

Attachment 2

FCC Part 15 Test Report

Report Number: FG08-049EAL

Report No. : FG08-049EAL (1/15)

EMI Test report

CATEGORY : EN55022(2006) / CISPR 22(2005) ; Class B
AS/NZS CISPR22 (2002)
FCC Part-15 (2007)
VCCI (2008)
EN301 489-17 V1.2.1, EN301 489-01 V1.4.1

MANUFACTURER : FUJITSU LIMITED

4-1-1, Kamikodanaka, Nakahara-ku, Kawasaki 211-8588 JAPAN

PRODUCT TYPE : Personal computer S6520 S6420

AC Adapter SEC100P3-19.0 SEC100P2-19.0 SED100P2-19.0
SED110P2-19.0 ADP-80NBA

Port Replicator FPCPR63 FPCPR75 FPCPR78

Bluetooth module EYTF3CS FT

Wireless LAN 553AN - HMW 512AN - HMW

TEST SITE :

FUJITSU GENERAL EMC LABORATORY

1116, Suenaga, Takatsu-ku, Kawasaki 213-8502 JAPAN

DATE TESTED : April 25 , 2008 24°C 55%

TESTED BY : Hiroyuki Aikawa

Above EUT conforms mentioned all regulations.

APPROVED BY :



Hiroyuki Shimano, President

DATE : April 30 , 2008

FUJITSU GENERAL EMC LABORATORY LIMITED

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※ The description of the EUT and the system configuration in this report are provided by the client.



LAB CODE 200373-0



Product Service



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1.2 Operating condition

The following EUT and dependent devices were tested using "EMC.exe", "Blue test" and "CRTU" program under continuous operating condition to obtain maximum emission.

① PC-1

- LCD-1: Displaying "H" character on screen. (Maximum contrast/ Luminescence)
(Display resolution 1280×800 / Refresh rate 60Hz)
- HDD-1: Reading/writing the test data.
- DVD: Play the test disk.
- LAN: Continuous transmission and receiving of the ping command. (1000 M Max)
- Modem: Downloaded data file from the dial up sever (56kbps Max).
Continuous transmission and reception of the ping command.
- HDD-1: Read/write the test data.
- DVD: Play the 1 kHz audio disk.
- Bluetooth: Continuous transmission of the RF signal.
- Wireless LAN: Continuous transmission of the RF signal.
- ② PC card: Read/write the test data.
- ③ SD card: Read/write the test data.
- ④ USB2.0 Memory: Read/write the test data. (480 M max)
- ⑤ HDD-2(IEEE1394): Read/write the test data. (480 M max)
- ⑥ LCD-2: Display "H" character on screen. (Maximum contrast / Luminescence)
- ⑦ Headset: Connecting only.
- ⑧ USB mouse: Connecting only.
- ⑨ AV selector: Connecting only.
- ⑩ PC-2: Receiving ping command and test data.
- ⑩ PC-3: Continuous transmission of the test data.
Continuous receiving of the ping command.
- ⑪ Keyboard: Connection only.
- ⑫ PRINTER: Connection only.

2. EMI test results summary

Applied standard: EN55022 (2006)

Limit value: Class B

The test samples met the class B limit of EN55022(2006)/ CISPR22(2005) and applicable below regulations as shown the following highest 6 points of each emission profiles.

EN301 489-01 V1.4.1

Australia, New Zealand: AS/NZS CISPR22 (2002)

U.S.A: FCC Part-15(2007), Canada: CAN/CSA-CEI/IEC CISPR22-02

Japan: VCCI (2007), Taiwan: CSN 13438(2006)

The test result is effective in only for the EUT.

2.1 Radiated emission (30 MHz to 1,000 MHz) : Measured at 10 m distance

2.1.1 Wireless LAN; 553AN_HMW

< AC 230 V / 50 Hz single phase >

Freq. (MHz)	pol.	Noise level (QP: dB μ V/m)	Class B limit (QP: dB μ V/m)	Margin (dB)
163.15	Vert	27.0	30.0	3.0
180.35	Horiz	27.7	30.0	2.3
192.29	Vert	29.4	30.0	0.6
299.52	Horiz	34.2	37.0	2.8
366.27	Horiz	33.3	37.0	3.7
540.02	Horiz	33.3	37.0	3.7

< AC 120 V / 60 Hz single phase >

Freq. (MHz)	pol.	Noise level (QP: dB μ V/m)	Class B limit (QP: dB μ V/m)	Margin (dB)
163.15	Vert	26.9	30.0	3.1
180.35	Horiz	27.7	30.0	2.3
192.29	Vert	29.5	30.0	0.5
299.52	Horiz	33.8	37.0	3.2
366.27	Horiz	32.3	37.0	4.7
540.02	Horiz	34.0	37.0	3.0

- Limit value ; CISPR 22(2005) and applied for FCC Part15(2007)
- Measurement uncertainty : ± 3.3 dB (K=2, 95 %)

