

Date : October 3, 2002

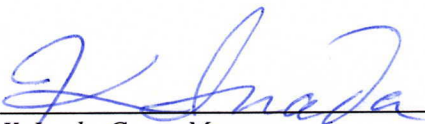
Issued in : Tokyo, Japan

REPORT OF MEASUREMENT OF DIGITAL DEVICE

1. Manufacturer : Toshiba Corporation
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and/or
Toshiba Information Equipment (Philippines), Inc.
103 East Main Avenue Extension, Special Export Processing Zone,
Laguna Technopark, Binan, Laguna, The Philippines
2. Description on device : Personal Computer
a) Category : Class B digital device
b) Trade name : TOSHIBA
c) Model No. : PP350U
d) Power supply : 15 Vdc, 3 A (supplied by AC Adaptor)
3. Date of measurement : September 9, 2002 (completed)
4. Regulation applied : FCC rules and regulations Part 15 Subpart B
Canada ICES-003
5. Measurement procedure : ANSI C63.4-1992
6. Measurement place : Anechoic Chamber No. 1 of Ome Operations, Toshiba Corporation.
(NVLAP Lab Code: 200107-0)
7. Measurement results : The results obtained from the measuring of the above-mentioned device are as shown
in the attached sheets.
Test results in this test report are applicable to the sample tested.
Test results in this test report are traceable to the National/ International Standards.
- I HEREBY CERTIFY THAT : The data shown in this report was made in accordance with the procedures given in
ANSI C63.4-1992 and the energy emitted by the device was found to be within the
applicable limits. This report was made in accordance with NVLAP requirements.

Document No.: OFA-H3355 Rev. A




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Identify NVLAP Signatory

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1. Measurement condition and configuration of EUT

The Personal Computer (EUT) with a memory expansion board was measured as a system consisting of the Equipment Under Test (EUT) and two USB, an External monitor port and a Microphone jack attached to operating Class B certified peripherals as indicated in the 9/18/86 clarification of rules for measuring computing devices (Public Notice) and a PC card slot, a SD card slot, a Compact Flash module slot, a LAN jack, a Modem jack and a Headphone jack attached to appropriate operating peripherals or cables.

During the measuring, all available modes, all cabling and peripheral layouts were arranged to achieve the "WORST" case emissions in accordance with FCC recommended notebook computer system measurement configuration. The measurement data presented is representative of the system measurement.

1.1. The Equipment Under Test (EUT) information

The measurement data in this report was taken under the following EUT.

_____[Product]_____[Manufacturer]_____[Model No.]_____
Personal Computer Toshiba Corporation PP350U

Notes:

The EUT was operated with an AC Adaptor (Model No. PA3241U1ACA) supplied by Toshiba Corporation.

A non-shielded DC output cable assembled with the AC Adaptor.

A non-shielded AC power cable is provided with the EUT.

Please refer to the Table 1 for EUT measurement configurations.

- Table 1, EUT configurations -

Data	Model No (Serial No.) [type of EUT]	Memory module	CPU module	HDD pack	W-LAN (Model)	Bluetooth	Mode
A	PP350U (CS#1) [Engineering Sample]	256 MB	Pentium III 1.33 GHz	20 GB, Toshiba (HDD2184)	Yes (PA3189U)	Yes	Normal
B	PP350U (CS#1) [Engineering Sample]	256 MB	Pentium III 1.33 GHz	20 GB, Toshiba (HDD2184)	Yes (PA3189U)	Yes	Tablet

Notes: Details of alternative units refer to the Table 2.

1.2. Product information

(Model Designation of Personal Computer)

____[Model No.]____	____[CPU]____	____[HDD Capacity]____
PP350*-xxxxx	Mobile Pentium® III- 1.33 GHz ^{*1}	20 GB

Notes:

The “*” is suffix. The “-xxxxx” is not model number.

The difference of suffix of model number is the only keycaps on the keyboard unit.

^{*1}: with SpeedStep™ technology function

(Unit information which constitutes Personal Computer)

This Personal Computer consists of the following units.

* System Board (CPU mounted)	x 1
* DC IN Harness	x 1
* Sound Board	x 1
* Sound Relay Flexible Board	x 1
* Speaker	x 1
* Microphone	x 1
* Microphone Relay Harness	x 1
* Modem Daughter Card	x 1
* Modular Harness	x 1
* LED/FIR Board	x 1
* LED/FIR Relay Flexible Board 1	x 1
* LED/FIR Relay Flexible Board 2	x 1
* Touch Pad Unit	x 1
* Touch Pad Relay Flexible Board	x 1
* Power Switch Board	x 1
* Function Switch Board	x 1
* Keyboard Unit	x 1
* RTC Battery (Ni-MH)	x 1
* CPU Fan Module	x 1
* Main Battery Pack (Li-Ion)	x 1
* Digitizer Unit	x 1
* FL Inverter	x 1
* LCD (provided with FL)	x 1
* LCD and Utility Harness	x 1
* LCD Sensor Switch Board	x 1
* Hard Disk Drive	x 1
* Memory Module: #	x 1
* Wireless LAN Card	x 1
* Dualband Film Antenna for Wireless LAN (RX and TX/RX) or Dualband Film Antenna (Wideband Dual Antenna) for Wireless LAN (RX and TX/RX)	x 2
* Bluetooth Module	x 1
* BT Relay Flexible Board	x 1
* Antenna Board for Bluetooth	x 1
* Modem Modular Cable	x 1
* Stylus Pen	x 1
* AC Adaptor (with AC power cable)	x 1

Note:

#: This unit has alternative units. Information of alternative units refers to the Table 2.

- Table 2, Alternative Units -

Units	Manufacture or Distributor, or other Description (Model No.)			
Memory module	128 MB (PA3085U)	256 MB (PA3086U)	512 MB (PA3108U)	

(Details of units)

Generated frequencies and radio suppression components of all units refer to the Appendix H.

(Photographs)

The units or option refer to the Appendix I.

(Option units)

This Personal Computer has option units as follows.

- * PC133 128 MB Memory Kit
 - Model No. PA3085U (128 MB)
- * PC133 256 MB Memory Kit
 - Model No. PA3086U (256 MB)
- * PC133 512 MB Memory Kit
 - Model No. PA3108U (512 MB)
- * Universal AC Adaptor
 - Model No. PA3241U/E-1ACA or
 - Model No. PA3083U/E-1ACA or
- * Battery Pack
 - Model No. PA3228U
- * Battery Charger
 - Model No. PA3091U/E
- * USB FDD Kit
 - Model No. PA3109U
- * Wireless LAN Card Kit
 - Model No. PA3189U
- * Wireless LAN Card Kit (802.11a/b)
 - Model No. PA3236U
- * Bluetooth Module Kit
 - Model No. PA3235U
- * Stylus
 - Model No. PA3242U
- * DVD-ROM drive
 - Model No. PA3246U/E/A/L

(System Block Diagram)

Please refer to the Appendix F

(Label Information)

Please refer to the Appendix G

1.3. The measurement was carried out with the following equipment connected:

- Table 3, Connecting peripherals -

Equipment No.	Kind of Equipment	Manufacturer or Distributor	Model No. (Serial No.)	FCC ID
1	External Monitor	Eizo Nanao Corp.	FlexScan L371 (61996041)	FCC DoC
2 ^{*1}	USB CD-RW Drive	PLEXTOR	PX-W2410TU (503880 045940)	FCC DoC
3	USB FDD	Toshiba Corp	PA3109U (PC#1)	FCC DoC
4	Headphone	Toshiba Corp.	HR-SP1-W (PC#1)	N/A
5	Microphone	Foster Electric	M336E01T1711 (PC#1)	N/A
6	PC Card HDD	Calluna	CT260T2 (PC#1)	N/A
7	SD Card (64 MB)	Toshiba Corp.	SD-M6401M (PC#1)	N/A
8	Compact Flash card	Canon	FC-4M	N/A
9	Telecom emulator	LSI Japan Co., Ltd.	TLE101-II (408549)	N/A
10 ^{*2}	Other PC for communication	Toshiba Corp.	PT820U (PC) with PA3017U (10/100 Network Port Replicator II)	FCC DoC

Notes:

^{*1}: The USB CD-RW Drive was operated with an AC Adaptor (Model SQ36W12P-03) supplied by PLEXTOR.

^{*2}: The other PC for communication was operated with an AC Adaptor (Model PA3048U-1ACA) supplied by Toshiba Corp.

1.4. Information of installed or connected peripherals

- Table 4, Connecting information for peripherals and interface cables -

Connector name of EUT	Peripherals (Equipment No. * ¹)	Interface cable information		
		Cable type	Connector type	Length [m]
		Supply method		
External Monitor port * ²	1	Shielded	Metallic	1.7
		Provided with External Monitor		
USB port 1	2	Shielded	Metallic	1.0
		General USB cable		
USB port 2	3	Shielded	Metallic	0.15
		Assembled with USB FDD		
Headphone jack	4	Non-shielded	N/A	1.0
		Assembled with Headphone		
Microphone jack	5	Shielded	N/A	1.0
		Assembled with Microphone		
PC Card slot	6	N/A	N/A	Installed
SD card slot	7	N/A	N/A	Installed
Compact Flash module slot	8	N/A	N/A	Installed
Modem jack	9	Non-shielded	Plastic	2.0
		Provided with EUT		
LAN jack	10	Non-shielded	Plastic	2.0
		General LAN cable		

Notes:

*¹ The Equipment numbers refers to the Table 3.

*² The ferrite core that is attached to the interface cable by the manufacturer of the external monitor was removed prior to testing to determine its effect on the EUT emissions.

1.5. Operating conditions

(CPU clock speeds)

The EUT has two kinds of processing speed, however the CPU clock speed is not changed, only 1.33 MHz (Intel® Mobile Pentium® III incorporates a math coprocessor and 32 KB cache and used Intel® SpeedStep™ technology). And also input clock speed is not changed only 133 MHz. This SpeedStep™ function of CPU can be switching between two following performance mode based on power source by automatic or easy user-controlled.

- Maximum performance mode:
- Battery optimized performance mode:
 - The best balance between performance and battery life.
 - Up to 46 % reduction in CPU power while maintaining 80 % of the Maximum Performance.

Where the Intel® Mobile Celeron, the user s can choose the following performance speed by keyboard operation.

- Low mode
- High mode

The measurement data in our report represents emissions at Maximum/High performance mode (worst case).

(Display modes and Video modes)

This EUT supports many video modes. The users can choose the video mode by keyboard operation. Please refer to Appendix E (Appendix B of User's Manual for PORTEGE 3500 series). Therefore, the following conditions were checked to maximize emission. EUT was measured with non-interlaced scanning which enables both LCD and external monitor to operate concurrently in the XGA video mode, 1024 X 768 maximum resolutions (worst case).

Our report represents measurement data taken during the worst case EUT operations.

(Wireless LAN and Bluetooth radio output)

The Wireless LAN radio output is not category of FCC Part 15 Subpart B. Therefore, it not operated in this test.

(Operating programs)

The operating programs run following test as multi-task on standard operating system(Microsoft Windows XP Tablet PC Edition).

- | | |
|---|--------------------------------|
| - Int. HDD, USB FDD, USB CD-RW, PC card HDD | : write and read "H". |
| - LCD and Ext. Monitor | : Display "H" (on full screen) |
| - Internal LAN | : link test (100 Mbps) |
| - Internal modem | : link test (56 kbps) |

(Operating environment)

Power Supply (EUT and Peripherals): 120 Vac, 60 Hz

(Measurement set-up)

Please refer to page 29 to 31

- Sketches : Figure 1 to 3
- Photographs : Figure 4 to 7

2. Comment on the measurement

2.1. Measurement methodology

Both conduction and radiation measurement are performed in accordance with the procedures in ANSI 63.4-1992.

2.2. Deviation from standard

None

2.3. Measurement procedure

During the evaluation measurement, all available modes, all cabling and peripheral layouts were arranged to achieve the "WORST" case emissions.

The pre and final measurements were performed under the conditions (mode of operation and configuration) of EUT determined by evaluation measurement.

At least six highest emissions relative to the limits were recorded at the final measurement.

(Conduction measurement)

The investigated frequency range was 450 kHz to 30 MHz.

