JAPAN QUALITY ASSURANCE ORGANIZATION
KITA-KANSAI TESTING CENTER
7-7, Ishimaru 1-Chome, Minoh-shi, Osaka 562-0027 Japan. Phone. +81-72-729-2243/Facsimile. +81-72-728-6848

EMC EMISSION - TEST REPORT

JQA APPLICATION No.	:	KL80060077R
Name of Product	:	Microwave Convection Oven
Model/Type No.	:	HMB7050
FCC ID	:	ACLAP7M71
Applicant	:	Matsushita Electric Industrial Co., Ltd. Microwave Oven Business Unit
Address	:	800 Tsutsui-cho, Yamatokoriyama City, Nara 639-1188, Japan
Manufacturer	:	Matsushita Electric Industrial Co., Ltd. Microwave Oven Business Unit
Address	:	800 Tsutsui-cho, Yamatokoriyama City, Nara 639-1188, Japan
Receive date of EUT	:	May 19, 2006
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 National Institute of Information and Communications Technology (NICT) under MPHPT Japan.

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

Authorized by:

Y. Fukumoto

Yuichi Fukumoto, Manager
JQA KITA-KANSAI Testing Center

DIRECTORY

TEST REGULATION

FCC Rules and Regulations Part 18 Subpart A, B and C

● - Miscellaneous equipment
○ - Medical diathermy

● - ISM Frequency Device
○ - Non-ISM Frequency Device

○ - Industrial heaters and RF stabilized arc welder
○ - Induction cooking ranges

Test procedure:

The test was performed according to the procedures in FCC/OET MP-5 (1986).

GENERAL INFORMATION

Test facility:

1) Test Facility located at Kita-Kansai : 1st Open Site (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

3) Average Measurement Method
FCC filing No. : 950523A 1300F2

Description of the Equipment Under Test (EUT):

1) Name	:	Microwave Convection Oven
2) Model/Type No.	:	HMB7050
3) Product Type	:	Pre-Prodction
4) Category	:	ISM Frequency Device
5) EUT Authorization	:	○ - Verification ● - Certification ○ - D.o.C.
6) Highest frequency used/generated	:	2450 MHz
7) Rated RF Power Output	:	1000 W
8) Power Rating	:	AC 120V 60Hz
9) Employed Mode	:	Turn Table
10) Door Seal Type	:	Choke

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

RF Power Output 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
O - Anechoic chamber
O - 1st open test site
KAMEOKA EMC Branch
9-1, Ozaki, Inukanno, Nishibetsuin-Cho, Kameoka-Shi, Kyoto, 621-0126, Japan
O - Shielded room
O - 1st open test site
O - 2nd open test site

Used test instruments:

Type	Model	Manufacturer	Serial No.	Last Cal.	Interval
Power Meter	2533-21	YOKOGAWA	48AU02060	2006/4	1 Year
Thermometer	245506	YOKOGAWA	74JJ0064	2006/3	1 Year
Stop Watch	S111-5000	SEIKO	486152	2006/2	1 Year

Environmental conditions:

Temperature: 29 °C Humidity: 60 %

ISM Frequency Measurement
was performed for line voltage variation from 80 % to 125 % of normal rated voltage, 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
○ - 1st open test site
KAMEOKA EMC Branch
9-1, Ozaki, Inukanno, Nishibetsuin-Cho, Kameoka-Shi, Kyoto, 621-0126, Japan
○ - Shielded room
○ - 1st open test site
○ - 2nd open test site

Used test instruments:

Type	Model	Manufacturer	Serial No.	Last Cal.	Interval
Spectrum Analyzer	E4446A	Agilent	US4430038	2005/11	1 Year
Horn Antenna	91889-2	EATON	568	2005/5	1 Year
Attenuator	2-10	Weinschel	AW7937	2005/6	1 Year
Frequency Counter	TR5212	Advantest	72520282	2006/3	1 Year
RF Cable	SUCOFLEX104	SUHNER	39224/4	2005/5	1 Year

Environmental conditions:

Temperature: 25 °C Humidity: 67 %

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
O - Shielded room
O - On metal plane of open site

Used test instruments and sites:

Type	Model	Manufacturer	Serial No.	Last Cal.	Interval
Test Receiver	ESCS 30	Rohde & Schwarz	835418/005	2005/8	1 Year
AMN (main)	KNW-408	Kyoritsu	8-715-3	2006/3	1 Year
RF Cable	--	----	--	2006/3	1 Year