2.1.2 Wireless LAN; 512AN_HMW

< AC 230 V / 50 Hz single phase >

Freq. (MHz)	pol.	Noise level (QP: dB μ V/m)	Class B limit (QP: dB μ V/m)	Margin (dB)
212.35	Vert	29.5	30.0	0.5
299.87	Horiz	36.5	37.0	0.5
324.00	Horiz	33.3	30.0	3.7
324.00	Vert	35.5	37.0	1.5
432.00	Horiz	32.8	37.0	4.2
432.00	Vert	31.7	37.0	5.3

- Limit value ; CISPR 22(2005) and applied for FCC Part15(2007)
- Measurement uncertainty : ± 3.3 dB (K=2, 95 %)

2.2 Over 1 GHz RF Radiated emission(1 GHz to 14 GHz) : Measured at 3 m distance

Freq. (GHz)	Pol	Noise level (dB μ V/m)	FCC Part-15 Class B limit (dB μ V/m)		Margin (dB to AV)
			Peak	A V	
1.0080	Horiz	40.2	74.0	54.0	13.8
1.5120	Vert	38.0	74.0	54.0	16.0
1.6200	Vert	40.4	74.0	54.0	13.6
1.7279	Vert	38.6	74.0	54.0	15.4
2.1597	Horiz	43.3	74.0	54.0	10.7
3.0000	Vert	43.3	74.0	54.0	10.7

- Limit value ; FCC Part15(2007)

2.3 AC power line conducted emission (150 kHz to 30 MHz)

2.3.1 Wireless LAN; 533AN_HMWG

2.3.1.1 AC Adapter: SEC100P3-19.0

< AC 230 V / 50 Hz single phase >

Freq. (MHz)	Line #	Noise level (dB μ V)		Class B limit (dB μ V)		Margin (dB)	
		Q P	A V	Q P	A V	Q P	A V
0.200	# 1	44.8	31.6	63.6	53.6	18.8	22.9
0.200	# 2	53.7	38.8	63.6	53.6	9.9	14.8
0.317	# 1	38.6	24.7	59.8	49.8	21.2	25.1
0.402	# 2	44.6	25.2	57.8	47.8	13.2	22.6
0.523	# 2	39.3	20.0	56.0	46.0	16.7	26.0
0.801	# 2	36.7	21.7	56.0	46.0	19.3	24.3

< AC 120 V / 60 Hz single phase >

Freq. (MHz)	Line #	Noise level (dB μ V)		Class B limit (dB μ V)		Margin (dB to AV)
		Q P	A V	Q P	A V	
0.165	# 2	43.8		65.2	55.2	11.4
0.181	# 1	40.4		64.5	54.5	14.1
0.269	# 2	40.8		61.1	51.1	10.3
0.400	# 2	34.3		57.9	47.9	13.6
0.451	# 1	31.6		56.9	46.9	15.3
0.739	# 1	28.6		56.0	46.0	17.4

< AC 100 V / 50 Hz single phase >

Freq. (MHz)	Line #	Noise level (dB μ V)		Class B limit (dB μ V)		Margin (dB to AV)
		Q P	A V	Q P	A V	
0.180	# 1	40.2		64.5	54.5	14.3
0.180	# 2	41.2		64.5	54.5	13.3
0.304	# 1	36.9		60.1	50.1	13.2
0.458	# 1	32.0		56.7	46.7	14.7
0.470	# 1	32.2		56.5	46.5	14.3
0.470	# 2	30.6		56.5	46.5	15.9

• Limit value ; CISPR 22(1997)

• Measurement uncertainty : ± 2.5 dB (K=2, 95 %)

2.3.1.2 AC Adapter: SEC100P2-19.0

< AC 230 V / 50 Hz single phase >

Freq. (MHz)	Line #	Noise level (dB μ V)		Class B limit (dB μ V)		Margin (dB)	
		Q P	A V	Q P	A V	Q P	A V
0.260	# 2	53.5	38.6	63.4	53.4	9.9	14.8
0.286	# 2	40.4	28.6	60.7	50.7	20.3	22.1
0.323	# 1	39.6	25.4	59.6	49.6	20.0	24.2
0.380	# 2	45.1	28.7	58.3	48.3	13.2	19.6
0.563	# 2	40.5	20.4	56.0	46.0	15.5	25.6
0.823	# 2	39.7	21.4	56.0	46.0	16.3	24.6

< AC 120 V / 60 Hz single phase >

Freq. (MHz)	Line #	Noise level (dB μ V)		Class B limit (dB μ V)		Margin (dB to AV)
		Q P	A V	Q P	A V	
0.169	# 2	43.6		65.0	55.0	11.4
0.185	# 2	41.8		64.3	54.3	12.5
0.285	# 2	40.1		60.7	50.7	10.6
0.430	# 2	36.5		57.3	47.3	10.8
0.465	# 1	33.8		56.6	46.6	12.8
0.550	# 1	31.3		56.0	46.0	14.7

