



SAR TEST REPORT

Test Report No. : 27LE0221-HO-C

Applicant : NEC Corporation
Type of Equipment : Factory Computer FC-NOTE series
Model No. : FC-N21S/BY5SS
FCC ID : BSFFC-N21S
Test standard : FCC47CFR 2.1093
FCC OET Bulletin 65, Supplement C
Test Result : Complied
Max. SAR Value (IEEE 802.11b/g)
: 0.803W/kg (2437MHz)

1. This test report shall not be reproduced except full or partial, without the written approval of UL Japan, Inc.
2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the above standard(s). We hereby certify that the data contain a true representation of the SAR profile.
4. The test results in this test report are traceable to the national or international standards.

Date of test:

August 21, 22, 2007

Tested by:

Miyo Ikuta

Miyo Ikuta
EMC Services

H. Sato

Hisayoshi Sato
EMC Services

Approved by :

T. Maeno

Tetsuo Maeno
Site Manager of EMC Services



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UL Japan, Inc.

Head Office EMC Lab.

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b (18.06.07)

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SECTION 1: Client information

Company Name : NEC Corporation
Address : 10 Nissin-cho 1-chome, Fuchu-shi, Tokyo, 183-8501 Japan
Telephone Number : +81-43-333-1031
Facsimile Number : +81-43-333-1054
Contact Person : Aya Igarashi

SECTION 2 : Equipment under test (E.U.T.)

2.1 Identification of E.U.T.

Type of Equipment : Factory Computer FC-NOTE series
Model No. : FC-N21S/BY5SS
Serial No. : S760538MA
Battery : Type : Li-ion Battery
Model Name : S760538MA
Rating : 11.1V / 5200mAh
Manufacturer : NEC Corporation
Option Battery : N/A
Accessary : Strap, Touch pen
Size of EUT : About 299(W)*267(H)*50(D) mm
Country of Manufacture : Japan
Receipt Date of Sample : August 1, 2007
Condition of EUT : Production model
Modification of EUT : No modification by the test lab.

2.2 Identification of Wireless LAN Module

Type of Equipment	Wireless LAN Module
Model No.	WM3945ABG
Manufacturer	INTEL

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Facsimile : +81 596 24 8124

2.3 Product Description

FC-N21S/BY5SS is Factory Computer FC-NOTE series.

EUT's Clock frequencies are 1.2GHz (CPU) , 40MHz (Wireless LAN port).

FCC/IC granted RF module (model No.: WM3945ABG, FCC ID: FD9WM3945ABG / IC Number: 1000M-3945ABG) is installed in the EUT.

The EUT has variant models as follows:

[Example]

FC-N21S/ u v w x y z :

u= Keyboard :

B: Standard keyboard, C: Keyboard with backlight, E: Standard keyboard with cover,

F: Keyboard with backlight with cover

v= OS :

Y: Windows XP Professional SP2 English version, X: Windows XP Professional SP2 Japanese version

w= Memory capacities :

5: 2GBytes, 2: 256Mbytes, 3: 512Mbytes, 4: 1Gbytes

y= HDD / Battery :

S: Standard HDD(60GB) & Standard Battery,

W: Wide range Temperature HDD(40GB) & Wide range Temperature Battery,

F: Silicon Disk (IDE 8GB) & Standard Battery,

L: Silicon Disk (IDE 8GB) & Light Battery

z= WLAN / Security :

S: With Wireless LAN

W: With Wireless LAN & fingerprint authentication

F: With fingerprint authentication

Z: -

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IEEE802.11b / 11g / 11a WLAN