Environmental conditions:

Temperature: 20 °C Humidity: 72 %

Magnetic Field Radiated Emission Measurement
was performed in the frequency range of 9 kHz - 30 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)
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:

Type	Model	Manufacturer	Serial No.	Last Cal.	Interval
Test Receiver	ESCS 30	Rohde & Schwarz	100056	2005/12	1 Year
Loop Antenna	HFH2-Z2	Rohde & Schwarz	860605/030	2005/8	1 Year
RF Cable	RG213/U	Rohde & Schwarz	--	2005/8	1 Year

Environmental conditions:

Temperature: 20 °C Humidity: 80 %

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)
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:

Type	Model	Manufacturer	Serial No.	Last Cal.	Interval
Test Receiver	ESVS 10	Rohde & Schwarz	834468/005	2005/8	1 Year
Pre-Amplifier	ESV-Z3	Rohde & Schwarz	880827/001	2005/11	1 Year
Biconical Antenna	VHA9103/FBAB9177	Schwarzbeck	1987/--	2005/8	1 Year
Log-periodic Antenna	UHALP 9108-A1	Schwarzbeck	0419	2005/8	1 Year
RF Cable	--	----	--	2005/8	1 Year
Site Attenuation	--	----	--	2005/11	1 Year

Environmental conditions:

Temperature: 20 °C Humidity: 80 %

Electromagnetic Field Radiated Emission Measurement
was performed in horizontal and vertical polarization, in the frequency range of 1 GHz - 26 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)
KAMEOKA EMC Branch
9-1, Ozaki, Inukanno, Nishibetsuin-Cho, Kameoka-Shi, Kyoto, 621-0126, Japan
O - 1st open test site O - 3 m O - 10 m O - 30 m
O - 2nd open test site O - 3 m O - 10 m

Used test instruments:

Type	Model	Manufacturer	Serial No.	Last Cal.	Interval
Test Receiver	ESCS 30	Rohde & Schwarz	835418/005	2005/8	1 Year
Spectrum Analyzer	E4446A	Agilent	US4430038	2005/11	1 Year
Pre-Amplifier	WJ-6882-824	Watkins Johnson	0048	2005/5	1 Year
Pre-Amplifier	WJ-6611-513	Watkins Johnson	0289	2005/5	1 Year
Pre-Amplifier	DBL-0618N515	DBS Microwave	0019830	2005/5	1 Year
Pre-Amplifier	ALN-22093545-01	Wise Wave	10969-01R	2006/2	1 Year
Horn Antenna	91888-2	EATON	562	2005/5	1 Year
Horn Antenna	91889-2	EATON	568	2005/5	1 Year
Horn Antenna	94613-1	EATON	574	2005/5	1 Year
Horn Antenna	91891-2	EATON	578	2005/5	1 Year
Horn Antenna	CL-107-43	ARNELLAB	91-0102	2005/6	1 Year
Horn Antenna	3160-09	EMCO	9808-1117	2005/12	2 Years
Attenuator	54-10	Weinschel	E6164	2005/5	1 Year
Attenuator	54-10	Weinschel	C8599	2005/5	1 Year
RF Cable	SUCOFLEX104	SUHNER	39225/4	2005/5	1 Year
RF Cable	SUCOFLEX104	SUHNER	39227/4	2005/5	1 Year
RF Cable	SUCOFLEX102	SUHNER	14449/2	2006/2	1 Year
RF Cable	102EA-40 11K-252X2	SUHNER	3041/2EA	2006/2	1 Year

Environmental conditions:

Temperature: 25 °C Humidity: 67 %

CONFIGURATION OF EUT

The Equipment Under Test (EUT) consists of:

Description	Applicant (Manufacturer)	Model No. (Serial No.)	FCC ID
Microwave Convection Oven	Matsushita Electric Industrial Co., Ltd. (Matsushita Electric Industrial Co., Ltd.)	HMB7050 (FD 8609 PP09)	ACLAP7M71

The measurement was carried out with the following equipment connected:

Description	Grantee/Distributor	Model No. (Serial No.)	FCC ID
None			

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	AC Power Cord (EUT) 1ϕ 3-pin Plug	--	NO	--	NO	1.0 m

Operation - mode of the EUT:

The EUT was operated during the measurement under following load condition according to Sec. 4.1 in FCC/OET MP-5 (1986).