< AC 100 V / 50 Hz single phase >

Freq. (MHz)	Line #	Noise level (dB μ V)		Class B limit (dB μ V)		Margin (dB to AV)
		Q P	A V	Q P	A V	
0.188	# 1	41.0		64.2	54.2	13.2
0.194	# 2	41.3		63.9	53.9	12.6
0.229	# 2	40.3		62.5	52.5	12.2
0.344	# 2	37.8		59.1	49.1	11.3
0.470	# 1	33.1		56.5	46.5	13.4
0.501	# 1	33.1		56.0	46.0	12.9

• Limit value ; CISPR 22(2005)

• Measurement uncertainty : ± 2.5 dB (K=2, 95 %)

2.3.1.3 AC Adapter: SED100P2-19.0

< AC 230 V / 50 Hz single phase >

Freq. (MHz)	Line #	Noise level (dB μ V)		Class B limit (dB μ V)		Margin (dB)	
		Q P	A V	Q P	A V	Q P	A V
0.520	# 1	48.5	35.1	56.0	46.0	7.5	10.9
0.520	# 2	48.0	33.0	56.0	46.0	8.0	13.0
0.580	# 1	48.2	33.5	56.0	46.0	7.8	12.5
0.580	# 2	48.3	34.9	56.0	46.0	7.7	11.1
1.200	# 1	47.2	31.5	56.0	46.0	8.8	14.5
1.200	# 2	49.5	34.0	56.0	46.0	6.5	12.0

< AC 120 V / 60 Hz single phase >

Freq. (MHz)	Line #	Noise level (dB μ V)		Class B limit (dB μ V)		Margin (dB)	
		Q P	A V	Q P	A V	Q P	A V
0.425	# 1	44.9	30.1	57.4	47.4	12.5	17.3
0.425	# 2	46.3	33.2	57.4	47.4	11.1	14.2
0.638	# 1	43.1	28.8	56.0	46.0	12.9	17.2
0.638	# 2	44.4	30.1	56.0	46.0	11.6	15.9
0.906	# 2	45.2	30.9	56.0	46.0	10.8	15.1
1.044	# 1	42.9	30.3	56.0	46.0	13.1	15.7

< AC 100 V / 50 Hz single phase >

Freq. (MHz)	Line #	Noise level (dB μ V)		Class B limit (dB μ V)		Margin (dB)	
		Q P	A V	Q P	A V	Q P	A V
0.423	# 2	44.7	31.1	57.4	47.4	12.7	16.3
0.517	# 1	42.4	29.3	56.0	46.0	13.6	16.7
0.517	# 2	44.3	30.8	56.0	46.0	11.7	15.2
0.773	# 2	43.3	30.9	56.0	46.0	12.7	15.1
1.019	# 1	43.0	29.6	56.0	46.0	13.0	16.4
1.019	# 2	44.6	31.8	56.0	46.0	11.4	14.2

• Limit value ; CISPR 22(2005)

• Measurement uncertainty : ± 2.5 dB (K=2, 95 %)**2.3.1.4 AC Adapter: SED110P2-19.0**

< AC 230 V / 50 Hz single phase >

Freq. (MHz)	Line #	Noise level (dB μ V)		Class B limit (dB μ V)		Margin (dB)	
		Q P	A V	Q P	A V	Q P	A V
0.219	# 1	53.5	38.3	62.9	52.9	9.4	14.6
0.219	# 2	59.7	45.1	62.9	52.9	3.2	7.8
0.318	# 2	35.5	25.7	59.8	49.8	24.3	24.1
0.405	# 1	39.1	15.5	57.8	47.8	18.7	32.3
0.405	# 2	39.5	16.5	57.8	47.8	18.3	31.3
0.417	# 2	39.9	21.1	57.5	47.5	17.6	26.4

< AC 120 V / 60 Hz single phase >

Freq. (MHz)	Line #	Noise level (dB μ V)		Class B limit (dB μ V)		Margin (dB)	
		Q P	A V	Q P	A V	Q P	A V
0.189	# 1	52.5	37.0	64.1	54.1	11.6	17.1
0.272	# 1	51.8	35.5	61.1	51.1	9.3	15.6
0.358	# 1	45.0	31.3	58.8	48.8	13.8	17.5
0.408	# 1	47.8	28.3	57.7	47.7	9.9	19.4
0.472	# 1	43.4	27.9	56.5	46.5	13.1	18.6
0.510	# 1	39.9	25.6	56.0	46.0	16.1	20.4

< AC 100 V / 50 Hz single phase >

Freq. (MHz)	Line #	Noise level (dB μ V)		Class B limit (dB μ V)		Margin (dB to AV)
		Q P	A V	Q P	A V	
0.157	# 1	50.7		65.7	55.7	5.0
0.157	# 2	49.7		65.7	55.7	6.0
0.450	# 1	38.8		56.9	46.9	8.1
0.570	# 1	34.4		56.0	46.0	11.6
0.570	# 2	29.2		56.0	46.0	16.8
0.781	# 1	31.3		56.0	46.0	14.7

• Limit value ; CISPR 22(2005)