EE602-11b / 11g / 11a WLAN			
Equipment Type	Transceiver		
Frequency of Operation	11b/11g	2412MHz - 2462MHz *	
	11a	Low	5180MHz - 5240MHz *
		Mid	5260MHz - 5320MHz *
		Upper	5745MHz - 5805MHz *
			5825MHz *
Channel Support	11b/11g (11Channels)	2412, 2417, 2422, 2427, 2432, 2437, 2442, 2447, 2452, 2457, 2462MHz	
	11a (13 Channels)	5180, 5200, 5220, 5240, 5260, 5280, 5300, 5320MHz 5745, 5765, 5785, 5805, 5825MHz	
	Type of Modulation	11b	DSSS (DBPSK, DQPSK, CCK)
	11g/a	OFDM (BPSK, QPSK, 16QAM, 64QAM)	
Bandwidth & Channel spacing	11b/11g	22MHz & 5MHz	
	11a	18MHz & 20MHz	
ITU code	D1D, G1D		
Antenna Type	Monopole		
Antenna Connector Type	U.FL R-SMT		
Antenna Gain	11b/11g	Main: max +0.81dBi Aux: max +0.22dBi	
	11a	Main: max +0.41dBi(5180-5320MHz), -0.82dBi(5745MHz-5820MHz) Aux: max -1.12dBi(5180-5320MHz), -1.46dBi(5745MHz-5820MHz)	
Maximum Output Power (Peak:FCC15.247)	11b/g	23.82dBm (240.99mW)	
	11a	22.97dBm (198.15mW) / 5825MHz	
Maximum Output Power (Peak:FCC15.407)	11a	16.76dBm (47.42mW) / 5745MHz	

* This Wireless Module consists of one chip each of 2.4GHz band and 5GHz band.

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Head Office EMC Lab.

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

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SECTION 3 : Test standard information

3.1 Requirements for compliance testing defined by the FCC

The US Federal Communications Commission has released the report and order "Guidelines for Evaluating the Environmental Effects of RF Radiation", ET Docket No. 93-62 in August 1996. The order requires routine SAR evaluation prior to equipment authorization of portable transmitter devices, including portable telephones. For consumer products, the applicable limit is 1.6 mW/g for an uncontrolled environment and 8.0 mW/g for an occupational/controlled environment as recommended by the ANSI/IEEE standard C95.1-1992. According to the Supplement C of OET Bulletin 65 "Evaluating Compliance with FCC Guide-lines for Human Exposure to Radio frequency Electromagnetic Fields", released on Jun 29, 2001 by the FCC, the device should be evaluated at maximum output power (radiated from the antenna) under "worst-case" conditions for normal or intended use, incorporating normal antenna operating positions, device peak performance frequencies and positions for maximum RF energy coupling.

1 Specific Absorption Rate (SAR) is a measure of the rate of energy absorption due to exposure to an RF transmitting source (wireless portable device).

2 IEEE/ANSI Std. C95.1-1992 limits are used to determine compliance with FCC ET Docket 93-62.

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3.2 Exposure limit

(A) Limits for Occupational/Controlled Exposure (W/kg)

Spatial Average (averaged over the whole body)	Spatial Peak (averaged over any 1g of tissue)	Spatial Peak (hands/wrists/feet/ankles averaged over 10g)
0.4	8.0	20.0

(B) Limits for General population/Uncontrolled Exposure (W/kg)

Spatial Average (averaged over the whole body)	Spatial Peak (averaged over any 1g of tissue)	Spatial Peak (hands/wrists/feet/ankles averaged over 10g)
0.08	1.6	4.0

Occupational/Controlled Environments: are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure, (i.e. as a result of employment or occupation).

General Population/Uncontrolled Environments: are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

**NOTE:GENERAL POPULATION/UNCONTROLLED EXPOSURE
SPATIAL PEAK(averaged over any 1g of tissue) LIMIT
1.6 W/kg**

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SECTION 4 : Test result

4.1 Result of Max. SAR value

Max. SAR value (IEEE 802.11b/g) : 0.803W/kg (Body, 2437MHz)

4.2 Test Location

UL Japan, Inc. Head Office EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8116
Facsimile : +81 596 24 8124

SECTION 5 : Operation of E.U.T. during testing

5.1 Confirmation before SAR testing

Correlation of EMC power and SAR power (WLAN IEEE802.11b/g)

Peak Power test

As for the peak power, the data of EMC test(August 7, 2007) is shown as a reference data.
The result is shown in section 7.1.