1) RF Power Output Measurement
1000 ml of water, with the beaker located in the center of the food container.

2) ISM Frequency Measurement
1000 ml of water, with the beaker located in the center of the food container.

3) AC Conducted Emission Measurement
1000 ml of water, with the beaker located in the center of the food container.

4) Radiated Emission Measurement (radiation on second and third harmonics)
Two loads, one of 700 ml and the other of 300 ml, of water are used. Each load is tested both with the beaker located in the center of the food container and with it in the right front center.

5) All Other Measurement (radiated emission)
700 ml of water, with the beaker located in the center of the food container.

Note : The load condition for the reported(worst) data at pp 25-27 is 700ml of water.

Test system:

The EUT is an microwave oven with the heater oven.
There is not any interface ports on the EUT.

Special accessories:

None

Type of Magnetron:

Cat. No. 2M236-M1 (manufactured by Matsushita)

The used (generated) frequencies in the EUT:

Magnetron : 2450 MHz
CPU : 8 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

RF Power Output

Measurement Results (Calorimetric method) 828.0 W

Applied Limits of Radiated Emission 32.2 μV/m at 300 m
10.0 μV/m at 1600 m

Remarks:

ISM Frequency 2.4 GHz - 2.5 GHz

The requirements are ● - Passed ○ - Not Passed

Worst (lowest/highest) range against 2.45 GHz ± 50 MHz 2478.7 MHz - 2499.0 MHz

Uncertainty of measurement results ± 100 kHz

Remarks:

AC Powerline Conducted Emission 150 kHz - 30 MHz

The requirements are ● - Passed ○ - Not Passed

Min. limit margin 10.5 dB at 0.22 MHz

Max. limit exceeding _____ dB at _____ MHz

Uncertainty of measurement results + 2.1 dB(2σ) - 2.1 dB(2σ)

Remarks:

JQA

JQA Application No. : KL80060077R
Model No. : HMB7050
FCC ID : ACLAP7M71

Regulation : CFR 47 FCC Rules Part 18
Issue Date : May 31, 2006

Magnetic Field Radiated Emission 9 kHz - 30 MHz

The requirements are	● - Passed			○ - Not Passed	
Min. limit margin	5.7	dB	at	0.22	MHz
Max. limit exceeding		dB	at		MHz
Uncertainty of measurement results	+ 2.5	dB(2σ)		- 2.5	dB(2σ)

Remarks:

Electromagnetic Field Radiated Emission 30 MHz - 1000 MHz

The requirements are		● - Passed			○ - Not Passed	
Min. limit margin	More than	32.2	dB	at	1000.0	MHz
Max. limit exceeding			dB	at		MHz
Uncertainty of measurement results		+ 3.8	dB(2σ)		- 3.9	dB(2σ)

Remarks:

Electromagnetic Field Radiated Emission 1 GHz - 26 GHz

The requirements are	● - Passed			○ - Not Passed	
Min. limit margin	1.9	dB	at	9926.9	MHz
Max. limit exceeding		dB	at		MHz
Uncertainty of measurement results	+ 3.2	dB(2σ)		- 3.2	dB(2σ)

Remarks: The measurement result is within the range of measurement uncertainty.

SUMMARY

GENERAL REMARKS :

The EUT was tested according to the requirements of FCC Rules and Regulations Part 18 Subpart A, B and C 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 : May 19, 2006

End of testing : May 25, 2006

- JAPAN QUALITY ASSURANCE ORGANIZATION -

Reviewed by :

S. Kino

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

Tested by :

A. Hosoda

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

RF Power Output Measurement

ISM Frequency Device

Test Date: May 23, 2006
Temp.: 29 °C, Humi: 60 %

The power output was measured by the calorimetric method, computing the power output from the observed temperature rise of the load over a period of time.

Rated RF Power: 1000W
Load(water): 1000ml
Time: 42sec (T=4.2*Load(ml)*10/RF Power)

	t1(before test)		t2(after test)	t1-t2	RF Power**
1st	10.2℃	→	18.5℃	8.3℃	830.0W
2nd	10.1℃	→	18.4℃	8.3℃	830.0W
3rd	10.3℃	→	18.5℃	8.2℃	820.0W
4th	10.3℃	→	18.6℃	8.3℃	830.0W
5th	10.2℃	→	18.5℃	8.3℃	830.0W

**RF Power=4.2*Load(ml)*(t2-t1)/T

Results of Average RF Power: 828.0W

The limit of the radiated emission at 300m : 25*SQRT(828.0/500)[uV/m]: 30.1dB[uV/m]
The AC power input to the oven is measured to determine if the oven is operating in accordance with the manufacturer's specifications.

