

APPENDIX 2:Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
MAEC-03	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	RE	2006/03/03 * 12
MOS-12	Thermo-Hygrometer	Custom	CTH-180	RE	2006/01/19 * 24
MRENT-23	Spectrum Analyzer	Advantest	R3273	RE	2006/01/10 * 12
TR-07	Test Receiver	Rohde & Schwarz	ESCS30	RE	2005/09/14 * 12
MBA-03	Biconical Antenna	Schwarzbeck	BBA9106	RE	2006/01/29 * 12
MLA-03	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2006/01/29 * 12
MCC-51	Coaxial cable	UL Apex	-	RE	2006/03/11 * 12
MAT-30	Attenuator(6dB)	TME	UFA-01	RE	2006/03/11 * 12
MPA-13	Pre Amplifier	SONOA INSTRUMENT	310	RE	2006/03/25 * 12
MLA-04	Logperiodic Antenna	Rohde & Schwarz	ESLP9145	RE	2006/03/29 * 12
MCC-56	Microwave Cable	Suhner	SUCOFLEX104	RE	2006/04/15 * 12
MPA-11	MicroWave System Amplifier	Agilent	83017A	RE	2006/03/27 * 12
MLA-04C	Microwave Cable	Suhner	SUCOFLEX104	RE	2006/04/15 * 12
MSTW-14	EMI measurement program	TSJ	TEPTO-DV	RE	-

All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

Test Item:

RE: Radiated emission

UL Apex Co., Ltd.

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MF060b(24.05.06)

APPENDIX 3: Data of EMI test

Radiated Emission (Electric Field Strength of Fundamental and Spurious Emission)

COMPANY : OMRON CORPORATION
EQUIPMENT : FOB
MODEL : G8D-640M-KEY-N
S/N : KK0004
POWER : DC 3.0V
Mode : Continuous Transmitting
Axis : Hor.: X-axis, Ver.: Y-axis

REPORT NO : 26GE0265-HO
REGULATION : Fcc Part15 Subpart C 231(b) / 205
TEST DISTANCE : 3m
DATE : 4/26/2006
TEMPERATURE : 21 deg.C.
HUMIDITY : 36 %
ENGINEER : Hiroka Umeyama

No.	FREQ [MHz]	T/R READING		ANT Factor [dB/m]	AMP GAIN [dB]	LOSS [dB]	RESULT		Limit [dBuV/m]	MARGIN	
		HOR	VER				HOR	VER		HOR	VER
1	315.05	82.3	78.2	15.0	32.1	9.9	75.1	71.0	75.6	0.5	4.6

(below 1GHz) AV MEASUREMENT

No.	FREQ [MHz]	T/R READING : PK		ANT Factor [dB/m]	AMP GAIN [dB]	LOSS [dB]	Duty Factor [dB]	RESULT		Limit [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
2	629.93	40.9	44.5	19.5	28.8	12.8	-5.4	39.0	42.6	55.6	16.6	13.0
3	945.00	27.9	28.2	22.3	28.5	14.4	-5.4	30.7	31.0	55.6	24.9	24.6

(above 1GHz)

PK DETECT (RBW: 1MHz, VBW: 1MHz)

(Inside Restricted bands (PK))

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	LOSS [dB]	RESULT		Limit [dBuV/m]	MARGIN	
		HOR	VER				HOR	VER		HOR	VER
4	1260.10	46.5	48.8	26.8	34.6	1.7	40.4	42.7	75.6	35.2	32.9
5	1574.80	41.3	45.6	28.8	33.8	1.9	38.2	42.5	74.0	35.8	31.5
6	1890.30	44.1	48.3	28.1	33.2	2.0	41.0	45.2	75.6	34.6	30.4
7	2205.00	48.9	45.9	29.8	32.9	2.1	47.9	44.9	74.0	26.1	29.1
8	2519.80	53.5	54.5	32.3	32.7	2.4	55.5	56.5	75.6	20.1	19.1
9	2834.70	54.1	53.9	33.1	32.6	2.5	57.1	56.9	74.0	16.9	17.1
10	3149.80	52.1	51.2	33.5	32.4	2.7	55.9	55.0	75.6	19.7	20.6

AV MEASUREMENT Result = Reading (RBW: 1MHz, VBW: 1MHz) + Duty Factor

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	LOSS [dB]	Duty Factor [dB]	RESULT		Limit [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
4	1260.10	46.5	48.8	26.8	34.6	1.7	-5.4	35.0	37.3	55.6	20.6	18.3
5	1574.80	41.3	45.6	28.8	33.8	1.9	-5.4	32.8	37.1	54.0	21.2	16.9
6	1890.30	44.1	48.3	28.1	33.2	2.0	-5.4	35.6	39.8	55.6	20.0	15.8
7	2205.00	48.9	45.9	29.8	32.9	2.1	-5.4	42.5	39.5	54.0	11.5	14.5
8	2519.80	53.5	54.5	32.3	32.7	2.4	-5.4	50.1	51.1	55.6	5.5	4.5
9	2834.70	54.1	53.9	33.1	32.6	2.5	-5.4	51.7	51.5	54.0	2.3	2.5
10	3149.80	52.1	51.2	33.5	32.4	2.7	-5.4	50.5	49.6	55.6	5.1	6.0