Average Power test

It was checked that the antenna port power is correlated within 0~+5% (FCC requirements) at EMC test result (August 7, 2007).

5.2 Confirmation after SAR testing

It was checked that the powerdrift is within $\pm 5\%$ in the evaluation procedure of SAR testing.
The result is shown in APPENDIX 2.

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5.3 Operating modes for SAR testing

5.3.1 Setting of EUT

1. IEEE 802.11b mode
Tx frequency band : 2412-2462MHz
Channel : 1ch(2412MHz),6ch(2437MHz),11ch(2462MHz)
Modulation : DSSS (DBPSK,CCK)
Crest factor* : 1.0(1Mbps),1.2(11Mbps)

The result is shown in section 7.3.

* Crest factor decision in SAR testing

Modulation	DBPSK (1Mbps)	CCK (11Mbps)
DutyCycle[%]	98	87
Crestfactor	1.0	1.2

2. IEEE 802.11g mode
Tx frequency band : 2412-2462MHz
Channel : 1ch(2412MHz),6ch(2437MHz),11ch(2462MHz)
Modulation : OFDM (BPSK, QPSK, 16QAM, 64QAM)
Crest factor* : 1.1(6Mbps),1.2(12Mbps),1.4(24Mbps),1.7(48Mbps)

The result is shown in section 7.3.

* Crest factor decision in SAR testing

Modulation	BPSK (6Mbps)	QPSK (12Mbps)	16QAM (24Mbps)	64QAM (48Mbps)
DutyCycle[%]	91	84	73	58
Crestfactor	1.1	1.2	1.4	1.7

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Facsimile : +81 596 24 8124

5.3.2 Measurement procedure (Radiated power is always monitored by Spectrum Analyzer.)

1. IEEE 802.11b

The tests from Step1 to Step3 were performed with Main antenna and AUX antenna respectively.

Step1. The searching for the worst modulation

This test was performed at 1Mbps(DBPSK) of the highest average power* and 11Mbps(CCK) of the highest data rate.

Step2. The searching for the worst position

This test was performed at the worst condition of Step1.

Step3. The test for the Low and High channels

This test was performed at the worst conditions of Step 2.

2. IEEE 802.11g

The tests from Step4 to Step6 were performed with Main antenna and AUX antenna respectively.

Step4. The searching for the worst modulation

The data rate in the higher average power* of each modulation was decided, then the worst modulation was searched in the SAR testing.

Step5. The searching for the worst position

This test was performed at the worst condition of Step4.

Step6. The test for the Low and High channels

This test was performed at the worst conditions of Step 5.

3. Change distance between EUT and Flat phantom

Step7. Change separation

The measurement was performed with the distance, 5mm, 10mm and 15mm to check if the shortest distance may not have the worst value at the conditions of the highest SAR value.

* Refer to the average power data to Section 7.3.

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5.4 Test setup of EUT

When users operate or carry the EUT, it could be considered to touch or get close to their bodies. In order to assume this situation, we performed the test at the following positions. Please refer to "APPENDIX 1" for more details.