The pre-measurement was performed by peak detector function to determine the emission characteristics of the EUT. Based on the measurement results of the pre-measurement, the one EUT configuration, cable or wire configuration, and mode of operation that produces the emission that has the highest amplitude relative to the limit is selected for the final measurement by quasi-peak detector function.

The signal output port of the LISN (Model No. KNW341C) for peripherals was terminated with a 50-ohms termination.

(Radiation measurement)

The investigated frequency range was 30 MHz to 7 GHz.

The radiation measurement was performed at the measurement distance of 3 meter.

The pre-measurement was performed by peak detector function to determine the emission characteristics of the EUT. Based on the measurement results of the pre-measurement, the one EUT configuration, cable or wire configuration, and mode of operation that produces the emission that has the highest amplitude relative to the limit is selected for the final measurement by quasi-peak and peak detector functions.

2.4. Measurement place

Both conduction and radiation measurement was performed in the Anechoic Chamber (as follows:).

(Conduction and Radiation measurement)

Conduction: Anechoic Chamber No. 1 / Radiation: Anechoic Chamber No. 1

2.5. Measurement above 1 GHz

During the radiation measurements above 1 GHz, we found that all the data with a peak detector function satisfied the average limit (54 dBuV/m).

2.6. Ambient condition

The ambient conditions at the time the measurement was conducted were as follows:

- Temperature / Relative humidity: Please see [Measurement Results] in this report.

2.7. Uncertainty

Derived from ISO Guide to the Determination of Uncertainties with a Coverage Factor K=2.

- Conduction measurement : ± 2 dB

- Radiation measurement : ± 4 dB

2.8. Reference page of measurement results

Test	Data	Reference page of	
		Final measurement	Pre-measurement
Conduction	A	13	14 and 15
	B	16	17 and 18
Radiation	A	19	20 to 23
	B	24	25 to 28

2.9. Minimum margin to the limits

(Conduction)

Data	Rank	Margin (dB)	Frequency (MHz)	Line selection	Operating frequency
A	1	7.1	0.452	One end & Gnd'd	Un-known
	2	9.4	0.452	Other end & Gnd'd	Un-known
	3	10.6	0.648	One end & Gnd'd	Un-known
	4	11.3	6.144	One end & Gnd'd	Un-known
	5	11.9	6.144	Other end & Gnd'd	Un-known
	6	12.6	5.048	One end & Gnd'd	Un-known
B	1	7.3	6.142	One end & Gnd'd	Un-known
	2	7.5	6.142	Other end & Gnd'd	Un-known
	3	8.3	4.095	Other end & Gnd'd	Un-known
	4	8.5	4.095	One end & Gnd'd	Un-known
	5	10.0	6.567	One end & Gnd'd	Un-known
	6	10.2	2.049	Other end & Gnd'd	Un-known

(Radiation)

Data	Rank	Margin (dB)	Frequency (MHz)	Polarization	Operating frequency
A	1	2.1	501.14	Vertical	Un-known
	2	4.2	934.18	Vertical	Un-known
	3	4.6	66.34	Horizontal	Un-known
	4	4.9	960.00	Vertical	Un-known
	5	5.2	55.29	Vertical	Un-known
	6	5.8	247.19	Horizontal	Un-known
B	1	2.0	501.14	Vertical	Un-known
	2	3.4	246.00	Horizontal	Un-known
	3	4.3	73.72	Horizontal	Un-known
	4	4.5	934.17	Vertical	Un-known
	5	6.0	934.17	Horizontal	Un-known
	6	6.7	55.34	Vertical	Un-known

2.10. Sample of calculation

(Conduction Measurement)

The emission level on page 13 to 18 in the measurement data includes the following system factor.

- Final measurement and Pre-measurement

- * System Factor (includes the LISN factor and system loss) : Appendix A
150 kHz - 30 MHz : Maximum factor is 2.1 [dB]

- Example

Sample of calculation at 0.452 MHz- One end & Gnd'd [Data A]:

$$\begin{array}{rcccl} \text{Receiver reading} & & \text{System Factor} & & \text{Emission level} \\ 38.7 & + & 2.1 & = & 40.8 \text{ [dB}\mu\text{V]} \# \end{array}$$

#: Refer to page 13.

(Radiation measurement)

The emission level on page 19 to 28 in the measurement data includes the following system factors.

- Final measurement

- * System loss (includes the cable loss and/ or selector loss and / or Amplifier) : Appendix B
30 MHz - 18 GHz
- * Antenna factor for:
 - Tunable dipole antenna : Appendix C
30 MHz -500 MHz (Dipole Antenna: KBA-511A)
500 MHz - 1 GHz (Dipole Antenna: KBA-611)
 - Broadband antenna : Appendix D
1 GHz - 18 GHz (Double Ridged Waveguide Horn Antenna: 3115)

- Example

Sample of calculation at 47.12 MHz- Vertical [Data A]:

$$\begin{array}{rcccl} \text{Receiver reading} & & \text{System loss + Antenna factor} & & \text{Emission level} \\ 29.3 & + & 3.4 & = & 32.7 \text{ [dB}\mu\text{V/m]} \#\# \end{array}$$

##: Refer to page 19.

- Pre-measurement

- * System loss (includes the cable loss and/or selector loss and/or Amplifier) : Appendix B
30 MHz - 18 GHz
- * Antenna factor for broadband antenna : Appendix D
30 MHz - 1 GHz (BILOG Antenna: CBL6111A)
1 GHz - 18 GHz (Double Ridged Waveguide Horn Antenna: 3115)

- Example

Sample of calculation at 31.2 MHz- Vertical [Data A]:

$$\begin{array}{rcccl} \text{Receiver reading} & & \text{System loss} & & \text{Antenna factor} & & \text{Emission level} \\ 13.1 & + & 1.0 & + & 19.8 & = & 33.9 \text{ [dB}\mu\text{V/m]} \#\#\# \end{array}$$

###: Refer to page 20.

[Measurement results]

(Conduction)

[Final measurement result]

Measurement Results for Conduction Measurement

EUT Name : PORTEGE 3500
Type : PP350U
Serial No. : #1
Memo : Normal Mode
Data No. : A
Limit : FCC Part 15 Class B

Frequency [MHz]	Receiver Reading [dBuV]				Sys. Fact. [dB]	Emission Level [dBuV]				Limit [dBuV]		Margin [dB]			
	Va		Vb			Va		Vb				Va		Vb	
	QP	AV	QP	AV		QP	AV	QP	AV	QP	AV	QP	AV	QP	AV
#	0.452	38.7		36.4	2.1	40.8		38.5		47.9		7.1		9.4	
	0.648	35.2		32.6	2.1	37.3		34.7		47.9		10.6		13.2	
	2.003			25.6	2.1			27.7		47.9				20.2	
	2.050	31.9			2.1	34.0				47.9		13.9			
	4.859			31.4	2.1			33.5		47.9				14.4	
	5.048	33.2			2.1	35.3				47.9		12.6			
	6.144	34.5		33.9	2.1	36.6		36.0		47.9		11.3		11.9	
	18.773	28.6		29.0	2.1	30.7		31.1		47.9		17.2		16.8	

Note : 1) The emission level is including the system factor (maximum factor) that consists of LISN (or AMN) factor and system loss.

2) Sample of calculation at 0.452 MHz (QP,Va):

$$38.7 + 2.1 = 40.8 \text{ [dBuV]}$$

Comments : AC Adaptor: PA3083U-1ACA

Place : Anechoic Chamber No. 1
Date : September 9, 2002

Operator : 
Y. Abe, Engineer
Toshiba Digital Media Engineering Corp.

Ver. 4.1c

[Pre-measurement result (pick-up list)]

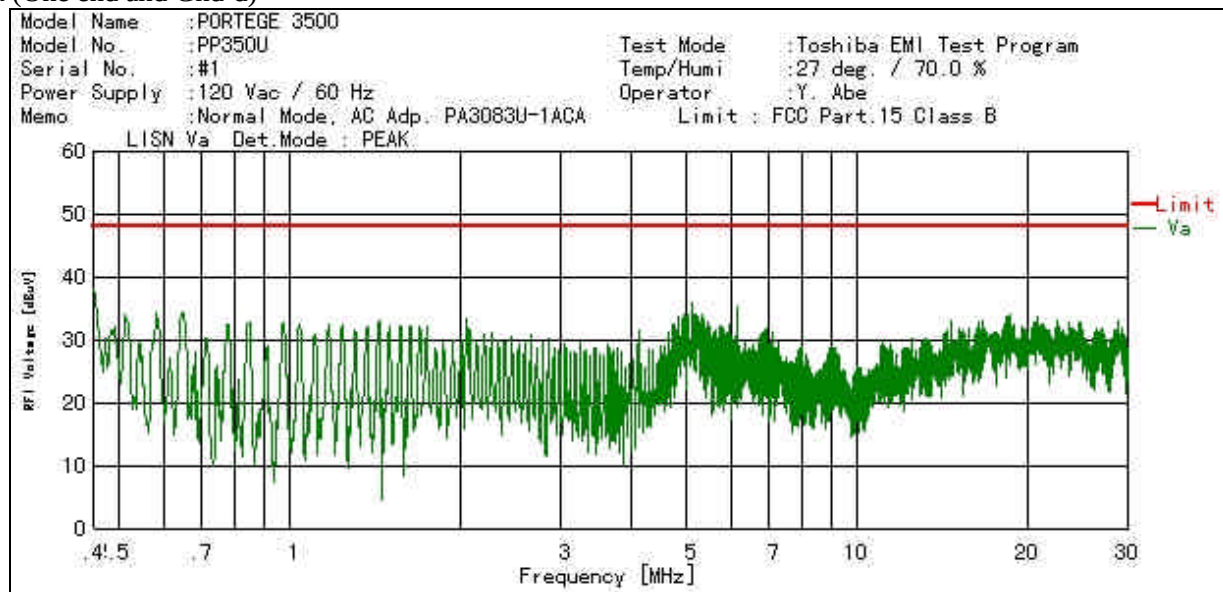
Logo : TOSHIBA OME OPERATIONS Site No. 1
 Title : Conduction Measurement
 Model Name : PORTEGE 3500
 Model No. : PP350U
 Serial No. : #1
 Power Supply : 120 Vac / 60 Hz
 Test Mode : Toshiba EMI Test Program
 Temp/Humi : 27 deg. / 70.0 %
 Operator : Y. Abe
 Memo : Normal Mode, AC Adaptor PA3083U-1ACA
 Limit1 : FCC Part 15 Blass B
 Limit2 :
 Date : 09/09/2002