• Measurement uncertainty : ± 2.5 dB (K=2, 95 %)

2.3.1.5 AC Adapter: ADP-80NB A

< AC 230 V / 50 Hz single phase >

Freq. (MHz)	Line #	Noise level (dB μ V)		Class B limit (dB μ V)		Margin (dB)	
		Q P	A V	Q P	A V	Q P	A V
0.150	# 1	52.0	34.6	66.0	56.0	14.0	21.4
0.150	# 2	55.0	36.5	66.0	56.0	11.0	19.5
0.460	# 2	40.8	21.0	56.7	46.7	15.9	25.7
1.304	# 1	40.2	22.3	56.0	46.0	15.8	23.7
1.574	# 2	40.3	23.9	56.0	46.0	15.7	22.1
1.863	# 2	41.5	23.8	56.0	46.0	14.5	22.2

< AC 120 V / 60 Hz single phase >

Freq. (MHz)	Line #	Noise level (dB μ V)		Class B limit (dB μ V)		Margin (dB to AV)
		Q P	A V	Q P	A V	
0.500	# 1	35.2		56.0	46.0	10.8
0.743	# 1	33.7		56.0	46.0	12.3
1.375	# 1	32.9		56.0	46.0	13.1
1.375	# 2	32.8		56.0	46.0	13.2
1.450	# 1	33.0		56.0	46.0	13.0
2.053	# 2	32.9		56.0	46.0	12.9

< AC 100 V / 50 Hz single phase >

Freq. (MHz)	Line #	Noise level (dB μ V)		Class B limit (dB μ V)		Margin (dB to AV)
		Q P	A V	Q P	A V	
0.656	# 1	31.9		56.0	46.0	14.1
1.004	# 1	30.2		56.0	46.0	15.8
1.134	# 1	30.3		56.0	46.0	15.7
1.707	# 2	31.3		56.0	46.0	14.7
1.930	# 1	31.3		56.0	46.0	14.7
1.930	# 2	30.9		56.0	46.0	15.1

• Limit value ; CISPR 22(2007)

• Measurement uncertainty : ± 2.5 dB (K=2, 95 %)

Wireless LAN; 512AN_HMW**2.3.2.1 AC Adapter: SEC100P3-19.0**

< AC 230 V / 50 Hz single phase >

Freq. (MHz)	Line #	Noise level (dB μ V)		Class B limit (dB μ V)		Margin (dB)	
		Q P	A V	Q P	A V	Q P	A V
0.200	# 1	45.2	31.8	63.6	53.6	18.4	21.8
0.200	# 2	53.9	38.7	63.6	53.6	9.9	14.9
0.317	# 1	38.5	24.5	59.8	49.8	21.3	25.3
0.402	# 2	44.9	25.3	57.8	47.8	12.9	22.5
0.523	# 2	39.7	20.1	56.0	46.0	16.3	25.9
0.801	# 2	36.6	21.4	56.0	46.0	19.4	24.6

- Limit value ; CISPR 22(2005)
- Measurement uncertainty : ± 2.5 dB (K=2, 95 %)

2.4 Telecommunication line conducted emission

< Telecom port >

Freq. (MHz)	Noise level (dB μ V)		Class B limit (dB μ V)		Margin (dB to AV)
	Q P	A V	Q P	A V	
1.072	51.1		74.0	64.0	12.9
1.607	53.3		74.0	64.0	10.7
1.655	48.4		74.0	64.0	15.6
2.144	52.4		74.0	64.0	11.6
2.395	52.6		74.0	64.0	11.4
4.765	49.3		74.0	64.0	14.7

< LAN port >

Freq. (MHz)	Noise level (dB μ V)		Class B limit (dB μ V)		Margin (dB to AV)
	Q P	A V	Q P	A V	
0.153	21.1		39.8	29.8	8.7
0.298	20.8		34.3	24.3	3.5
0.598	16.1		30.0	20.0	3.9
1.194	10.9		30.0	20.0	9.1
4.096	12.8		30.0	20.0	7.2
6.144	14.1		30.0	20.0	5.9

- Limit value ; CISPR 22(2005)

3. EUT modification under the test

The following countermeasures are added for the radiated emission measurement.

- ① 4 capacitors; C3, C6, C7, C8 22PF were added to the clock line of the main board.
- ② Port Replicator; FPCPR63 was changed to new one in the same type model.

4. Measurement procedure and test equipment

The measurement was performed without deviation from CISPR22 (2005).

4.1 Radiated emission

4.1.1 Radiated emission (30MHz~1,000MHz)

The EUT was set on the 80 cm height desk placed on the turntable in the 10 m RF semi-anechoic chamber.

The PC-2, PC-3, TEL and HUB were placed at outside of the chamber to make usual install condition at the different place. The maximum noise level in the frequency range from 30 MHz to 1,000 MHz were measured by 10 m method with scanning the antenna height from 1 m to 4 m above the ground plane and rotating the EUT through 360 degrees for both horizontal and vertical polarization.