Rated Power Supply:AC120V/60Hz, 1450W
Measured Input Power : AC120V60Hz 14.60A, 1720W

ISM Frequency Measurement

ISM Frequency Device

Test Date: May 28, 2006
Temp.: 25 °C ; Humi.: 67 %

The maximum frequency deviation was measured at -26dB with respect to the maximum level.

Maximum Frequency Deviation [MHz]		Voltage	Remarks
Lower Frequency	Upper Frequency	Variation	
2475.6	2479.6	96.0V (80 %)	A
2478.7	2499.0	120.0V (100 %)	A
2475.2	2479.7	150.0V (125 %)	A

The results were within 2450 MHz ± 50 MHz.

Remarks:

	Detector Function	RES. B.W.	V.B.W.	Sweep Time	Span
A	Peak	100 kHz	10 kHz	30 msec	100 MHz

JQA

JQA Application No. : KL80060077R
Model No. : HMB7050
FCC ID : ACLAP7M71

Regulation : CFR 47 FCC Rules Part 18
Issue Date : May 31, 2006

AC Powerline Conducted Emission Measurement

Test Date: May 24, 2006
Temp.: 20 °C, Humi: 72 %

Frequency [MHz]	Corr. Factor [dB]	Meter Readings [dB(μV)] VA QP	VA AVE	VB QP	VB AVE	Limits [dB(μV)] QP	Limits [dB(μV)] AVE	Results [dB(μV)] QP	Results [dB(μV)] AVE	Margin [dB]	Remarks
0.17	0.2	49.0	--	51.0	--	65.1	55.1	51.2	--	+13.9	A
0.22	0.2	49.0	--	52.0	40.0	62.7	52.7	52.2	40.2	+10.5	A/B
0.45	0.1	45.0	35.0	46.0	34.0	56.8	46.8	46.1	35.1	+10.7	A/B
0.77	0.1	41.0	--	42.0	--	56.0	46.0	42.1	--	+13.9	A
2.28	0.2	36.0	--	38.0	--	56.0	46.0	38.2	--	+17.8	A
12.40	0.6	33.0	--	29.0	--	60.0	50.0	33.6	--	+26.4	A
17.00	0.7	47.0	--	44.0	--	60.0	50.0	47.7	--	+12.3	A
17.70	0.7	48.0	36.0	48.0	37.0	60.0	50.0	48.7	37.7	+11.3	A/B
18.00	0.7	36.0	--	44.0	--	60.0	50.0	44.7	--	+15.3	A
27.00	0.9	21.0	--	23.0	--	60.0	50.0	23.9	--	+36.1	A

Calculated result at 0.22 MHz, as the worst point shown on underline:

	Corr. Factor	=	0.2 dB
+)	Meter Reading	=	52.0 dB(μV)
	Result	=	52.2 dB(μV)

Minimum Margin: 62.7 - 52.2 = 10.5 (dB)

NOTES
1. The spectrum was checked from 0.15 MHz to 30 MHz.
2. The correction factor includes the AMN insertion loss and the cable loss.
3. The symbol of "<" means "or less".
4. The symbol of ">" means "more than".
5. The symbol of "--" means "not applicable".
6. QP : Quasi-Peak Detector AVE : Average Detector
7. Setting of measuring instrument(s) :

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

Electromagnetic Field Radiated Emission Measurement

Test Date: May 19, 2006
Temp.: 20 °C, Humi: 80 %

Frequency [MHz]	Correction Factor [dB(1/m)]	Meter Readings at 3 m [dB(μV)]	Limits at 300 m [dB(μV/m)]	Results at 300 m [dB(μV/m)]	Margin [dB]	Remarks
0.15	-0.1	60.5	30.1	20.4	+ 9.7	B
0.18	-0.1	59.0	30.1	18.9	+11.2	B
0.22	-0.1	64.5	30.1	24.4	+ 5.7	B
0.27	-0.1	54.0	30.1	13.9	+16.2	B
0.31	-0.1	55.5	30.1	15.4	+14.7	B
0.44	-0.1	47.5	30.1	7.4	+22.7	B
0.54	-0.1	43.0	30.1	2.9	+27.2	B
0.58	-0.1	39.0	30.1	- 1.1	+31.2	B
0.62	-0.1	36.0	30.1	- 4.1	+34.2	B
0.76	0.0	36.5	30.1	- 3.5	+33.6	B