<< Peak List-Up Data List >>

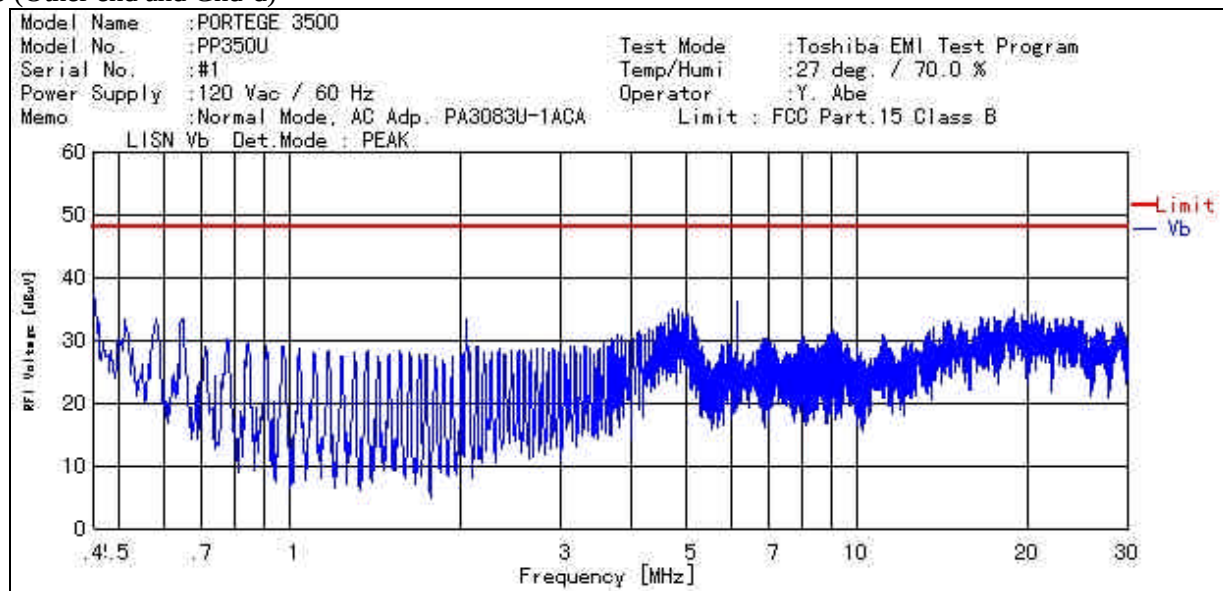
Freq.	Level	Limit	Margin
[MHz]	[dBuV]	QP [dBuV]	QP [dB]
0.450 Va	38.1	48.0	9.9
0.513 Va	34.1	48.0	13.9
0.582 Va	34.4	48.0	13.6
0.648 Va	34.5	48.0	13.5
1.435 Va	33.1	48.0	14.9
2.047 Va	33.5	48.0	14.5
4.841 Va	33.6	48.0	14.4
4.911 Va	33.5	48.0	14.5
4.972 Va	34.0	48.0	14.0
5.043 Va	34.1	48.0	13.9
5.113 Va	35.8	48.0	12.2
5.182 Va	34.1	48.0	13.9
5.244 Va	33.9	48.0	14.1
5.305 Va	34.0	48.0	14.0
5.366 Va	33.4	48.0	14.6
6.154 Va	35.4	48.0	12.6
18.264 Va	33.8	48.0	14.2
18.459 Va	33.7	48.0	14.3
18.638 Va	34.1	48.0	13.9
20.799 Va	33.8	48.0	14.2
0.450 Vb	37.3	48.0	10.7
4.649 Vb	34.3	48.0	13.7
4.719 Vb	34.9	48.0	13.1
4.780 Vb	34.2	48.0	13.8
4.841 Vb	35.0	48.0	13.0
4.911 Vb	34.4	48.0	13.6
4.981 Vb	33.9	48.0	14.1
5.043 Vb	34.1	48.0	13.9
5.113 Vb	33.8	48.0	14.2
6.154 Vb	36.2	48.0	11.8
16.469 Vb	33.8	48.0	14.2
17.445 Vb	33.8	48.0	14.2
18.767 Vb	33.7	48.0	14.3
18.881 Vb	34.9	48.0	13.1
19.564 Vb	34.1	48.0	13.9
20.003 Vb	34.1	48.0	13.9
20.263 Vb	34.1	48.0	13.9
20.669 Vb	34.3	48.0	13.7
21.221 Vb	33.7	48.0	14.3
23.854 Vb	33.6	48.0	14.4

[Pre-measurement result (spectrum graph)]

- Va (One end and Gnd'd)



- Vb (Other end and Gnd'd)



Measurement Results for Conduction Measurement

EUT Name : PORTEGE 3500
 Type : PP350U
 Serial No. : #2
 Memo : Tablet mode
 Data No. : B
 Limit : FCC Part 15 Class B

Frequency [MHz]	Receiver Reading [dBUV]				Sys. Fact. [dB]	Emission Level [dBUV]				Limit [dBUV]		Margin [dB]			
	Va		Vb			Va		Vb				Va		Vb	
	QP	AV	QP	AV		QP	AV	QP	AV	QP	AV	QP	AV	QP	AV
2.049	35.5		35.6		2.1	37.6		37.7		47.9		10.3		10.2	
4.095	37.3		37.5		2.1	39.4		39.6		47.9		8.5		8.3	
5.405			33.0		2.1			35.1		47.9				12.8	
5.527	31.7				2.1	33.8				47.9		14.1			
6.142	38.5		38.3		2.1	40.6		40.4		47.9		7.3		7.5	
6.567	35.8				2.1	37.9				47.9		10.0			
6.617			34.0		2.1			36.1		47.9				11.8	
16.458			32.9		2.1			35.0		47.9				12.9	
16.470	33.0				2.1	35.1				47.9		12.8			

Note : 1) The emission level is including the system factor (maximum factor) that consists of LISN (or AMN) factor and system loss.

2) Sample of calculation at 2.049 MHz (QP, Va):
 $35.5 + 2.1 = 37.6 \text{ [dBuV]}$

Comments : AC Adaptor: PA3241U-1ACA

Place : Anechoic Chamber No. 1
 Date : September 9, 2002

Operator : Y. Abe, Engineer
 Toshiba Digital Media Engineering Corp.

Ver. 4.1c

[Pre-measurement result (pick-up list)]

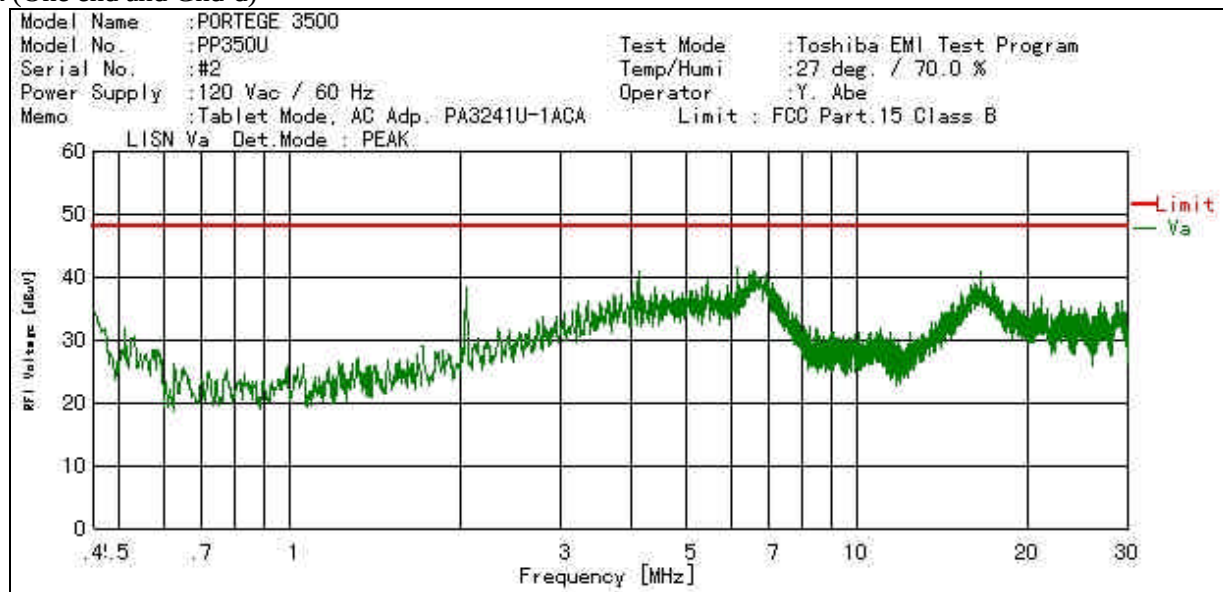
Logo : TOSHIBA OME OPERATIONS Site No. 1
 Title : Conduction Measurement
 Model Name : PORTEGE 3500
 Model No. : PP350U
 Serial No. : #2
 Power Supply : 120 Vac / 60 Hz
 Test Mode : Toshiba EMI Test Program
 Temp/Humi : 27 deg. / 70.0 %
 Operator : Y. Abe
 Memo : Tablet Mode, AC Adaptor PA3241U-1ACA
 Limit1 : FCC Part 15 Blass B
 Limit2 :
 Date : 09/09/2002

<< Peak List-Up Data List >>

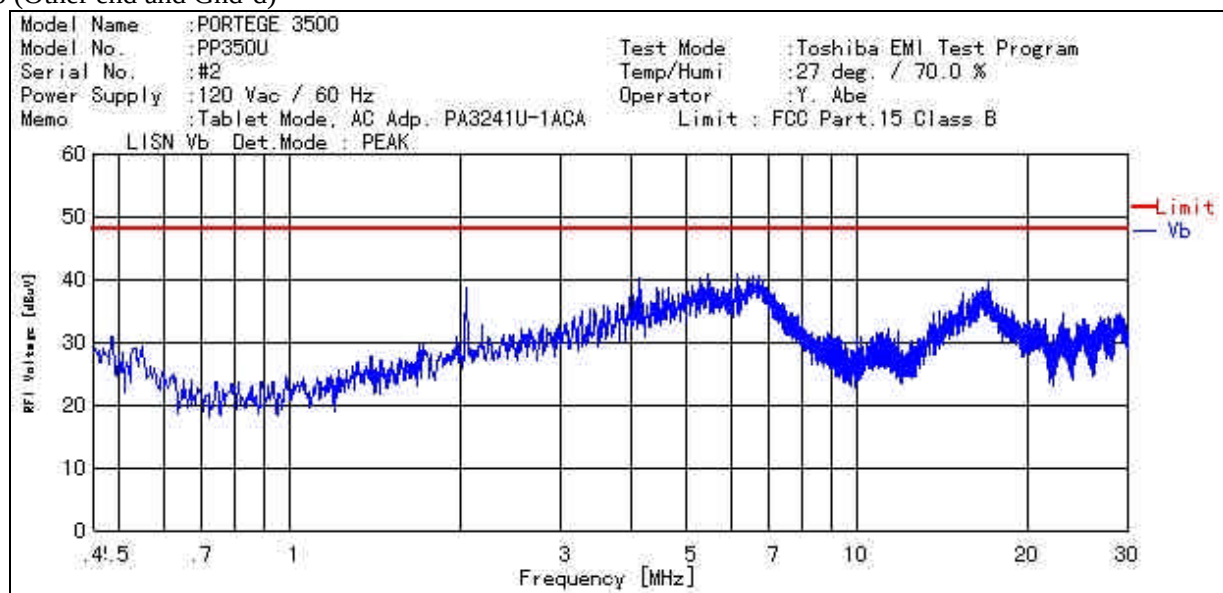
Freq.	Level	Limit	Margin
[MHz]	[dBuV]	QP [dBuV]	QP [dB]
2.040 Va	38.4	48.0	9.6
3.214 Va	35.9	48.0	12.1
3.347 Va	36.2	48.0	11.8
3.641 Va	36.3	48.0	11.7
3.731 Va	37.2	48.0	10.8
4.109 Va	40.9	48.0	7.1
4.409 Va	38.5	48.0	9.5
5.218 Va	37.8	48.0	10.2
5.445 Va	39.7	48.0	8.3
5.900 Va	38.6	48.0	9.4
6.154 Va	41.6	48.0	6.4
6.600 Va	40.9	48.0	7.1
16.538 Va	40.8	48.0	7.2
17.597 Va	36.9	48.0	11.1
18.767 Va	35.9	48.0	12.1
20.490 Va	35.8	48.0	12.2
21.108 Va	37.0	48.0	11.0
22.944 Va	36.4	48.0	11.6
26.835 Va	35.9	48.0	12.1
29.235 Va	36.3	48.0	11.7
2.047 Vb	38.8	48.0	9.2
3.277 Vb	34.9	48.0	13.1
3.375 Vb	35.2	48.0	12.8
3.571 Vb	35.8	48.0	12.2
3.773 Vb	36.1	48.0	11.9
3.836 Vb	36.0	48.0	12.0
4.039 Vb	37.5	48.0	10.5
4.109 Vb	40.4	48.0	7.6
4.172 Vb	38.3	48.0	9.7
4.444 Vb	38.6	48.0	9.4
4.657 Vb	38.7	48.0	9.3
5.113 Vb	39.2	48.0	8.8
5.261 Vb	40.2	48.0	7.8
5.471 Vb	41.0	48.0	7.0
6.154 Vb	41.0	48.0	7.0
6.574 Vb	40.5	48.0	7.5
13.953 Vb	35.0	48.0	13.0
15.410 Vb	37.9	48.0	10.1
17.074 Vb	39.9	48.0	8.1
17.549 Vb	36.3	48.0	11.7

[Pre-measurement result (spectrum graph)]

- Va (One end and Gnd'd)



- Vb (Other end and Gnd'd)



(Radiation)

[Final measurement result]

Measurement Results for Radiation Measurement

EUT Name : PORTEGE 3500								
Type : PP350U								
Serial No. : #1								
Memo : Normal mode								
Data No. : A								
Limit : FCC Part 15 Class B (3m)								
Frequency [MHz]	Receiver Reading [dBuV/m]		System Factor [dB/m]	Emission Level [dBuV/m]		Limit [dBuV/m]	Margin [dB]	
	Horizontal	Vertical		Horizontal	Vertical		Horizontal	Vertical
## 47.12		29.3	3.4		32.7	40.0		7.3
55.29		29.7	5.1		34.8	40.0		5.2
66.34	28.6		6.8	35.4		40.0	4.6	
73.72	26.5		7.5	34.0		40.0	6.0	
247.19	21.1		19.1	40.2		46.0	5.8	
336.12	13.8		22.3	36.1		46.0	9.9	
501.14	10.8	16.2	27.7	38.5	43.9	46.0	7.5	2.1
547.24		10.6	27.7		38.3	46.0		7.7
934.18	3.5	5.1	36.7	40.2	41.8	46.0	5.8	4.2
960.00		3.6	37.5		41.1	46.0		4.9

Note : 1) The emission level is including the system factor that consists of system loss and Antenna factor
 2) Sample of calculation at 47.12 MHz (Vertical):

$$29.3 + 3.4 = 32.7 \text{ [dBuV/m]}$$

Comments : AC Adaptor: PA3083U-1ACA

Place : Anechoic Chamber No. 1

Date : September 9, 2002

Operator : 
 Y. Abe, Engineer
 Toshiba Digital Media Engineering Corp.