Preliminary measurement using spectrum analyzer peak detection was performed to arrange the minimum margin spectrum. Preliminary measurement was performed using the A6510 with the FPCPR63 that was appropriate combination to obtain minimum margin spectrum. The settings of the interface cables and the mouse were adjusted to obtain maximum level at the minimum margin spectrum. The final measurement was performed using the RFI receiver (CISPR Quasi-peak, 120 kHz band width) and calibrated broadband antennas or dipole antennas about the main spectrums that was obtained by the preliminary measurement.

Test equipment	Manufacturer	Type	S/N	Cal. Date	Due. Date
Bi Log antenna	Schwarzbeck	VULB9160	3118	2007.12.03	2008.12.03
Dipole antenna	Schwarzbeck	VHA9103	VHA91031573	2007.07.25	2009.07.25
Dipole antenna	Schwarzbeck	UHA9105	UHA91052119	2007.07.25	2009.07.25
Field strength meter	Rohde & Schwarz	ESCS30	849650/001	2007.06.04	2008.06.04
Spectrum analyzer	HP	85422E	3746A00242	2007.05.27	2008.05.27
RF switch	Anritsu	MP59B	M87079	2007.05.07	2008.05.07
RF cable	—	CF013	—	2007.05.07	2008.05.07
2nd semi-anechoic chamber		Riken eletech	—	—	2008.01.04
EMI test program	FGE	Version 1.3			

4.1.2 Over 1 GHz radiated emission (1 GHz~14 GHz)

The EUT was set on the 80 cm height non-reflective desk on the turntable. The radiated emission measurement from 1 GHz to 14 GHz: Operating rate 2.8 GHz was performed using the spectrum analyzer (Peak detection, 1MHz band width) and the horn antenna that was positioned at 3 m from the EUT for class B. The measurement was performed with rotating the EUT through 360 degrees and fixing the antenna height to the 1 m for both horizontal and vertical polarization.

The measurement was performed with RF signal "off" mode of the wireless LAN and Bluetooth.

Test equipment	Manufacturer	Type	S/N	Cal. Date	Due. Date
Horn antenna	Schwarzbeck	BBHA9120D	414	2007.02.23	2009.02.23
Spectrum analyzer	Advantest	R3371A	75060396	2007.05.27	2008.05.27
Pre amplifier	HP	8449B	3008A01110	2007.03.24	2009.03.24

4.2 AC power line conducted emission

The conducted emission measurement was performed in the shielded room. The EUT was set on the 80 cm height wooden desk with using the 50Ω/50μH artificial mains network: AMN and operated by AC 100 V/ 50 Hz, AC 120 V/ 60 Hz and AC 230 V/ 50 Hz. Preliminary measurement using spectrum analyzer peak detection was performed in the frequency range from 150 kHz to 30 MHz to arrange the minimum margin spectrum. The setting of the cables was adjusted to obtain maximum level at the minimum margin spectrum. The final measurement was performed using the RFI receiver (CISPR Quasi-peak, 9 kHz band width) and recorded the maximum value in the monitored interval about the main spectrum that was obtained by the preliminary measurement.

Test equipment	Manufacturer	Type	S/N	Cal. Date	Due. Date
AMN	Kyoritsu	KNW-407	8-823-18	2007.09.07	2008.09.07
Field strength meter	Rohde & Schwarz	ESCS30	849650/001	2007.06.04	2008.06.04
Spectrum analyzer	HP	85422E	3746A00240	2007.05.27	2008.05.27
RF switch	Rohde & Schwarz	PSU	848290/005	2007.05.07	2008.05.07
Band pass filter	Advantest	TR14202	03560025	2007.05.07	2008.05.07
Pulse limiter	Rohde & Schwarz	ESH3-Z2	0357.8810.54	2007.05.07	2008.05.07
RF cable	----	CF009	----	2007.05.07	2008.05.07
EMI test program	FGE	Version 1.3			

4.3 Telecommunication line conducted emission

The conducted emission measurement was performed in the shielded room. The EUT was set on the 40 cm height wooden desk with using the impedance stabilization network: ISN(LCL:80 dB) for telecom port and the current probe for LAN port and operated by AC 230 V/ 50 Hz. Preliminary measurement using spectrum analyzer peak detection was performed in the frequency range from 150 kHz to 30 MHz to arrange the minimum margin spectrum. The setting of the cables was adjusted to obtain maximum level at the minimum margin spectrum. The final measurement was performed using the RFI receiver (CISPR Quasi-peak, 9 kHz band width) and recorded the maximum value in the monitored interval about the main spectrum that was obtained by the preliminary measurement.