Calculated result at 0.22 MHz, as the worst point shown on underline:

Corr. Factor	=	-0.1	dB(1/m)	
Conversion Factor	=	-40.0	dB	(20dB/decade)
+) Meter Reading	=	64.5	dB(μV)	
Result	=	24.4	dB(μV/m) at 300 m	= 16.6 μV/m

Minimum Margin: 30.1 - 24.4 = 5.7 (dB)

NOTES
1. Test Distance : 3 m (Specified Distance : 300 m)
2. The spectrum was checked from 9 kHz to 30 MHz.
3. The correction factor includes the antenna factor and the cable loss.
4. The symbol of "<" means "or less".
5. The symbol of ">" means "more than".
6. Setting of measuring instrument(s) :

	Detector Function	IF Bandwidth
A	Average	200 Hz
B	Average	10 kHz

JQA

JQA Application No. : KL80060077R
Model No. : HMB7050
FCC ID : ACLAP7M71

Regulation : CFR 47 FCC Rules Part 18
Issue Date : May 31, 2006

Electromagnetic Field Radiated Emission Measurement

Test Date: May 19, 2006
Temp.: 20 °C, Humi: 80 %

Frequency [MHz]	Antenna Factor [dB(1/m)]	Cable Loss [dB]	Meter Readings at 10 m [dB(μV)] Hori.	Meter Readings at 10 m [dB(μV)] Vert.	Limits at 300 m [dB(μV/m)]	Results at 300 m [dB(μV/m)] Hori.	Results at 300 m [dB(μV/m)] Vert.	Margin [dB]	Remarks
30.0	19.6	0.6	< 0.0	< 0.0	30.1	< - 9.3	< - 9.3	> +39.4	B
33.2	18.4	0.7	< 0.0	< 0.0	30.1	< -10.4	< -10.4	> +40.5	B
234.0	17.1	1.9	< 0.0	< 0.0	30.1	< -10.5	< -10.5	> +40.6	B
246.0	17.4	2.0	< 0.0	< 0.0	30.1	< -10.1	< -10.1	> +40.2	B
250.0	17.5	2.0	< 0.0	< 0.0	30.1	< -10.0	< -10.0	> +40.1	B
274.0	18.2	2.1	< 0.0	< 0.0	30.1	< - 9.2	< - 9.2	> +39.3	B
350.0	14.3	2.4	< 0.0	< 0.0	30.1	< -12.8	< -12.8	> +42.9	B
680.0	20.4	3.6	< 0.0	< 0.0	30.1	< - 5.5	< - 5.5	> +35.6	B
765.0	20.5	3.8	< 0.0	< 0.0	30.1	< - 5.2	< - 5.2	> +35.3	B
1000.0	23.0	4.4	< 0.0	< 0.0	30.1	< - 2.1	< - 2.1	> +32.2	B

Calculated result at 1,000.0 MHz, as the worst point shown on underline:

Antenna Factor	=	23.0	dB(1/m)	
Cable Loss	=	4.4	dB	
Conversion Factor	=	-29.5	dB	(20dB/decade)
+) Meter Reading	=	<0.0	dB(μV)	
Result	=	<-2.1	dB(μV/m) at 300 m	= <0.8 μV/m

Minimum Margin: 30.1 - (<-2.1) = >32.2 (dB)

NOTES
1. Test Distance : 10 m (Specified Distance : 300 m)
2. The spectrum was checked from 30 MHz to 1000 MHz.
3. The symbol of "<" means "or less".
4. The symbol of ">" means "more than".
5. Setting of measuring instrument(s) :

	Detector Function	IF Bandwidth	Antenna
A	CISPR QP	120 kHz	Broadband
B	Average	120 kHz	
C	CISPR QP	120 kHz	Tuned Dipole
D	Average	120 kHz	