Ver. 4.1c

[Pre-measurement result (pick-up list)]

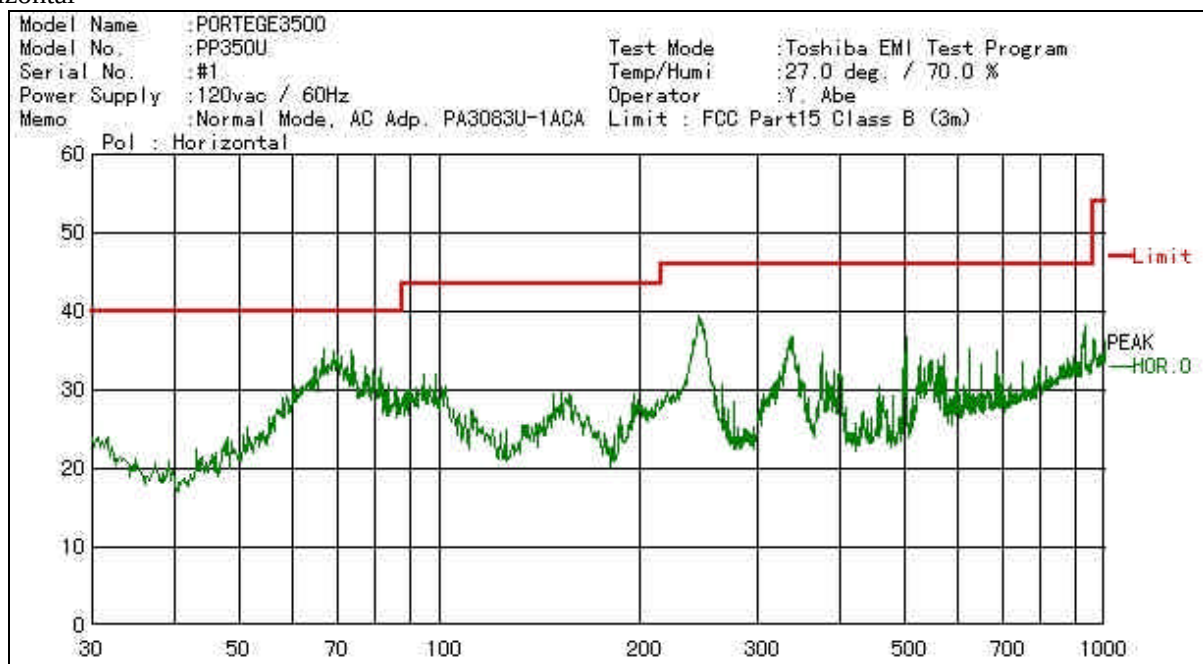
for 30 MHz – 1000 MHz

Logo : TOSHIBA OME OPERATIONS Site No. 1
 Title : Radiation Measurement
 Model Name : PORTEGE 3500
 Model No. : PP350U
 Serial No. : #1
 Power Supply : 120 Vac / 60 Hz
 Test Mode : Toshiba EMI test program
 Temp/Humi : 27.0 deg. / 70.0 %
 Operator : Y. Abe
 Memo : Normal Mode, AC Adaptor: PA3083U-1ACA
 Limit1 : FCC Part 15, Class B (3m)
 Limit2 :
 Date : 09/09/2002

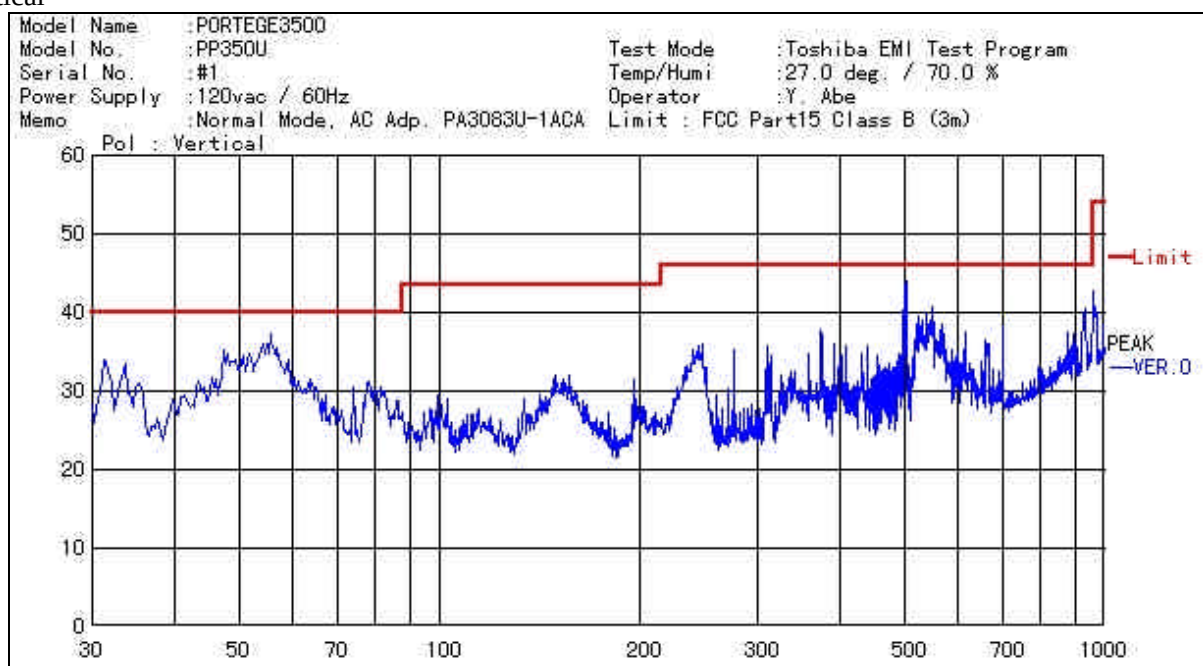
<< Peak List-Up Data List >>

###	Freq. [MHz]	H/V	Level [dBuV/m]	Limit [dBuV/m]	Margin [dB]
	31.200	V	33.9	40.0	6.1
	33.600	V	33.5	40.0	6.5
	35.400	V	30.9	40.0	9.1
	55.500	V	37.2	40.0	2.8
	59.700	V	32.5	40.0	7.5
	66.925	H	35.2	40.0	4.8
	67.200	V	29.4	40.0	10.6
	74.100	V	30.6	40.0	9.4
	77.250	H	32.9	40.0	7.1
	78.300	V	31.3	40.0	8.7
	245.000	H	39.5	46.0	6.5
	248.625	V	36.0	46.0	10.0
	309.750	V	35.8	46.0	10.2
	339.750	H	36.8	46.0	9.2
	374.250	V	37.8	46.0	8.2
	391.500	V	35.9	46.0	10.1
	407.250	V	35.8	46.0	10.2
	439.500	V	35.8	46.0	10.2
	498.000	V	40.2	46.0	5.8
	501.750	H	36.8	46.0	9.2
	501.750	V	44.1	46.0	1.9
	550.500	V	40.7	46.0	5.3
	570.000	V	38.6	46.0	7.4
	616.000	V	37.6	46.0	8.4
	662.000	V	36.6	46.0	9.4
	702.000	V	38.2	46.0	7.8
	881.000	V	37.5	46.0	8.5
	898.000	V	37.2	46.0	8.8
	934.000	H	38.3	46.0	7.7
	935.000	V	40.6	46.0	5.4

[Pre-measurement result (spectrum graph)]
for 30 MHz – 1000 MHz
-Horizontal



-Vertical



[Pre-measurement result (pick-up list)]

for 1 GHz – 7 GHz

Logo : TOSHIBA OME OPERATIONS Site No. 1
 Title : Radiation Measurement
 Model Name : PORTEGE 3500
 Model No. : PP350U
 Serial No. : #1
 Power Supply : 120 Vac / 60 Hz
 Test Mode : Toshiba EMI test program
 Temp/Humi : 27.0 deg. / 70.0 %
 Operator : Y. Abe
 Memo : Normal Mode, AC Adaptor: PA3083U-1ACA
 Limit1 : FCC Part 15, Class B (3m): Peak
 Limit2 : FCC Part 15, Class B (3m): Average
 Date : 09/09/2002

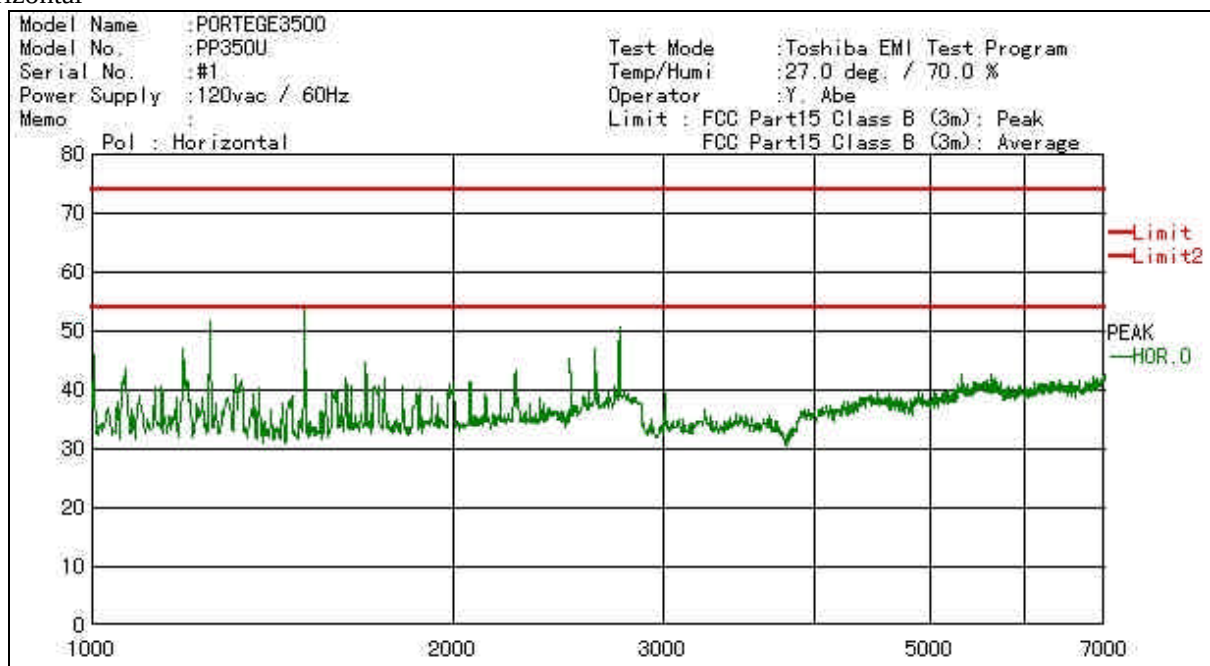
<< Peak List-Up Data List >>

Freq. [MHz]	H/V	Level [dBuV/m]	Limit [dBuV/m]	Margin [dB]
1002.500	H	45.9	74.0	28.1
1002.500	V	49.2	74.0	24.8
1062.500	V	46.6	74.0	27.4
1065.000	H	43.6	74.0	30.4
1190.000	H	46.9	74.0	27.1
1197.500	V	45.0	74.0	29.0
1252.500	H	51.7	74.0	22.3
1252.500	V	51.6	74.0	22.4
1322.500	V	48.4	74.0	25.6
1502.500	H	53.5	74.0	20.5
1502.500	V	55.2	74.0	18.8
1602.500	V	44.6	74.0	29.4
1690.000	H	44.5	74.0	29.5
1692.500	V	43.1	74.0	30.9
1752.500	V	44.2	74.0	29.8
1982.500	V	43.7	74.0	30.3
2255.000	H	43.4	74.0	30.6
2255.000	V	42.6	74.0	31.4
2504.167	H	45.2	74.0	28.8
2629.177	H	46.9	74.0	27.1
2754.187	H	50.5	74.0	23.5
2754.187	V	44.7	74.0	29.3