Test equipment	Manufacturer	Type	S/N	Cal. Date	Due. Date
ISN	Kyoritsu	KNW-2202	8S-2945-2	2007.09.03	2008.09.03
Current probe	Rohde & Schwarz	EZ-17	100007	2007.03.06	2009.03.06
Field strength meter	Rohde & Schwarz	ESCS30	849650/001	2007.06.04	2008.06.04
Spectrum analyzer	HP	85422E	3746A00240	2007.05.27	2008.05.27
RF switch	Rohde & Schwarz	PSU	848290/005	2007.05.07	2008.05.07
Band pass filter	Advantest	TR14202	03560025	2007.05.07	2008.05.07
Pulse limiter	Rohde & Schwarz	ESH3-Z2	0357.8810.54	2007.05.07	2008.05.07
RF cable	----	CF009	----	2007.05.07	2008.05.07
EMI test program	FGE	Version 1.3			

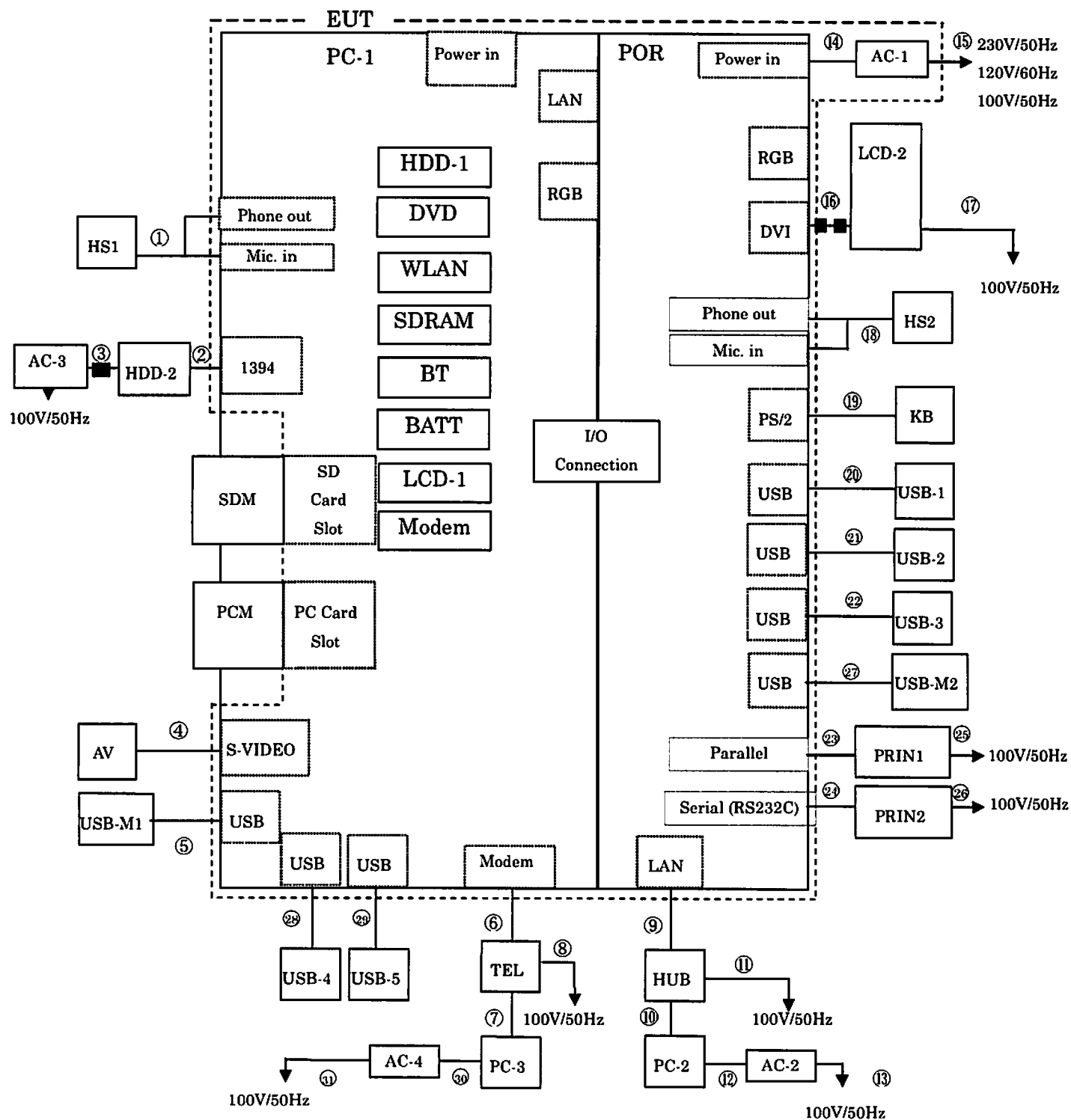
5. Test site and traceability

The FUJITSU GENERAL EMC LABORATORY performs the test for VCCI / EN / CISPR regulation and Fujitsu / Fujitsu General internal regulations. The test procedures and test facilities are comply with international standard. The laboratory is filed on VCCI (Japan), accredited from NVLAP (U.S.A.), authorized from TÜV SÜD PS (Germany) and appointed from TÜV Rheinland (Germany).