1. Main Top (Notebook type)
: The test was performed in touch with top side (Main antenna) of the EUT to the flat phantom.
2. Main Top (Tablet type)
: The test was performed in touch with top side (Main antenna) of the EUT to the flat phantom.
3. Main Back of display (Notebook type)
: The test was performed in touch with right back of display surface (Main antenna) of the EUT to the flat phantom.
4. Main Bottom (Notebook type)
: The test was performed in touch with right bottom surface (Main antenna) of the EUT to the flat phantom.
5. Main Front of display (Tablet type)
: The test was performed in touch with right front of display surface (Main antenna) of the EUT to the flat phantom.
6. Main Right Side (Tablet type)
: The test was performed in touch with right side (Main antenna) of the EUT to the flat phantom.
7. Main Bottom (Tablet type)
: The test was performed in touch with right bottom surface (Main antenna) of the EUT to the flat phantom.
8. AUX Top (Notebook type)
: The test was performed in touch with top side (AUX antenna) of the EUT to the flat phantom.
9. AUX Top (Tablet type)
: The test was performed in touch with top side (AUX antenna) of the EUT to the flat phantom.
10. AUX Back of display (Notebook type)
: The test was performed in touch with left back of display surface (AUX antenna) of the EUT to the flat phantom.
11. AUX Bottom (Notebook type)
: The test was performed in touch with left bottom surface (AUX antenna) of the EUT to the flat phantom.
13. AUX Front of display (Tablet type)
: The test was performed in touch with left front of display surface (AUX antenna) of the EUT to the flat phantom.
14. AUX Left Side (Tablet type)
: The test was performed in touch with left side (AUX antenna) of the EUT to the flat phantom.
15. AUX Bottom (Tablet type)
: The test was performed in touch with left bottom surface (AUX antenna) of the EUT to the flat phantom.
16. AUX Back of display (Notebook type, separation 5mm)
: The measurement opened 5mm distance between the EUT and the flat phantom.
17. AUX Back of display (Notebook type, separation 10mm)
: The measurement opened 10mm distance between the EUT and the flat phantom.
18. AUX Back of display (Notebook type, separation 15mm)
: The measurement opened 15mm distance between the EUT and the flat phantom.

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SECTION 6 : Test surrounding

The uncertainty budget has been determined for the DASY4 measurement system according to the SPEAG documents[6][7] and is given in the following Table.

Error Description	Uncertainty value $\pm$ %	Probability distribution	divisor	(ci) 1g	Standard Uncertainty (1g)	vi or veff
Measurement System						
Probe calibration	± 6.8	Normal	1	1	± 6.8	∞
Axial isotropy of the probe	± 4.7	Rectangular	$\sqrt{3}$	$(1-cp)^{1/2}$	± 1.9	∞
Spherical isotropy of the probe	± 9.6	Rectangular	$\sqrt{3}$	$(cp)^{1/2}$	± 3.9	∞
Boundary effects	± 2.0	Rectangular	$\sqrt{3}$	1	± 1.2	∞
Probe linearity	± 4.7	Rectangular	$\sqrt{3}$	1	± 2.7	∞
Detection limit	± 1.0	Rectangular	$\sqrt{3}$	1	± 0.6	∞
Readout electronics	± 0.3	Normal	1	1	± 0.3	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	± 0.5	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	± 1.5	∞
RF ambient Noise	± 3.0	Rectangular	$\sqrt{3}$	1	± 1.7	∞
RF ambient Reflections	± 3.0	Rectangular	$\sqrt{3}$	1	± 1.7	∞
Probe Positioner	± 0.8	Rectangular	$\sqrt{3}$	1	± 0.5	∞
Probe positioning	± 9.9	Rectangular	$\sqrt{3}$	1	± 5.7	∞
Max.SAR Eval.	± 4.0	Rectangular	$\sqrt{3}$	1	± 2.3	∞
Test Sample Related						
Device positioning	± 2.9	Normal	1	1	± 2.9	47
Device holder uncertainty	± 3.6	Normal	1	1	± 3.6	18
Power drift	± 5.0	Rectangular	$\sqrt{3}$	1	± 5.8	∞
Phantom and Setup						
Phantom uncertainty	± 4.0	Rectangular	$\sqrt{3}$	1	± 2.3	∞
Liquid conductivity (target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	± 1.8	∞
Liquid conductivity (meas.)	± 5.0	Rectangular	1	0.64	± 3.2	∞
Liquid permittivity (target)	± 5.0	Rectangular	$\sqrt{3}$	0.6	± 1.7	∞
Liquid permittivity (meas.)	± 5.0	Rectangular	1	0.6	± 3.0	∞
Combined Standard Uncertainty					± 13.48	
Expanded Uncertainty (k=2)					± 26.96	