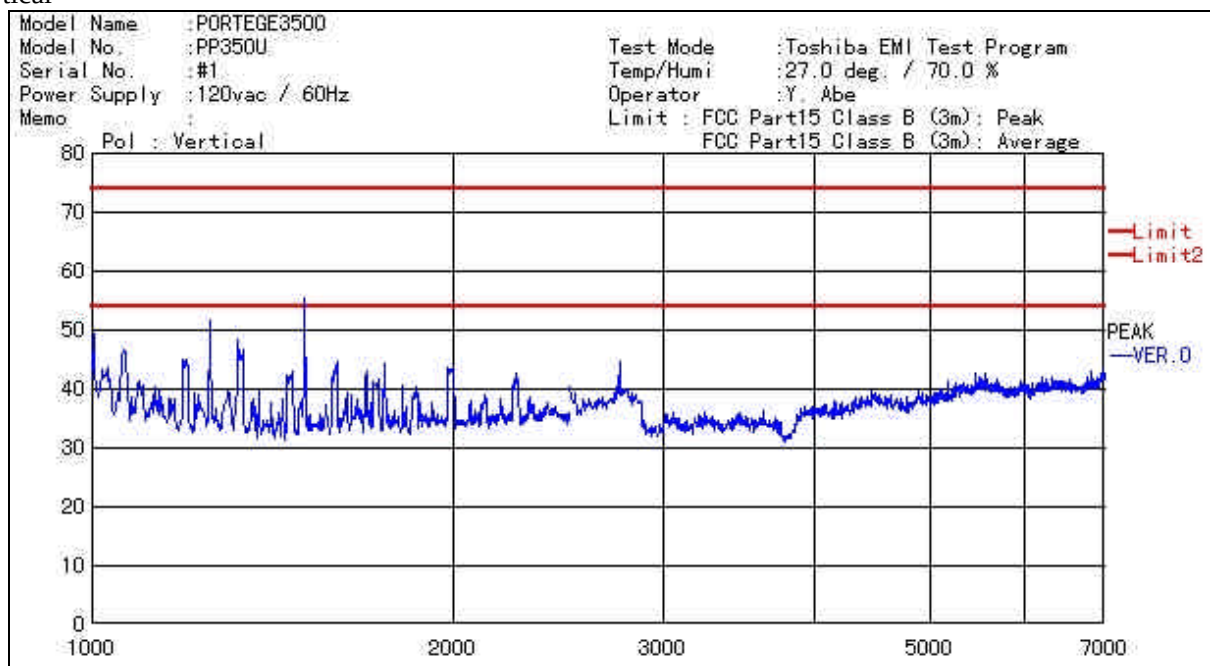
[Pre-measurement result (spectrum graph)]

for 1 GHz – 7 GHz

- Horizontal



- Vertical



Measurement Results for Radiation Measurement

EUT Name : PORTEGE 3500
 Type : PP350U
 Serial No. : #2
 Memo : Tablet mode
 Data No. : B
 Limit : FCC Part 15 Class B (3m)

Frequency [MHz]	Receiver Reading [dBuV/m]		System Factor [dB/m]	Emission Level [dBuV/m]		Limit [dBuV/m]	Margin [dB]	
	Horizontal	Vertical		Horizontal	Vertical		Horizontal	Vertical
31.16		25.6	-0.5		25.1	40.0		14.9
55.34		28.2	5.1		33.3	40.0		6.7
73.72	28.2		7.5	35.7		40.0	4.3	
246.00	23.5	16.8	19.1	42.6	35.9	46.0	3.4	10.1
336.55	14.1		22.3	36.4		46.0	9.6	
501.14	9.2	16.3	27.7	36.9	44.0	46.0	9.1	2.0
539.56		10.5	27.7		38.2	46.0		7.8
625.02	9.4		29.6	39.0		46.0	7.0	
934.17	3.3	4.8	36.7	40.0	41.5	46.0	6.0	4.5

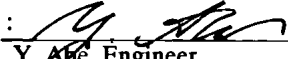
Note : 1) The emission level is including the system factor that consists of system loss and Antenna facto
 2) Sample of calculation at 31.16 MHz (Vertical):

$$25.6 + (-0.5) = 25.1 \text{ [dBuV/m]}$$

Comments : PA3241U-1ACA

Place : Anechoic Chamber No. 1

Date : September 9, 2002

Operator : 
 Y. Abe, Engineer
 Toshiba Digital Media Engineering Corp.

Ver. 4.1c

[Pre-measurement result (pick-up list)]

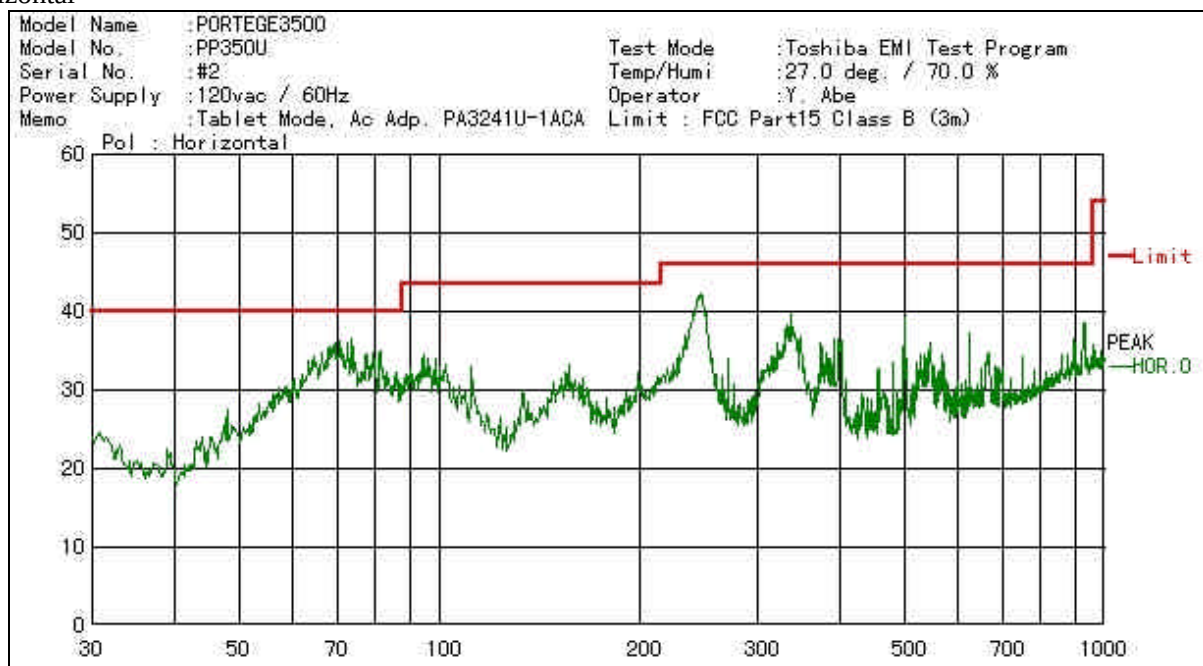
for 30 MHz – 1000 MHz

Logo : TOSHIBA OME OPERATIONS Site No. 1
 Title : Radiation Measurement
 Model Name : PORTEGE 3500
 Model No. : PP350U
 Serial No. : #2
 Power Supply : 120 Vac / 60 Hz
 Test Mode : Toshiba EMI test program
 Temp/Humi : 27.0 deg. / 70.0 %
 Operator : Y. Abe
 Memo : Tablet Mode, AC Adaptor: PA3241U-1ACA
 Limit1 : FCC Part 15, Class B (3m)
 Limit2 :
 Date : 09/09/2002

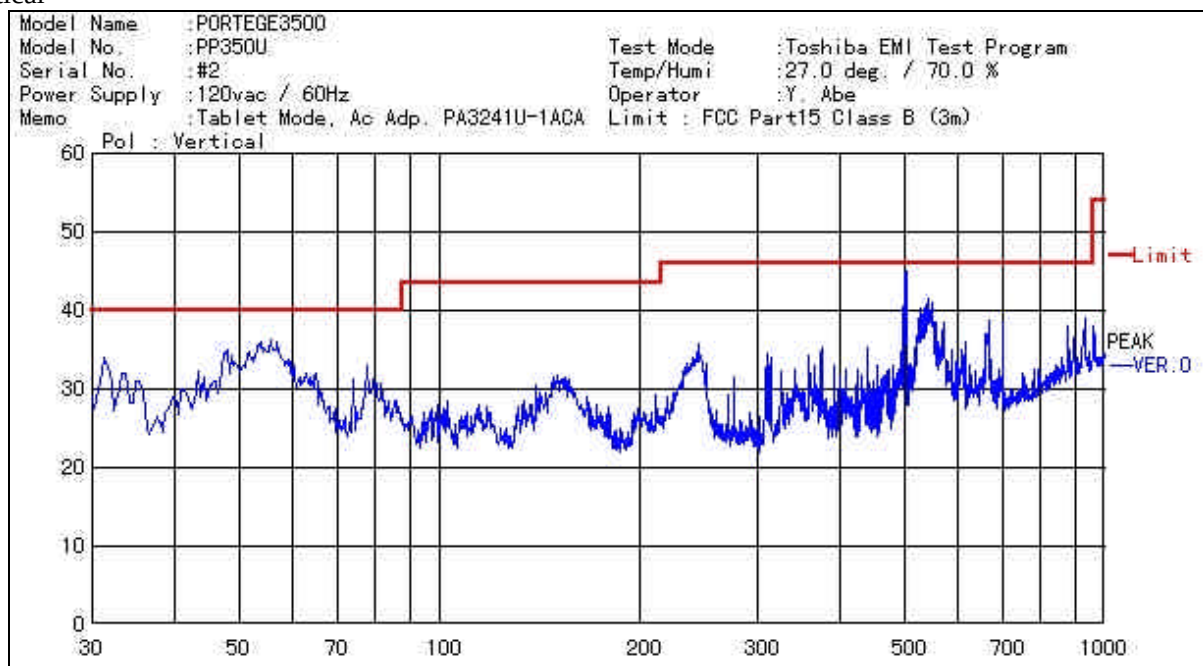
<< Peak List-Up Data List >>

Freq. [MHz]	H/V	Level [dBuV/m]	Limit [dBuV/m]	Margin [dB]
31.200	V	33.9	40.0	6.1
33.300	V	32.0	40.0	8.0
55.500	V	36.3	40.0	3.7
65.100	V	32.0	40.0	8.0
73.750	H	36.5	40.0	3.5
74.100	V	31.2	40.0	8.8
77.700	V	32.9	40.0	7.1
81.275	H	34.9	40.0	5.1
102.000	H	33.2	43.5	10.3
156.000	H	33.3	43.5	10.2
244.125	V	35.8	46.0	10.2
246.500	H	42.3	46.0	3.7
336.750	H	39.8	46.0	6.2
348.000	H	36.8	46.0	9.2
374.250	H	36.1	46.0	9.9
391.500	H	36.6	46.0	9.4
397.500	H	36.6	46.0	9.4
500.250	H	39.3	46.0	6.7
501.750	V	44.9	46.0	1.1
543.750	V	41.5	46.0	4.5
544.500	H	36.0	46.0	10.0
557.250	V	38.5	46.0	7.5
572.250	V	38.6	46.0	7.4
616.000	V	36.0	46.0	10.0
626.000	H	37.2	46.0	8.8
669.000	V	38.8	46.0	7.2
702.000	V	38.5	46.0	7.5
881.000	V	38.1	46.0	7.9
933.000	V	38.9	46.0	7.1
933.000	H	38.6	46.0	7.4

