.0	22.7	A
	1164.6000	19.5	10.0	50.0	29.5	B
	1455.7500	15.3	10.0	50.0	25.3	B
	1746.9000	18.3	10.0	50.0	28.3	B
	2038.0500	< 10.0	10.0	50.0	< 20.0	B
859.0000	296.1500	< 10.0	10.0	50.0	< 20.0	A
	592.3000	< 10.0	10.0	50.0	< 20.0	A
	888.4500	19.7	10.0	50.0	29.7	A
	1184.6000	20.7	10.0	50.0	30.7	B
	1480.7500	13.8	10.0	50.0	23.8	B
	1776.9000	15.6	10.0	50.0	25.6	B
	2073.0500	< 10.0	10.0	50.0	< 20.0	B
868.9950	301.1475	< 10.0	10.0	50.0	< 20.0	A
	602.2950	17.2	10.0	50.0	27.2	A
	903.4425	21.9	10.0	50.0	31.9	A
	1204.5900	20.6	10.0	50.0	30.6	B
	1505.7375	12.3	10.0	50.0	22.3	B
	1806.8850	14.1	10.0	50.0	24.1	B
	2108.0325	14.4	10.0	50.0	24.4	B
<u>Tuning Range : 894.0000 MHz - 900.0000 MHz</u>						
894.0000	313.6500	< 10.0	10.0	50.0	< 20.0	A
	627.3000	11.8	10.0	50.0	21.8	A
	940.9500	16.0	10.0	50.0	26.0	A
	1254.6000	14.6	10.0	50.0	24.6	B
	1568.2500	16.1	10.0	50.0	26.1	B
	1881.9000	19.1	10.0	50.0	29.1	B
927.0000	330.1500	< 10.0	10.0	50.0	< 20.0	A
	660.3000	13.0	10.0	50.0	23.0	A
	990.4500	15.0	10.0	50.0	25.0	A
	1320.6000	13.1	10.0	50.0	23.1	B
	1650.7500	10.1	10.0	50.0	20.1	B
	1980.9000	12.9	10.0	50.0	22.9	B
960.0000	346.6500	< 10.0	10.0	50.0	< 20.0	A
	693.3000	< 10.0	10.0	50.0	< 20.0	A
	1039.9500	18.9	10.0	50.0	28.9	B
	1386.6000	21.7	10.0	50.0	31.7	B
	1733.2500	11.3	10.0	50.0	21.3	B
	2079.9000	16.3	10.0	50.0	26.3	B

Antenna-Conducted Power Measurement

Test Date: July 14, 1998

Temp. : 24°C Hum. : 40%

Frequency of Tuning [MHz]	Frequency of emission [MHz]	Meter readings dB(uV)	Correction Factor dB	Limits at 50ohm dB(uV)	Results dB(uV)	Remarks (Note2)
<u>Tuning Range : 30.0000 MHz(2nd Local/247.05MHz)</u>						
30.0000	247.0500	< 10.0	10.0	50.0	< 20.0	A
	494.1000	20.0	10.0	50.0	30.0	A
	741.1500	15.0	10.0	50.0	25.0	A
	988.2000	< 10.0	10.0	50.0	< 20.0	A
	1235.2500	< 10.0	10.0	50.0	< 20.0	B
	1482.3000	< 10.0	10.0	50.0	< 20.0	B
	1729.3500	< 10.0	10.0	50.0	< 20.0	B
	1976.4000	< 10.0	10.0	50.0	< 20.0	B
<u>Tuning Range : 246.9500 MHz(2nd Local/286.95MHz)</u>						
246.9500	286.3500	< 10.0	10.0	50.0	< 20.0	A
	572.7000	22.6	10.0	50.0	32.6	A
	859.0500	< 10.0	10.0	50.0	< 20.0	A
	1145.4000	14.0	10.0	50.0	24.0	B
	1431.7500	< 10.0	10.0	50.0	< 20.0	B
	1718.1000	< 10.0	10.0	50.0	< 20.0	B
	2004.4500	23.0	10.0	50.0	33.0	B
<u>Tuning Range : 30.0000 MHz(3rd Local/19.2MHz)</u>						
30.0000	38.4000	< 10.0	10.0	50.0	< 20.0	A
	57.0000	< 10.0	10.0	50.0	< 20.0	A
	76.0000	< 10.0	10.0	50.0	< 20.0	A
	96.0000	< 10.0	10.0	50.0	< 20.0	A
	115.2000	< 10.0	10.0	50.0	< 20.0	A
	134.4000	< 10.0	10.0	50.0	< 20.0	A
	153.6000	< 10.0	10.0	50.0	< 20.0	A
	172.8000	< 10.0	10.0	50.0	< 20.0	A
	192.0000	< 10.0	10.0	50.0	< 20.0	A
	211.2000	< 10.0	10.0	50.0	< 20.0	A
<u>Tuning Range : 30.0000 MHz(Other/4.935MHz)</u>						
30.0000	34.5450	< 10.0	10.0	50.0	< 20.0	A
	39.4800	< 10.0	10.0	50.0	< 20.0	A
	44.4150	< 10.0	10.0	50.0	< 20.0	A
	49.3500	< 10.0	10.0	50.0	< 20.0	A
	54.2850	< 10.0	10.0	50.0	< 20.0	A
	59.2200	< 10.0	10.0	50.0	< 20.0	A
	64.1550	< 10.0	10.0	50.0	< 20.0	A
	69.0900	< 10.0	10.0	50.0	< 20.0	A
	74.0250	< 10.0	10.0	50.0	< 20.0	A
	78.9600	< 10.0	10.0	50.0	< 20.0	A

Sample of calculated result at 1154.085MHz(Tuning Frequency, 117.995MHz), as the Minimum Margin point:

Corretion Factor = 10.0 dB

+)Meter Reading = 27.0 dB(uV)

Result 37.0 dB

Minimum Margin : 50.0 - 37.0 =13.0(dB)

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

Note 1:

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

2)The upper frequency of measurement range : 2.2 GHz

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

4)Correction Factor : +10dB Pad Attenuator

Remarks:

Note 2	Detector Function	IF Bandwidth
A	CISPR QP	120 KHz

Note 2	Detector Function	RES. B.W	V.B.W	Sweep Time	Span
B	Peak (SP)	1 00kHz	300kHz	20 msec	1MHz
* c	Average(ESV)	1MHz(3 MHz)	3MHz	20 msec	0 Hz

():Setting of spectrum analyzer

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

Tester Signature : A. Hosoda
Type Name : Akio Hosoda