SECTION 7 : Confirmation before SAR testing

7.1 Correlation of EMC power and SAR power

7.1.1 EMC power

This data is reference data of EMC test. (Report No. 27LE0180-YK-A-R1)

FCC15.247 Maximum Peak Output Power)

Date of test: August 7, 2007

[IEEE802.11b] 11Mbps

Ch	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm] [mW]	
Low	2412.0	6.14	1.88	10.04	18.06	63.97
Mid	2437.0	6.33	1.90	10.04	18.27	67.14
High	2462.0	5.34	1.91	10.04	17.29	53.58

[IEEE802.11g] 54Mbps

Ch	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm] [mW]	
Low	2412.0	11.90	1.88	10.04	23.82	240.99
Mid	2437.0	11.72	1.90	10.04	23.66	232.27
High	2462.0	11.20	1.91	10.04	23.15	206.54

Sample Calculation:

Result = Reading + Cable Loss + Attenuator

Reference data for SAR testing (Average power of EMC test)

Date of test: August 7, 2007

11b/Main Antenna						
Data rate	Freq.	P/M(AV) Reading	Cable Loss	Atten. Loss	Result	
[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]
1	2437.0	4.82	0.88	10.02	15.72	37.33

11b/AUX Antenna						
Data rate	Freq.	P/M(AV) Reading	Cable Loss	Atten. Loss	Result	
[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]
1	2437.0	4.25	0.88	10.02	15.15	32.73

11g/Main Antenna						
Data rate	Freq.	P/M(AV) Reading	Cable Loss	Atten. Loss	Result	
[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]
6	2437.0	3.52	0.88	10.02	14.42	27.67

11g/AUX Antenna						
Data rate	Freq.	P/M(AV) Reading	Cable Loss	Atten. Loss	Result	
[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]
6	2437.0	3.48	0.88	10.02	14.38	27.42

Sample Calculation: Result = Reading + Cable Loss + Attenuator Loss

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Average power of SAR test

Date of test: August 21, 2007

11b/Main Antenna						
Data rate	Freq.	P/M(AV) Reading	Cable Loss	Atten. Loss	Result	
[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]
1	2412.0	4.12	0.88	10.02	15.02	31.77
1	2437.0	4.94	0.88	10.02	15.84	38.37
1	2462.0	4.43	0.88	10.02	15.33	34.12

11b/AUX Antenna						
Data rate	Freq.	P/M(AV) Reading	Cable Loss	Atten. Loss	Result	
[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]
1	2412.0	4.01	0.88	10.02	14.91	30.97
1	2437.0	4.37	0.88	10.02	15.27	33.65
1	2462.0	4.11	0.88	10.02	15.01	31.70

11g/Main Antenna						
Data rate	Freq.	P/M(AV) Reading	Cable Loss	Atten. Loss	Result	
[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]
6	2412.0	3.23	0.88	10.02	14.13	25.88
6	2437.0	3.67	0.88	10.02	14.57	28.64
6	2462.0	3.43	0.88	10.02	14.33	27.10

11g/AUX Antenna						
Data rate	Freq.	P/M(AV) Reading	Cable Loss	Atten. Loss	Result	
[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]
6	2412.0	3.10	0.88	10.02	14.00	25.12
6	2437.0	3.54	0.88	10.02	14.44	27.80
6	2462.0	3.44	0.88	10.02	14.34	27.16

Sample Calculation: Result = Reading + Cable Loss + Attenuator Loss

7.2 Reference data of SAR test (Data rate determing)

Date of test: August 21, 2007

11b/Main Antenna						
Modulation	Data rate	Freq.	P/M(AV) Reading	Cable Loss	Atten. Loss	Result
	[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]
DBPSK	1	2437.0	4.94	0.88	10.02	15.84
DQPSK	2	2437.0	4.51	0.88	10.02	15.41
CCK	5.5	2437.0	4.35	0.88	10.02	15.25
CCK	11	2437.0	4.11	0.88	10.02	15.01