[Pre-measurement result (spectrum graph)]
for 30 MHz – 1000 MHz
-Horizontal



-Vertical



[Pre-measurement result (pick-up list)]

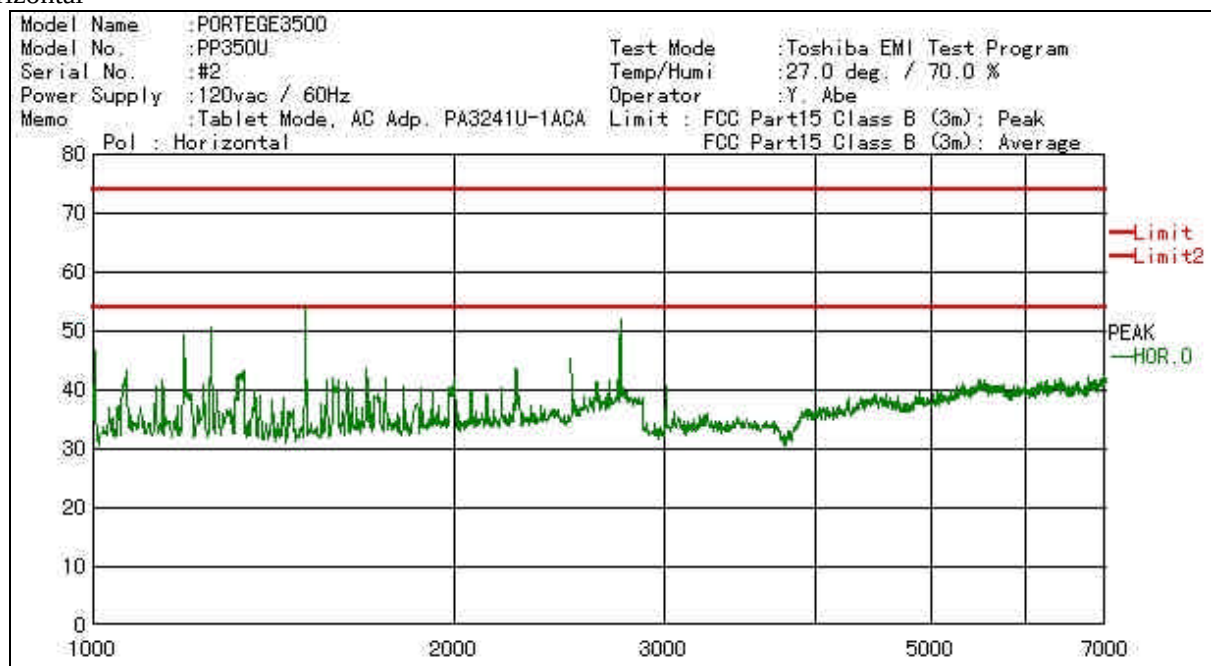
for 1 GHz – 7 GHz

Logo : TOSHIBA OME OPERATIONS Site No. 1
 Title : Radiation Measurement
 Model Name : PORTEGE 3500
 Model No. : PP350U
 Serial No. : #2
 Power Supply : 120 Vac / 60 Hz
 Test Mode : Toshiba EMI test program
 Temp/Humi : 27.0 deg. / 70.0 %
 Operator : Y. Abe
 Memo : Tablet Mode, AC Adaptor: PA3241U-1ACA
 Limit1 : FCC Part 15, Class B (3m): Peak
 Limit2 : FCC Part 15, Class B (3m): Average
 Date : 09/09/2002

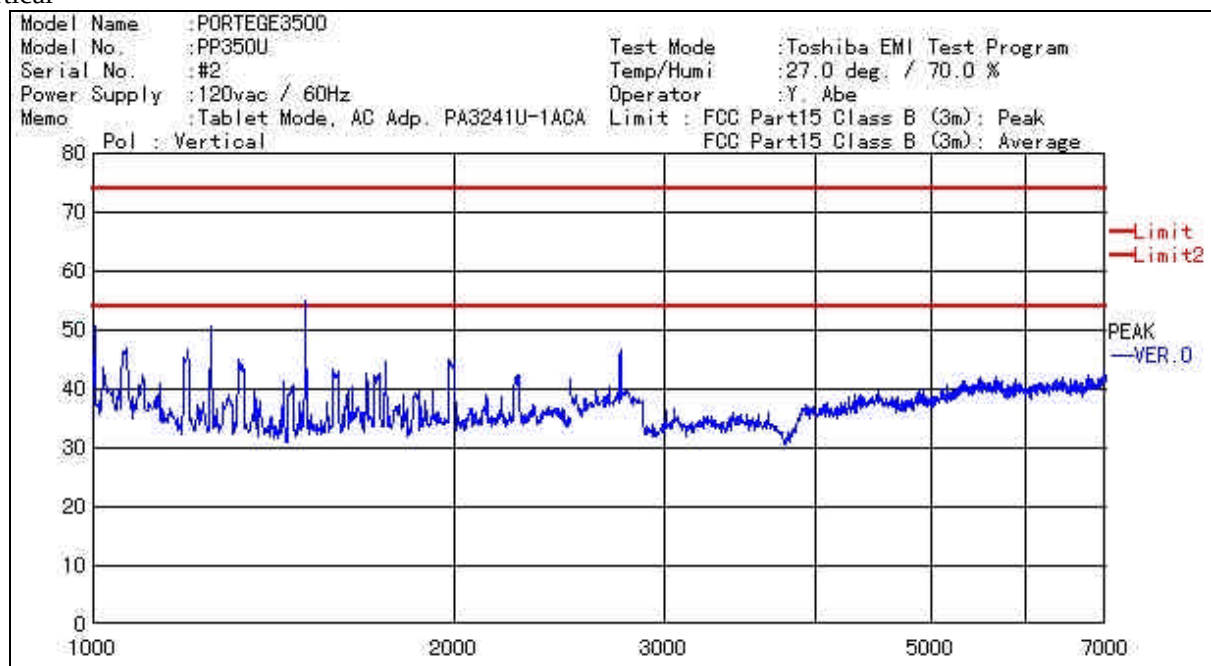
<< Peak List-Up Data List >>

Freq. [MHz]	H/V	Level [dBuV/m]	Limit [dBuV/m]	Margin [dB]
1002.500	H	46.7	74.0	27.3
1002.500	V	50.6	74.0	23.4
1065.000	H	43.2	74.0	30.8
1065.000	V	47.1	74.0	26.9
1190.000	H	49.2	74.0	24.8
1200.000	V	46.5	74.0	27.5
1252.500	H	50.6	74.0	23.4
1252.500	V	50.7	74.0	23.3
1322.500	V	44.9	74.0	29.1
1335.000	H	43.4	74.0	30.6
1502.500	H	53.9	74.0	20.1
1502.500	V	54.9	74.0	19.1
1690.000	H	43.6	74.0	30.4
1752.500	V	44.5	74.0	29.5
1990.000	V	44.6	74.0	29.4
2005.000	H	42.4	74.0	31.6
2252.500	H	43.6	74.0	30.4
2255.000	V	42.2	74.0	31.8
2500.000	H	45.2	74.0	28.8
2500.000	V	41.7	74.0	32.3
2754.187	H	52.0	74.0	22.0
2754.187	V	46.7	74.0	27.3

[Pre-measurement result (spectrum graph)]
for 1 GHz – 7 GHz
- Horizontal



- Vertical



[Measurement setup]

(Sketches)

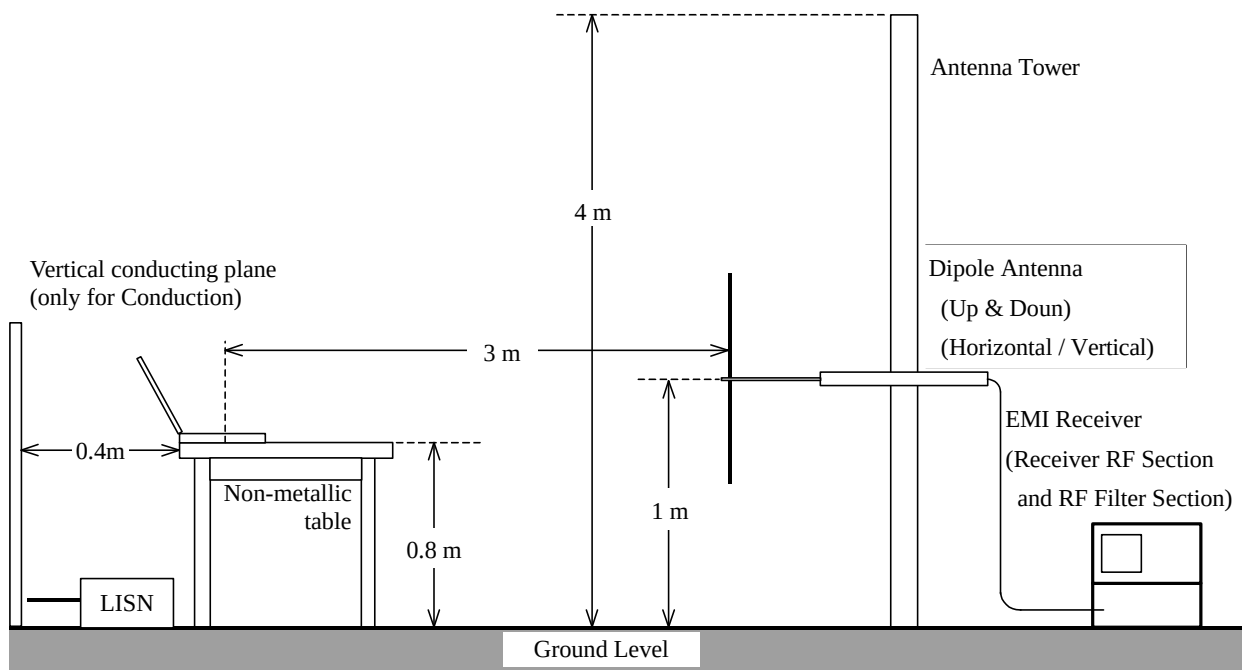
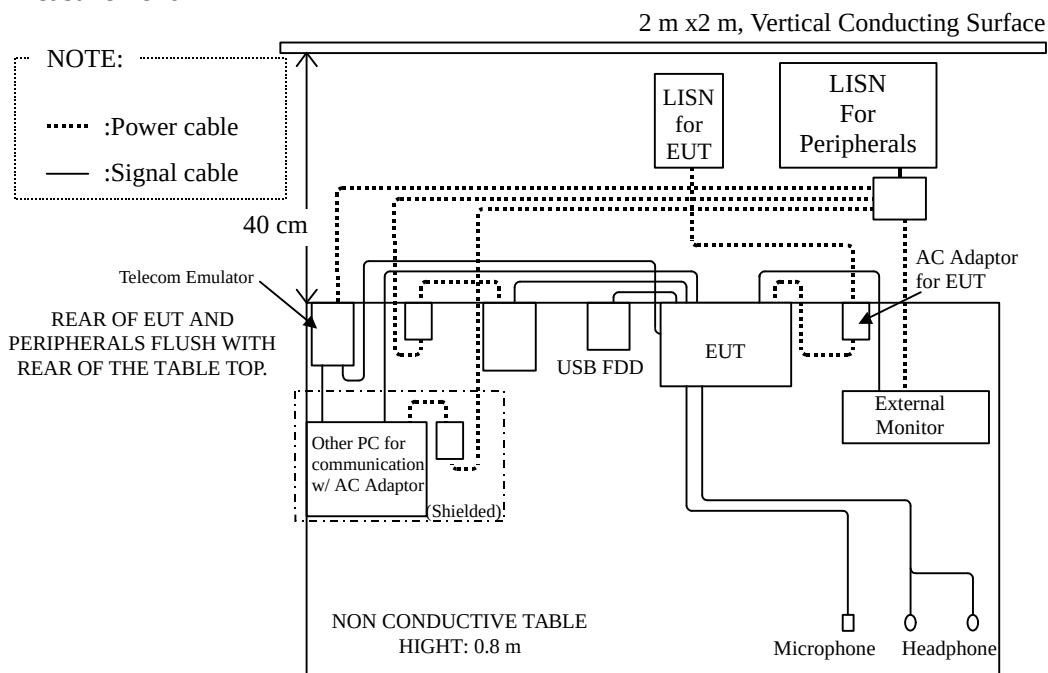