Electromagnetic Field Radiated Emission Measurement

Test Date: May 28, 2006
Temp.: 19 °C, Humi: 49 %

Frequency [MHz]	Antenna Factor [dB(1/m)]	Corr. Factor [dB]	Meter Readings at 3 m [dB(μV)] Hori.	Vert.	Limits at 300 m [dB(μV/m)]	Results at 300 m [dB(μV/m)] Hori.	Vert.	Margin [dB]	Remarks
2350.0	21.5	10.8	27.5	< 25.0	30.1	19.8	< 17.3	+10.3	B
2380.5	21.5	10.8	27.0	26.5	30.1	19.3	18.8	+10.8	B
2387.8	21.5	10.8	29.0	28.0	30.1	21.3	20.3	+ 8.8	B
2505.0	21.3	10.8	26.0	< 25.0	30.1	18.1	< 17.1	+12.0	B
4953.9	37.1	-20.6	46.0	46.0	30.1	22.5	22.5	+ 7.6	B
7457.2	38.2	-18.2	34.0	34.0	30.1	14.0	14.0	+16.1	B
9926.9	39.1	-25.9	55.0	50.0	30.1	28.2	23.2	+ 1.9	B
14894.3	45.4	-24.8	46.0	40.0	30.1	26.6	20.6	+ 3.5	B
19860.9	40.3	-26.4	28.0	< 25.0	30.1	1.9	< -1.1	+28.2	B
22306.8	40.4	-26.3	28.0	28.0	30.1	2.1	2.1	+28.0	B

Calculated result at 9926.9 MHz, as the worst point shown on underline:

Antenna Factor	=	39.1	dB(1/m)	
Corr. Factor	=	-25.9	dB	
Conversion Factor	=	-40.0	dB	(20dB/decade)
+) Meter Reading	=	55.0	dB(μV)	
Result	=	28.2	dB(μV/m)	at 300 m = 25.7 μV/m

Minimum Margin: 30.1 - 28.2 = 1.9 (dB)

NOTES
1. Test Distance : 3 m (Specified Distance : 300 m)
2. The spectrum was checked from 1.0 GHz to 24.5 GHz.
3. The correction factor is shown as follows:
   Corr. Factor [dB] = Cable Loss + 10dB Pad Att. [dB] (1.0 - 3.6GHz)
   Corr. Factor [dB] = Cable Loss + 20dB Pad Att. - Pre-Amp. Gain [dB] (3.6 - 7.6GHz)
   Corr. Factor [dB] = Cable Loss + 10dB Pad Att. - Pre-Amp. Gain [dB] (7.6 - 18.0GHz)
   Corr. Factor [dB] = Cable Loss + 20dB Pad Att. - Pre-Amp. Gain (18.0 - 26.0GHz)
4. The symbol of "<" means "or less".
5. The symbol of ">" means "more than".
6. Setting of measuring instrument(s) :

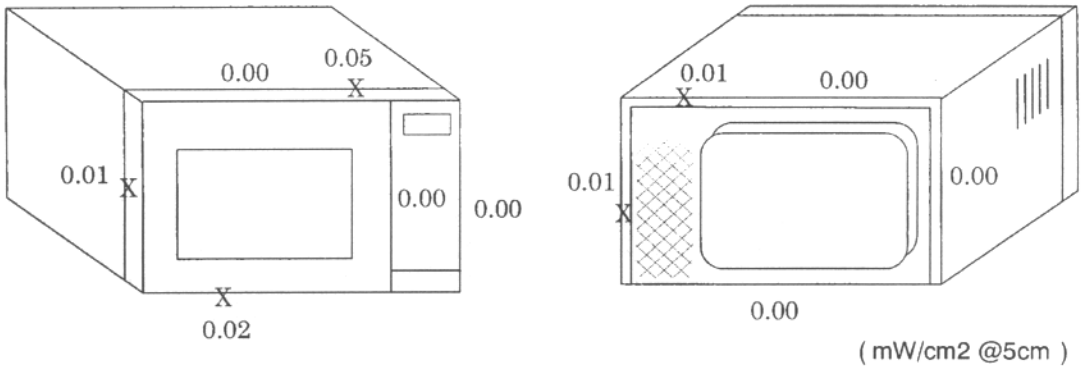
	Detector Function	IF Bandwidth
A	Peak	1 MHz
B	Average	1 MHz

Date: May 18 2006

Microwave Safety Check

FCC ID : ACLAP7M71
Model No : HMB7050
S/No : FD 8609 PP09

Microwave Leakage



(mW/cm2 @5cm)

Used test instruments

Equipment	Type	Manufacture	S/No	Last Calibrated
Leakage meter	HI-1710A	Holaday	108288	Mar. 2006
Leakage prove	HI-2623	Holaday	N/A	Mar. 2006

Tested by

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