11b/AUX Antenna						
Modulation	Data rate	Freq.	P/M(AV) Reading	Cable Loss	Atten. Loss	Result
	[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]
DBPSK	1	2437.0	4.37	0.88	10.02	15.27
DQPSK	2	2437.0	3.97	0.88	10.02	14.87
CCK	5.5	2437.0	3.81	0.88	10.02	14.71
CCK	11	2437.0	3.58	0.88	10.02	14.48

11g/Main Antenna						
Modulation	Data rate	Freq.	P/M(AV) Reading	Cable Loss	Atten. Loss	Result
	[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]
BPSK	6	2437.0	3.67	0.88	10.02	14.57
BPSK	9	2437.0	3.33	0.88	10.02	14.23
QPSK	12	2437.0	3.22	0.88	10.02	14.12
QPSK	18	2437.0	2.99	0.88	10.02	13.89
16QAM	24	2437.0	2.55	0.88	10.02	13.45
16QAM	36	2437.0	2.03	0.88	10.02	12.93
64QAM	48	2437.0	1.61	0.88	10.02	12.51
64QAM	54	2437.0	1.46	0.88	10.02	12.36

11g/AUX Antenna						
Modulation	Data rate	Freq.	P/M(AV) Reading	Cable Loss	Atten. Loss	Result
	[Mbps]	[MHz]	[dBm]	[dB]	[dB]	[dBm]
BPSK	6	2437.0	3.54	0.88	10.02	14.44
BPSK	9	2437.0	3.29	0.88	10.02	14.19
QPSK	12	2437.0	3.13	0.88	10.02	14.03
QPSK	18	2437.0	2.85	0.88	10.02	13.75
16QAM	24	2437.0	2.44	0.88	10.02	13.34
16QAM	36	2437.0	2.01	0.88	10.02	12.91
64QAM	48	2437.0	1.58	0.88	10.02	12.48
64QAM	54	2437.0	1.41	0.88	10.02	12.31

Sample Calculation: Result = Reading + Cable Loss + Attenuator Loss

UL Japan, Inc.

Head Office EMC Lab.

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

7.3 Result of Duty factor verifications

The maximum duty factor of test mode was checked. The results are in the table below.
When the user uses EUT, the duty factor is not exceeded from the duty factor of the test mode.

11b		
DATA rate [Mbps]	Duty [%]	Crest factor for SAR
DBPSK (1Mbps)	98	1.0
DQPSK (2Mbps)	97	N/A*
CCK (5.5Mbps)	92	N/A*
CCK (11Mbps)	87	1.2

11g		
DATA rate [Mbps]	Duty [%]	Crest factor for SAR
BPSK (6Mbps)	91	1.1
BPSK (9Mbps)	87	N/A*
QPSK (12Mbps)	84	1.2
QPSK (18Mbps)	78	N/A*
16QAM (24Mbps)	73	1.4
16QAM (36Mbps)	64	N/A*
64QAM (48Mbps)	58	1.7
64QAM (54Mbps)	55	N/A*

*Reference: SAR test was not performed at the data rate.

SECTION 8 : Measurement results

8.1 Body SAR 2450MHz(Main antenna)

Date : August 21, 2007
Liquid Depth (cm) : 15.0
Parameters : $\epsilon_r = 51.4, \sigma = 2.01$
Ambient temperature (deg.c.) : 24.5
Relative Humidity (%) : 53

Measured By : Miyo Ikuta
Model : FC-N21S/BY5SS
Serial No. : S760538MA
Modulation : DSSS(11b)
Crest factor : See to section 7.3

Date : August 22, 2007
Liquid Depth (cm) : 15.0
Parameters : $\epsilon_r = 51, \sigma = 2.02$
Ambient temperature (deg.c.) : 24.5
Relative Humidity (%) : 51

Measured By : Miyo Ikuta
Model : FC-N21S/BY5SS
Serial No. : S760538MA
Modulation : OFDM(11g)
Crest factor : See to section 7.3