REMARKS

ANTENNA TYPE:30-300MHz Biconical / 300-1000MHz Logperiodic / 1-3.2GHz Horn
CALCULATION RESULT=Reading + ANT Factor - Amp Gain + LOSS (Cable+ ATTEN.)+Duty factor
Duty cycle Factor Measurement : The duty cycle factor = 20 log (On time[sec.] / 1 cycle time[sec.]) :-5.4dB
* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.
*Except for the above table : All other spurious emissions were less than 20dB for the limit.
The carrier level (or, noise levels) was (or were) measured at each position of all three axes X, Y and Z,
and the position that has the maximum noise was determined.
With the position, the noise levels of all the frequencies was measured.
With the position, the noise levels of all the frequencies was measured.
*The duty was not used in the data above 1GHz, and the test was made with AV detector which is severer for the limit.
The test result was applied to the limit in Section 15.209.

-20dB Bandwidth

UL Apex Co., Ltd.
 Head Office EMC Lab. No.3 Semi Anechoic Chamber

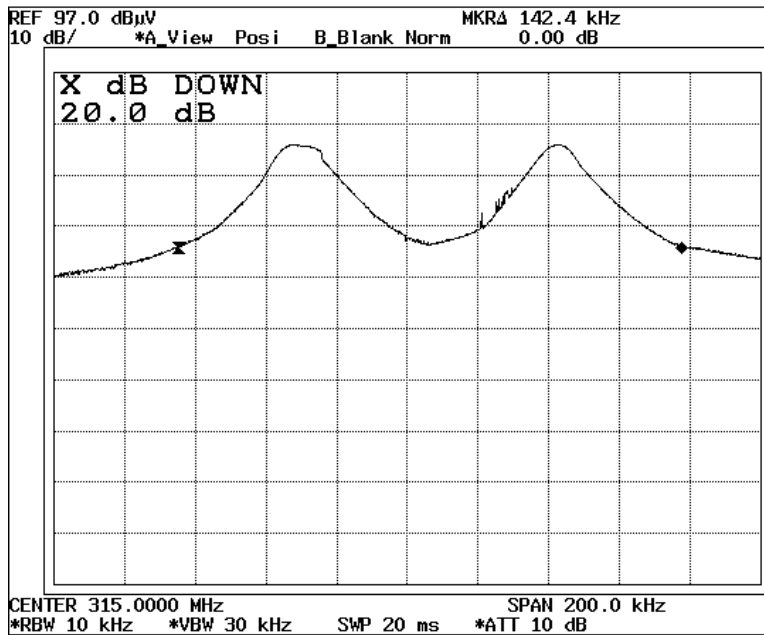
COMPANY : OMRON CORPORATION
 EQUIPMENT : FOB
 MODEL : G8D-640M-KEY-N
 S/N : KK0004
 POWER : DC 3.0V
 Mode : Transmitting

REPORT NO : 26GE0265-HO
 REGULATION : Fcc Part15 Subpart C 231(c)
 TEST DISTANCE : 3m
 DATE : 4/26/2006
 TEMPERATURE : 21 deg.C.
 HUMIDITY : 36 %

ENGINEER : Hiroka Umeyama

Bandwidth Limit : Fundamental Frequency 315.04 MHz X 0.25% = 787.6 kHz

-20dB Bandwidth	Bandwidth Limit	Result	Margin
[kHz]	[kHz]		[kHz]
142.40	787.60	Pass	645.20