Figure 1, Side View

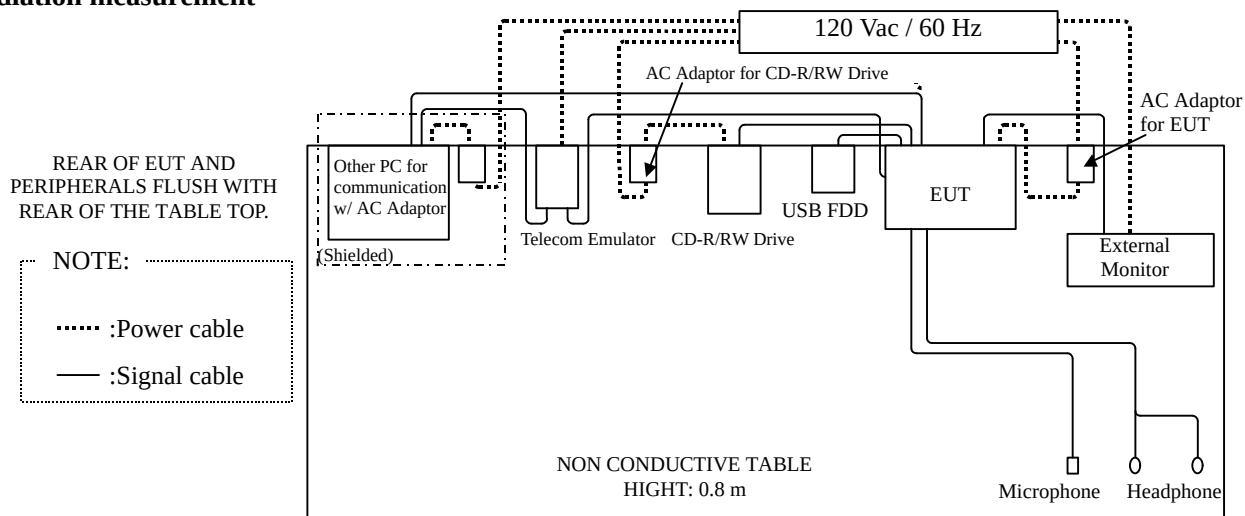
Conduction measurement



FRONT SIDE OF KEYBOARD FLUSH WITH FRONT OF THE TABLE TOP.
 REAR SIDE OF MOUSE AND OTHER OPERATING PERIPHERALS FLUSH WITH REAR OF KEYBOARD.
 THE DISTANCE BETWEEN EQUIPMENTS ARE 0.1 m.

- Figure 2, Top view -

Radiation measurement



FRONT SIDE OF KEYBOARD FLUSH WITH FRONT OF THE TABLE TOP.
 REAR SIDE OF MOUSE AND OTHER OPERATING PERIPHERALS FLUSH WITH REAR OF KEYBOARD.
 THE DISTANCE BETWEEN EQUIPMENTS ARE 0.1 m.

- Figure 3, Top view -

(Photographs)

Conduction Measurement

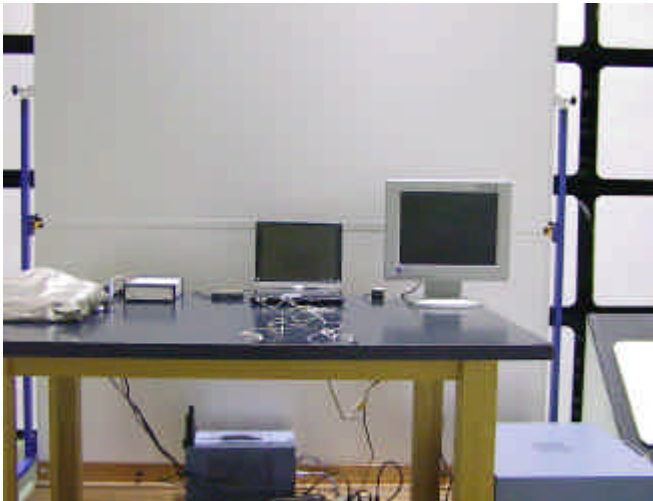


Figure 4, Front View



Figure 5, Rear View

Radiation Measurement



Figure 6, Front View

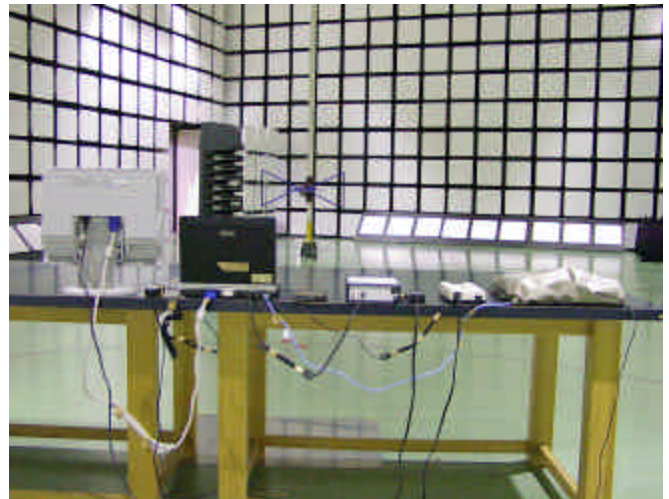


Figure 7, Rear View

[Measurement instrumentation used]

(Conduction)

(for Anechoic Chamber No. 3)

<u>Instrument</u>	<u>Manufacturer</u>	<u>Model No.</u>	<u>Serial No.</u>
* EMI Receiver	Hewlett Packard - Japan, Ltd	8546A	3617A00313
- Receiver RF Section		85462A	3617A00313
- RF Filter Section		85460A	3448A00285
Frequency range	: 9 k - 6.5 GHz		
Detector function	: CISPR Quasi Peak, Peak and Average		
IF bandwidth	: 9 kHz		
Date of last calibration	: May of 2002		
Date of next calibration	: May of 2003		
* Line Impedance Stabilization Network (LISN) (50uH / 50ohm), (for EUT)	Kyoritsu Electrical Works, Ltd.	KNW-407	8-794-7
Date of last calibration	: June of 2002		
Date of next calibration	: June of 2003		
* Line Impedance Stabilization Network (LISN) (50uH / 50ohm), (for peripherals)	Kyoritsu Electrical Works, Ltd.	KNW-341C	8-797-1
Date of last calibration	: May of 2002		
Date of next calibration	: May of 2003		
* System Loss	Toshiba Corp., Ome Operations	TOAC01-001	N/A
- Coaxial Cable	FUJIKURA	30-2W	C001
Date of last calibration	: April of 2002		
Date of next calibration	: April of 2003		

All measurement instruments used for performing these tests were calibrated in accordance with manufacturer recommendations.

All calibrations were current when the tests were performed and all instruments are calibrated at least once a year.

These measurement instruments used for the final measurement and pre-measurement in the Anechoic Chamber No. 1.

(Radiation)
(for Anechoic Chamber No. 1)

<u>Instrument</u>	<u>Manufacturer</u>	<u>Model No.</u>	<u>Serial No.</u>
* EMI Receiver	Hewlett Packard - Japan, Ltd	8546A	3617A00313
- Receiver RF Section		85462A	3617A00313
- RF Filter Section		85460A	3448A00285
Frequency range	: 9 k - 6.5 GHz		
Detector function	: CISPR Quasi Peak, Peak and Average		
IF bandwidth	: 9 kHz		
Date of last calibration	: May of 2002		
Date of next calibration	: May of 2003		
* Dipole antenna	Kyoritsu Electrical Works, Ltd.	KBA-511A	0-201-6
Tuning range	: 25 - 500MHz		
Date of last calibration	: July of 2002		
Date of next calibration	: August of 2002		
* Dipole antenna	Kyoritsu Electrical Works, Ltd.	KBA-611	0-215-1
Tuning range	: 500 - 1000MHz		
Date of last calibration	: July of 2002		
Date of next calibration	: August of 2002		
* BILOG antenna: #	CHASE	CBL6111A	1753
Tuning Range	: 30 - 1000		
Date of last calibration	: December of 2001		
Date of next calibration	: December of 2002		
* Double Redged	EMCO	3115	4695
Waveguide Horn Antenna			
Tuning Range	: 1 - 18 GHz		
Date of last calibration	: January of 2002		
Date of next calibration	: January of 2003		
* System Loss	Tohsiba Corp., Ome Operations	TOAC01-002	N/A
- Coaxial cable (2 cables)	SUHNER	S 04272 B	C016
			and C003
Date of last calibration	: April of 2002		
Date of next calibration	: April of 2003		

All measurement instruments used for performing these tests were calibrated in accordance with manufacturer recommendations.

All calibrations were current when the tests were performed and all instruments are calibrated at least once a year.

These measurement instruments used for the final measurements.

(#: This measurement instruments used only for the pre-measurements.)

* Anechoic Chamber No.1 (NSA measurement)	TDK Corp.	N/A	N/A
Date of last calibration	: April of 2000		
Date of next calibration	: April of 2003		

The Anechoic Chamber is calibrated (NSA measurement) at least once three years, for Registration of Measurement Facility to the FCC or VCCI.

[Appendix]

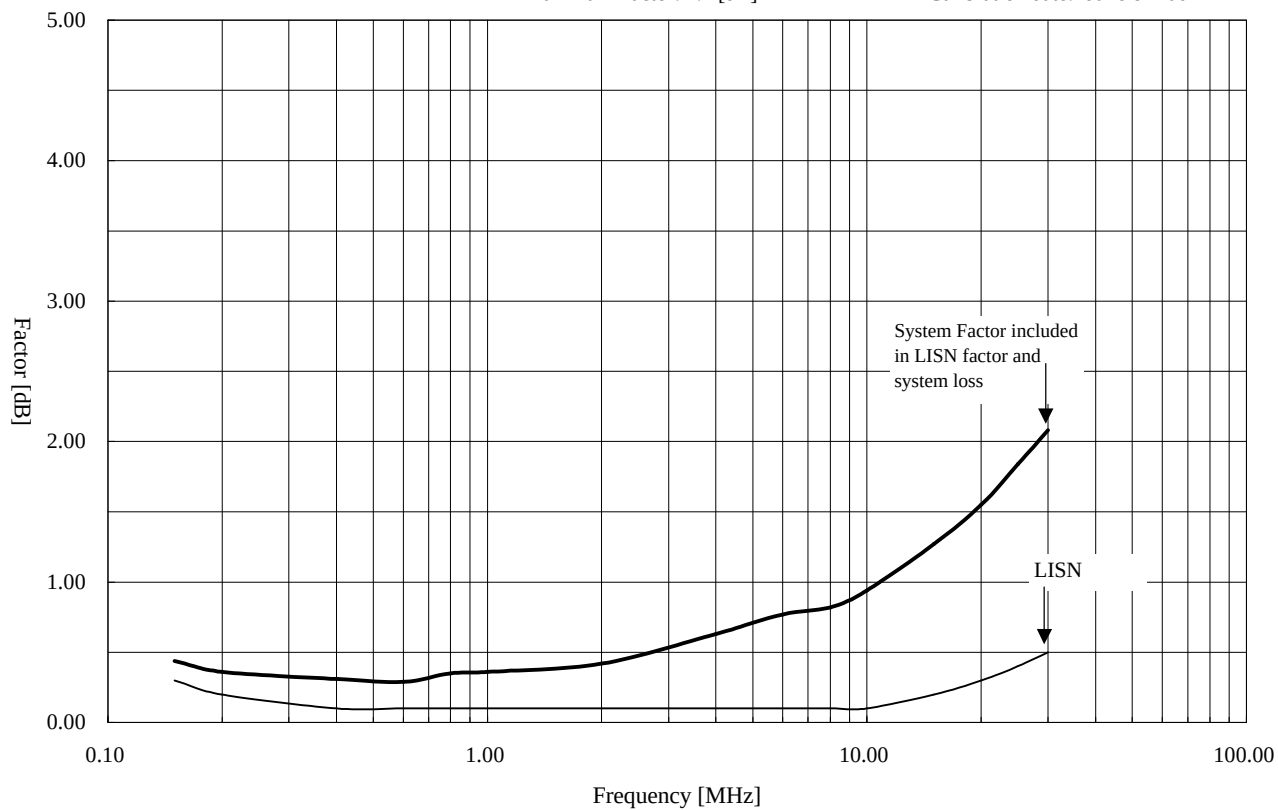
[Appendix A]: System factor (for conduction): 150 kHz - 30 MHz
(for Anechoic Chamber No. 3)