BODY SAR MEASUREMENT RESULTS										
Frequency			Modulation	Phantom Section	EUT Set-up Conditions			Liquid Temp.[deg.c]		SAR(1g) [W/kg]
Mode	Channel	[MHz]			Antenna	Position	Separation [mm]	Before	After	Maximum value of multi-peak
11b mode	Step 1. The searching for the worst modulation									
	6	2437	DBPSK(1Mbps)	Flat	Main	Top(Notebook type)	0	24.0	24.0	0.329
	6	2437	CCK(11Mbps)	Flat	Main	Top(Notebook type)	0	24.0	24.0	0.302
	Step 2. The searching for the worst position									
	6	2437	DBPSK(1Mbps)	Flat	Main	Top(Tablet type)	0	24.0	24.0	0.071
	6	2437	DBPSK(1Mbps)	Flat	Main	Back of display(Notebook type)	0	24.0	24.0	0.700
	6	2437	DBPSK(1Mbps)	Flat	Main	Bottom(Notebook type)	0	24.0	24.0	0.00558
	6	2437	DBPSK(1Mbps)	Flat	Main	Front of display(Tablet type)	0	24.0	24.0	0.192
	6	2437	DBPSK(1Mbps)	Flat	Main	Right side(Tablet type)	0	24.0	24.0	0.018
	6	2437	DBPSK(1Mbps)	Flat	Main	Bottom(Tablet type)	0	24.0	24.0	0.00460
	Step 3. The test for the Low and High channels									
	1	2412	DBPSK(1Mbps)	Flat	Main	Back of display(Notebook type)	0	24.0	24.0	0.566
	11	2462	DBPSK(1Mbps)	Flat	Main	Back of display(Notebook type)	0	24.0	24.0	0.619
11g mode	Step 4. The searching for the worst modulation									
	6	2437	BPSK(6Mbps)	Flat	Main	Top(Notebook type)	0	23.6	23.6	0.269
	6	2437	QPSK(12Mbps)	Flat	Main	Top(Notebook type)	0	23.6	23.6	0.241
	6	2437	16QAM(24Mbps)	Flat	Main	Top(Notebook type)	0	23.6	23.6	0.222
	6	2437	64QAM(48Mbps)	Flat	Main	Top(Notebook type)	0	23.6	23.6	0.182
	Step 5. The searching for the worst position									
	6	2437	BPSK(6Mbps)	Flat	Main	Top(Tablet type)	0	23.6	23.5	0.051
	6	2437	BPSK(6Mbps)	Flat	Main	Back of display(Notebook type)	0	23.4	23.4	0.532
	6	2437	BPSK(6Mbps)	Flat	Main	Bottom(Notebook type)	0	23.6	23.6	0.00768
	6	2437	BPSK(6Mbps)	Flat	Main	Front of display(Tablet type)	0	23.4	23.4	0.166
	6	2437	BPSK(6Mbps)	Flat	Main	Right side(Tablet type)	0	23.6	23.5	0.00807
	6	2437	BPSK(6Mbps)	Flat	Main	Bottom(Tablet type)	0	23.6	23.6	0.00451
	Step 6. The test for the Low and High channels									
	1	2412	BPSK(6Mbps)	Flat	Main	Back of display(Notebook type)	0	23.4	23.4	0.441
	11	2462	BPSK(6Mbps)	Flat	Main	Back of display(Notebook type)	0	23.4	23.4	0.532

UL Japan, Inc.

Head Office EMC Lab.