Automatically deactivate

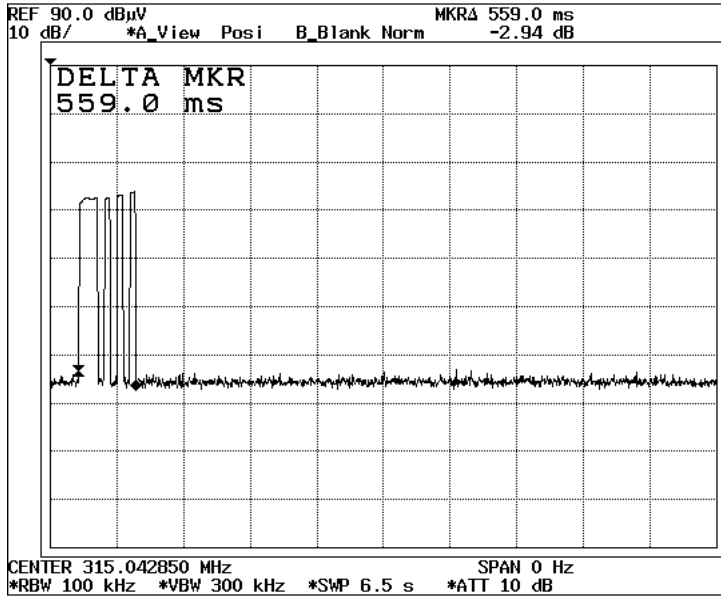
UL Apex Co., Ltd.
 Head Office EMC Lab. No.3 Semi Anechoic Chamber

COMPANY : OMRON CORPORATION
 EQUIPMENT : FOB
 MODEL : G8D-640M-KEY-N
 S/N : KK0001
 POWER : DC 3.0V
 Mode : Transmitting

REPORT NO : 26GE0265-HO
 REGULATION : Fcc Part15 Subpart C 231(a)
 TEST DISTANCE: 3m
 DATE : 4/26/2006
 TEMPERATURE : 21 deg.C.
 HUMIDITY : 36 %

ENGINEER : Hiroka Umeyama

Time of Transmitting [sec]	Limit [sec]	Result	Margin [sec]
0.56	5.00	Pass	4.44



99% Occupied Bandwidth

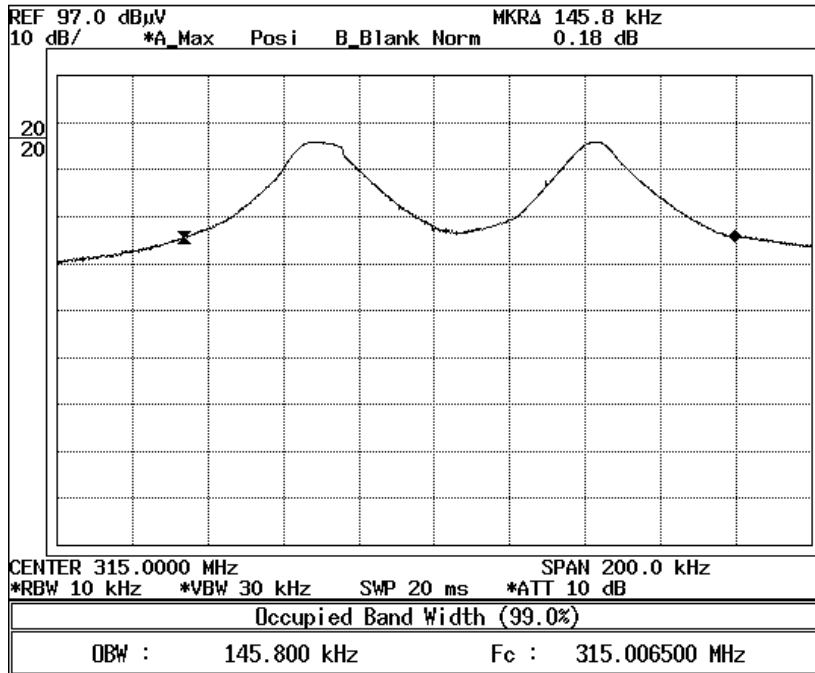
UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Semi Anechoic Chamber

COMPANY : OMRON CORPORATION
EQUIPMENT : FOB
MODEL : G8D-640M-KEY-N
S/N : KK0004
POWER : DC 3.0V
Mode : Transmitting

REPORT NO : 26GE0265-HO
REGULATION : RSS-210 A1.1.3
TEST DISTANCE : 3m
DATE : 4/26/2006
TEMPERATURE : 21 deg.C.
HUMIDITY : 36 %

ENGINEER : Hiroka Umeyama

99% Occupied Bandwidth (RSS-210)



* 99% Occupied Bandwidth : 145.80 kHz

Duty Cycle

UL-Apex Co., Ltd.
 Head Office EMC Lab. No.3 Semi Anechoic Chamber

Company	: OMRON CORPORATION	ReportNo	: 26GE0265-HO
Equipment	: FOB	Regulation	: FCC Part15 Subpart C 15.231(b)/205/209
Model	: G8D-640M-KEY-N	Test Distance	: 3m
S/N	: KK0004	Date	: 4/26/2006
Power	: DC3.0V	Temperature	: 21 deg.C.
Mode	: Transmitting	Humidity	: 36 %
		Engineer	: Hiroka Umeyama

Time of Transmitting [us]	1 cycle time [us]	Duty cycle	Duty Factor [dB]
222.44	414.83	0.54	-5.41