LISN: Model KNW-407

Maximum Factor: 2.1 [dB]

Serial No.: 8-794-7

Calibration date: June of 2002



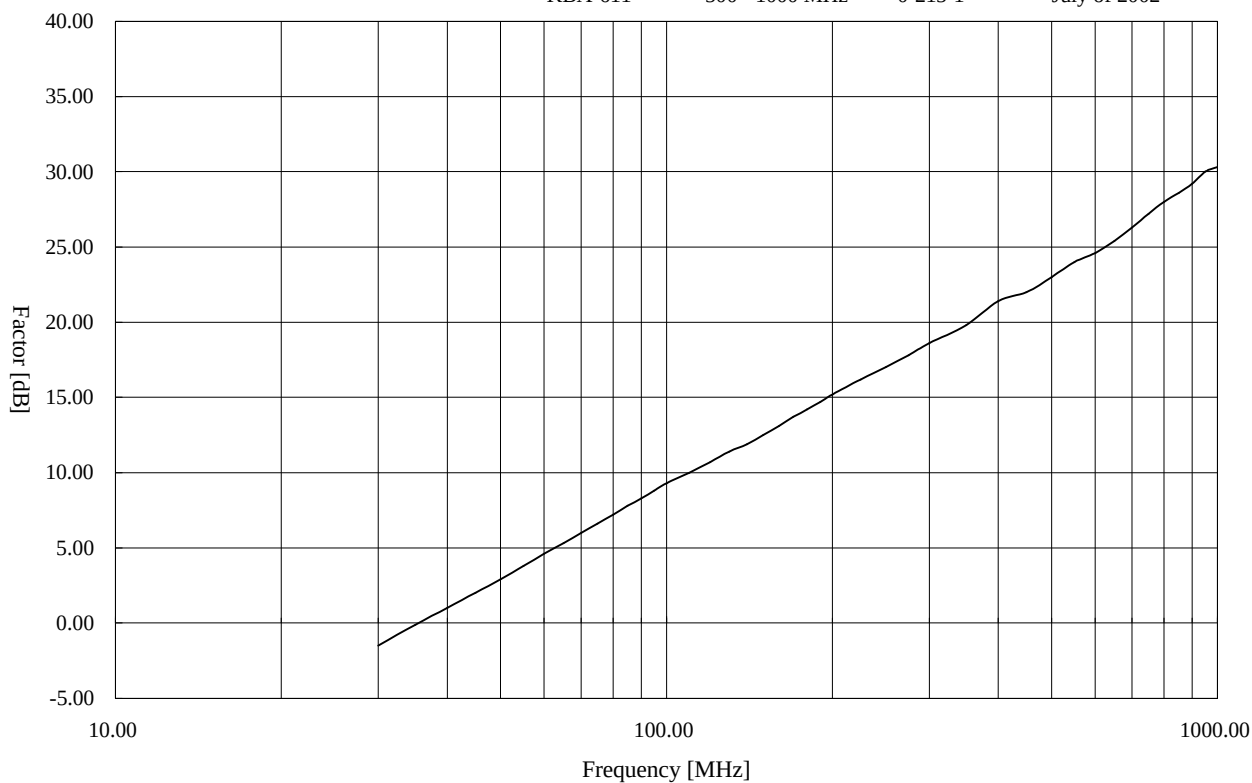
**[Appendix B]: System loss (for radiation): 30 MHz - 18 GHz
(for Anechoic Chamber No. 1)**

Frequency [MHz]	System Loss [dB]	Frequency [MHz]	System Loss [dB]	Frequency [MHz]	System Loss [dB]
30	1.0	130	2.1	400	4.3
35	1.1	140	2.2	450	4.6
40	1.2	150	2.3	500	4.2
45	1.3	160	2.4	550	4.8
50	1.2	170	2.5	600	4.8
55	1.3	180	2.5	650	5.7
60	1.4	190	2.6	700	6.0
70	1.5	200	2.7	750	5.9
80	1.7	225	2.9	800	6.8
90	1.7	250	3.1	850	6.4
100	1.8	275	3.3	900	7.5
110	1.9	300	3.5	950	7.5
120	2.0	350	3.9	1000	7.9

Frequency [MHz]	System Loss [dB]	Frequency [MHz]	System Loss [dB]	Frequency [MHz]	System Loss [dB]
1000	-60.6	7000	-54.7	13000	-55.1
1500	-60.5	7500	-53.3	13500	-56.3
2000	-58.3	8000	-52.7	14000	-57.2
2500	-56.9	8500	-52.4	14500	-58.1
3000	-55.6	9000	-52.1	15000	-58.4
3500	-56.7	9500	-51.5	15500	-58.3
4000	-57.1	10000	-51.2	16000	-57.8
4500	-57.4	10500	-52.3	16500	-56.5
5000	-57.8	11000	-52.5	17000	-54.6
5500	-56.8	11500	-52.9	17500	-52.5
6000	-55.3	12000	-53.8	18000	-52.2
6500	-54.5	12500	-54.3	-----	-----

**[Appendix C]: Antenna factor (for tunable dipole antenna): 30 MHz - 1 GHz
(for Anechoic Chamber No. 1)**

*Model No.:	*Tuning range:	*Serial No.:	*Date of calibration:
KBA-511A	25 - 500 MHz	0-201-6	July of 2002
KBA-611	500 - 1000 MHz	0-215-1	July of 2002



**[Appendix D]: Antenna factor (for broadband antenna): 30 MHz - 18 GHz
(for Anechoic Chamber No. 1)**

BILOG ANTENNA: MODEL CBL6111A

Serial No.: 1753

Date of Calibration: December of 2001

Frequency [MHz]	Antenna Factor[dB]	Frequency [MHz]	Antenna Factor[dB]
30	19.8	240	11.8
40	14.5	250	12.8
50	9.1	260	13.7
60	6.3	270	13.3
70	6.6	280	13.4
80	7.5	290	13.8
90	8.8	300	13.9
100	10.3	350	15.4
110	11.4	400	16.7
120	12.4	450	17.4
130	12.7	500	18.3
140	12.3	550	19.3
150	11.7	600	19.9
160	11.2	650	20.6
170	10.2	700	20.9
180	9.6	750	22.0
190	6.1	800	22.2
200	10.2	850	23.1
210	10.7	900	23.5
220	10.5	950	25.0
230	11.0	1000	25.2

DOUBLE RIDGED WAVEGUIDE HORN ANTENNA: MODEL 3115

Serial No.: 4695

Date of Calibration: January of 2002

Frequency [MHz]	Antenna Factor[dB]	Frequency [MHz]	Antenna Factor[dB]
1000	24.8	10000	38.5
1500	25.7	10500	38.5
2000	27.8	11000	38.9
2500	28.8	11500	39.6
3000	30.6	12000	39.3
3500	31.8	12500	39.2
4000	33.0	13000	40.2
4500	32.8	13500	41.1
5000	33.9	14000	41.9
5500	34.6	14500	41.4
6000	34.9	15000	39.4
6500	35.3	15500	37.6
7000	36.4	16000	38.0
7500	37.2	16500	39.5
8000	37.5	17000	41.5
8500	38.1	17500	45.6
9000	38.2	18000	47.7
9500	38.2		

[Appendix H]: Detail of units

Designation / Kind of unit	Frequencies generated by this unit	Radio interference suppression components used
System Board (CPU Mounted, CPU Clock Speed: 1.33 GHz)	32.768 kHz 4 MHz 14.318 MHz 25 MHz 33 MHz 48 MHz 66 MHz 133 MHz 800 MHz	<u>Chip inductor:</u> L800 TDK Corp. type ACM0908-801-2P-TL rated 50 V, 5 A <u>Common mode coils:</u> FL9, 11, 13 Murata Manufacturing Co., Ltd. type NFM51R20P207 rated 25 V, 200 mA <u>Chip inductor:(Beads)</u> FL15, 16 Taiyo Yuden Co., Ltd type FB M H1608HW470MT rated 100 mA, 47 Ω
DC IN Harness	none	<u>Ferrite cores:</u> Tokin Corp. type ESD-R-10D
Sound Board	12.288MHz 24.576MHz	<u>Common mode coils:</u> FL6500, 6501 TDK Corp. type ACM4532-702-3P-T rated 700 Ω at 100 MHz L6500 TDK Corp. type ACM4532-801-2P-T001 rated 800 Ω at 100 MHz
Sound Relay Flexible Board	none	none
Speaker	none	none
Microphone	none	none

(continued)

Designation / Kind of unit	Frequencies generated by this unit	Radio interference suppression components used
Microphone Relay Harness	none	none
Modem daughter card	24.576 MHz	none
Modular Harness	none	<u>Ferrite cores:</u> URITE Corp. type F5B T9*3*5
LED/FIR Board	none	none
LED/FIR Relay Flexible Board 1	none	none
LED/FIR Relay Flexible Board 2	none	none
Touch Pad Unit	none	none
Touch Pad Relay Flexible Board	none	none
Power Switch Board	none	none
Function Switch Board	none	none
Keyboard Unit	none	none

(continued)

Designation / Kind of unit	Frequencies generated by this unit	Radio interference suppression components used
RTC Battery (Ni-MH)	none	none
CPU FAN Module	none	none
Main Battery Pack (Li-Ion)	none	none
Digitizer Unit	8 MHz	none
FL Inverter	70 kHz	none
LCD (provided with FL) Toshiba Corp., type LTM12C328	500 kHz	<u>EMI filter (Beads):</u> FL100 Sumitomo Metal Industrial type SGM32C1E222-2A rated 25 V, 2 A, 2200 pF
LCD and Utility Harness	none	none
LCD Sensor Switch board	none	none
Hard Disk Drive (20 GB) Toshiba Corp., type HDD2168	40 MHz	none
Memory Module (128, 256, 512 MB)	none	none

(continued)

Designation / Kind of unit	Frequencies generated by this unit	Radio interference suppression components used
Wireless LAN card	none	none
Dualband Film Antenna for Wireless LAN (RX and TX/RX)	none	none
Dualband Film Antenna (Wideband Dual Antenna) for Wireless LAN (RX and TX/RX)	none	none
Bluetooth Module	none	none
BT Relay Flexible Board	none	none
Antenna Board for Bluetooth	none	none
Modem Modular Cable	none	none
Stylus Pen	none	none

(continued)

Designation / Kind of unit	Frequencies generated by this unit	Radio interference suppression components used
AC Adaptor (with AC power cable)		
Model PA3241U-1ACA, Toshiba Corp. 130kHz		
<u>Choke coils:</u>		
L1		
Tokin Corp. type 4476P04968 rated 1A, 10mH		
L2		
Tokin Corp. type SBCS-0806-3R0 rated 3A		
L3		
Tokin Corp. type 4476P04965A rated 1A, 10mH		
<u>EMI Filters (Beads):</u>		
FB1		
Taiyo Yuden Co., Ltd. type CP22RA030010020M rated 2A		
FB2		
Taiyo Yuden Co., Ltd. type FBR06HA121NA rated 6A		

End of [Appendix H]