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

8.2 Body SAR 2450MHz(Aux antenna)

Date : August 22, 2007 Measured By : Hisayoshi Sato
Liquid Depth (cm) : 15.0 Model : FC-N21S/BY5SS
Parameters : $\epsilon_r = 51, \sigma = 2.02$ Serial No. : S760538MA
Ambient temperature (deg.c.) : 24.5 Modulation : DSSS(11b), OFDM(11g)
Relative Humidity (%) : 51 Crest factor : See to section 7.3

BODY SAR MEASUREMENT RESULTS										
Frequency			Modulation	Phantom Section	EUT Set-up Conditions			Liquid Temp.[deg.c]		SAR(1g) [W/kg]
Mode	Channel	[MHz]			Antenna	Position	Separation [mm]	Before	After	Maximum value of multi-peak
11b mode	Step 1. The searching for the worst modulation									
	6	2437	DBPSK(1Mbps)	Flat	Aux	Top(Notebook type)	0	23.8	23.8	0.365
	6	2437	CCK(11Mbps)	Flat	Aux	Top(Notebook type)	0	23.8	23.8	0.335
	Step 2. The searching for the worst position									
	6	2437	DBPSK(1Mbps)	Flat	Aux	Top(Tablet type)	0	23.8	23.8	0.094
	6	2437	DBPSK(1Mbps)	Flat	Aux	Back of display(Notebook type)	0	23.7	23.7	0.803
	6	2437	DBPSK(1Mbps)	Flat	Aux	Bottom(Notebook type)	0	23.7	23.7	0.00402
	6	2437	DBPSK(1Mbps)	Flat	Aux	Front of display(Tablet type)	0	23.7	23.7	0.300
	6	2437	DBPSK(1Mbps)	Flat	Aux	Left side(Tablet type)	0	23.7	23.7	0.00853
	6	2437	DBPSK(1Mbps)	Flat	Aux	Bottom(Tablet type)	0	23.8	23.8	0.00812
	Step 3. The test for the Low and High channels									
	1	2412	DBPSK(1Mbps)	Flat	Aux	Back of display(Notebook type)	0	23.8	23.8	0.645
	11	2462	DBPSK(1Mbps)	Flat	Aux	Back of display(Notebook type)	0	23.8	23.8	0.700
11g mode	Step 4. The searching for the worst modulation									
	6	2437	BPSK(6Mbps)	Flat	Aux	Top(Notebook type)	0	23.8	23.8	0.374
	6	2437	QPSK(12Mbps)	Flat	Aux	Top(Notebook type)	0	23.8	23.8	0.336
	6	2437	16QAM(24Mbps)	Flat	Aux	Top(Notebook type)	0	23.7	23.7	0.318
	6	2437	64QAM(48Mbps)	Flat	Aux	Top(Notebook type)	0	23.7	23.7	0.231
	Step 5. The searching for the worst position									
	6	2437	BPSK(6Mbps)	Flat	Aux	Top(Tablet type)	0	23.7	23.7	0.109
	6	2437	BPSK(6Mbps)	Flat	Aux	Back of display(Notebook type)	0	23.7	23.7	0.730
	6	2437	BPSK(6Mbps)	Flat	Aux	Bottom(Notebook type)	0	23.8	23.8	0.00951
	6	2437	BPSK(6Mbps)	Flat	Aux	Front of display(Tablet type)	0	23.8	23.8	0.212
	6	2437	BPSK(6Mbps)	Flat	Aux	Left side(Tablet type)	0	23.7	23.7	0.012
	6	2437	BPSK(6Mbps)	Flat	Aux	Bottom(Tablet type)	0	23.7	23.7	0.00738
	Step 6. The test for the Low and High channels									
	1	2412	BPSK(6Mbps)	Flat	Aux	Back of display(Notebook type)	0	23.8	23.8	0.557
	11	2462	BPSK(6Mbps)	Flat	Aux	Back of display(Notebook type)	0	23.8	23.8	0.577
11b mode	Step 7. Change separation									
	6	2437	DBPSK(1Mbps)	Flat	Aux	Back of display(Notebook type)	5	23.8	23.8	0.420
	6	2437	DBPSK(1Mbps)	Flat	Aux	Back of display(Notebook type)	10	23.8	23.8	0.199
	6	2437	DBPSK(1Mbps)	Flat	Aux	Back of display(Notebook type)	15	23.8	23.8	0.082

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Head Office EMC Lab.

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124