VCCI : 1st semi-anechoic chamber(R-753/C-776), 1st shielded room(C-777)
 Large shielded room(C-778)
 2nd semi-anechoic chamber(R-1460/C-1547), 2nd shielded room(C-1548)
 3rd shielded room(C-1549)
NVLAP : 1998.12.01 Accredited: Lab code 200373-0
TÜV SÜD PS : 1999.01.29 Authorized
TÜV Rheinland Japan : 2005.08.25 Appointed

The measuring equipments were used in the laboratory and test data are traceable to the national or international standard. Each equipment is maintain by periodical calibration and by daily check as a total measurement system to keep those accuracy.

Figure-1 System configuration and cables



■ : Ferrite core

Main EUT

Code	Name	Type	S/N	Product
PC-1	Personal computer	S6520	Pre-production sample	Fujitsu

Related EUT

POR	Port Replicator	FPCPR63	----	Fujitsu
AC-1	AC adapter	SEC100P3-19.0	----	Fujitsu
	AC adapter	SEC100P2-19.0	----	Fujitsu
	AC adapter	SED100P2-19.0	----	Fujitsu
	AC adapter	SED110P2-19.0	----	Fujitsu
	AC adapter	ADP-80NB A	----	Fujitsu

Included device; PC-1

Code	Name	Type	S/N	Product
HDD-1	320GB HDD	MHV2320BH	----	Fujitsu
DVD	DVD-Super Multi	UJ-862A	----	Panasonic
WLAN	Wireless LAN	533AN_HMW	----	Intel
		512AN_HMW	----	Intel
SDRAM	1048 MB x 1	PC3-8500S-7-05-AP	----	ELPIDA
BATT	Battery(6 Cell)	FPCBP179 10.8V 5800mA/h	----	Fujitsu
LCD-1	14.1 inch WXGA	LTN141AT05	----	SAMSUNG
BT	Bluetooth	EYTF3CS FS	----	TAIYO YUDEN
Modem	Telephony modem	MDC1.5 modem model D40	----	Agere

Assisted equipment

Code	Name	Type	S/N	Product
LCD-2	LCD display	P19-1	YEGA217490	FSC
HDD-2	Hard disk drive	KC-4020-N	0004384	FSC
HS1	Head set	AP-210Pro	----	FSC
HS2	Head set	AP-210Pro	----	FSC
PC-2	Personal computer	FMV	----	Fujitsu
HUB	Switching Hub	ETG-SH-8	VD7000010513N	I·O DATA
TEL	Telephone line emulator	TEL101	----	ASCII
AC-2	AC adapter	FMV-AC322	03X75240B	Fujitsu
AC-3	AC adapter	ACTN-21	----	Sunfone
AC-4	AC adapter	FMV-AC322	----	Fujitsu
PRIN1	Printer	LX-300+	CLCY82194	EPSON
PRIN2	Printer	LX-300+	CLCY82131	EPSON
USB-M1	USB Memory	256MB	----	I·O DATA
USB-M2	USB Memory	256MB	----	I·O DATA
USB-1	USB Mouse	M-BT69e	HCA52701556	FSC
USB-2	USB Mouse	M-BT69e	HCA52701562	FSC
USB-3	USB Mouse	M-BT69e	HCA52701578	FSC
USB-4	USB Mouse	M-BT69e	HCA52701600	FSC
USB-5	USB Mouse	M-BJ69	HCA50407420	FSC
PS/2	PS/2 Keyboard	S2681-K240-V120	YBKB010215133584	FSC
AV	AV Selector	JX-S3	----	Victor
PCM	PC memory card	20 MB	----	SunDisk
SDM	SD memory card	128MB	----	Panasonic

Cables SLD: Shielded NSLD: Non-shielded CAX: Coaxial

Connector MC: Metal NMC: Non-metal PMC: Point contact metal

No.	I/O Port	Name	Type	Length	Cable type
①	Phone-out / Mic-in	Headset cable	----	2.2m	NSLD, MC
②	1394	IEE1394 cable	----	1.0m	SLD, MC
③	----	AC adaptor cable	----	1.8m	NSLD, NMC with core * 1
④	S-VIDEO	S-VIDEO cable	----	2.0m	SLD, MC
⑤	USB-M1	USB cable	----	1.0m	SLD, NMC
⑥	Modem	Modem cable	----	20.0m	NSLD, NMC
⑦	----	Modem cable	----	2.0m	NSLD, NMC
⑧	----	AC power cable	----	2.0m	3P-NSLD
⑨	LAN	LAN cable	----	20.0m	SLD, MC
⑩	----	LAN cable	----	1.0m	SLD, MC
⑪	----	AC power cable	----	1.5m	2P-NSLD
⑫	----	AC adaptor cable	----	1.8m	NSLD, NMC
⑬	----	AC power cable	----	1.5m	2P-NSLD
⑭	----	AC adaptor cable	----	1.8m	NSLD, NMC
⑮	----	AC power cable	----	2.0m	2P-NSLD
	----	AC power cable	----	3.0m	3P-NSLD
⑯	DVI	DVI cable	----	1.8m	SLD, MC with fixed core
⑰	----	AC power cable	----	1.8m	3 P -NSLD
⑱	Phone-out / Mic-in	Headset cable	----	2.2m	NSLD, MC
⑲	PS/2	Keyboard cable	----	2.0m	SLD, MC
⑳	USB-1	USB mouse cable	----	1.9m	SLD, MC
㉑	USB-2	USB mouse cable	----	1.9m	SLD, MC
㉒	USB-3	USB mouse cable	----	1.9m	SLD, MC
㉓	Parallel	Parallel cable	----	2.0m	SLD, MC
㉔	RS232C	RS232C cable	----	3.0m	SLD, MC
㉕	----	Power cable	----	2.0m	3P-NSLD
㉖	----	Power cable	----	2.0m	3P-NSLD
㉗	USB-M2	USB cable	----	1.0m	SLD, MC
㉘	USB-4	USB mouse cable	----	1.9m	SLD, MC
㉙	USB-5	USB mouse cable	----	1.9m	SLD, MC
㉚	----	AC adaptor cable	----	1.8m	NSLD, NMC
㉛	----	AC power cable	----	2.0m	2P-NSLD

* 1: KITAGAWA industry Co.,Ltd; TFC-23-11-14

Appendix data (#08-049E: Total 69 pages)

1. Photograph #08-049E (7 pages)

• Radiated emission measurement	30-1000 MHz	(Front)	: Photo-1.1
		(Back)	: Photo-1.2
	1-14 GHz	(Front)	: Photo-1.3
• Conducted emission measurement			: Photo-2.1
• Telecom line emission measurement	Telecom port		: Photo-2.2
	LAN port		: Photo-2.3
• Label	S6450		: Photo-3.1
	AC Adapter SEC100P3-19.0		: Photo-3.2
	AC Adapter SEC100P2-19.0		: Photo-3.3
	AC Adapter SED100P2-19.0		: Photo-3.4
	AC Adapter SED110P2-19.0		: Photo-3.5
	AC Adapter ADP-80NB A		: Photo-3.6
• Internal view	S6450		: Photo-4

2. Test data (62 pages)

• Radiated emission

<Wireless LAN; 553AN_HMW>

30-1000 MHz

AC 230 V / 50 Hz : #08-049E-RE1 (2 pages)

AC 120 V / 60 Hz : #08-049E-RE2 (2 pages)

1-14 GHz

: #08-0495E-GH (2 pages)

<Wireless LAN; 512AN_HMW>

30-1000 MHz

AC 230 V / 50 Hz : #08-049E-RE3 (2 pages)

• Conducted emission

<Wireless LAN; 553AN_HMW>

SEC100P3-19.0	AC 230 V / 50 Hz	QP Mode	: #08-049E-CE1 (2 pages)
		AV Mode	: #08-049E-CE2 (2 pages)
	AC 120 V / 60 Hz		: #08-049E-CE3 (2 pages)
	AC 100 V / 50 Hz		: #08-049E-CE4 (2 pages)
SEC100P2-19.0	AC 230 V / 50 Hz	QP Mode	: #08-049E-CE5 (2 pages)
		AV Mode	: #08-049E-CE6 (2 pages)
	AC 120 V / 60 Hz		: #08-049E-CE7 (2 pages)
	AC 100 V / 50 Hz		: #08-049E-CE8 (2 pages)
SED100P2-19.0	AC 230 V / 50 Hz	QP Mode	: #08-049E-CE9 (2 pages)
		AV Mode	: #08-049E-CE10 (2 pages)
	AC 120 V / 60 Hz	QP Mode	: #08-049E-CE11 (2 pages)
		AV Mode	: #08-049E-CE12 (2 pages)
	AC 100 V / 50 Hz	QP Mode	: #08-049E-CE13 (2 pages)
		AV Mode	: #08-049E-CE14 (2 pages)
SED110P2-19.0	AC 230 V / 50 Hz	QP Mode	: #08-049E-CE15 (2 pages)
		AV Mode	: #08-049E-CE16 (2 pages)
	AC 120 V / 60 Hz	QP Mode	: #08-049E-CE17 (2 pages)
		AV Mode	: #08-049E-CE18 (2 pages)
	AC 100 V / 50 Hz		: #08-049E-CE19 (2 pages)
ADP-80NB A	AC 230 V / 50 Hz	QP Mode	: #08-049E-CE20 (2 pages)
		AV Mode	: #08-049E-CE21 (2 pages)
	AC 120 V / 60 Hz		: #08-049E-CE22 (2 pages)
	AC 100 V / 50 Hz		: #08-049E-CE23 (2 pages)

<Wireless LAN; 512AN_HMW>

SEC100P3-19.0	AC 230 V / 50 Hz	QP Mode	: #08-049E-CE24 (2 pages)
		AV Mode	: #08-049E-CE25 (2 pages)

• Telecom line emission

Telecom port	: #08-049E-TE1 (2 pages)
LAN port	: #08-049E-TE2 (2 pages)