EMI TEST REPORT

Test Report No. : 26AE0214-HO-9

Applicant	:	**FUJITSU LIMITED**
Type of Equipment	:	**Personal Computer**
Model No.	:	**P1510D**
FCC ID	:	**EJE-WB0037**
Test standard	:	**FCC Part 15 Subpart C** **Section 15.207, Section 15.247 : 2005**
Test Result	:	**Complied**

1. This test report shall not be reproduced in full or partial, without the written approval of UL Apex Co., Ltd.
2. The results in this report apply only to the sample tested.
3. This equipment is in compliance with the above regulation. We hereby certify that the data contain a true representation of the EMC profile.
4. The test results in this report are traceable to the national or international standards.

Date of test:

August 29 to September 7, 2005

Tested by:

Yutaka Yoshida
EMC Service

Hiroka Umeyama
EMC Service

Kenichi Adachi
EMC Service

Approved by :

Hironobu Shimoji
Group Leader of
EMC Service

UL Apex Co., Ltd.
Head Office EMC Lab.
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Facsimile : +81 596 24 8124

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SECTION 1: Client information

Company Name	:	FUJITSU LIMITED
Brand Name	:	FUJITSU
Address	:	1-1, Kamikodanaka 4-chome, Nakahara-ku, Kawasaki 211-8588 Japan
Telephone Number	:	+81-44-754-3885
Facsimile Number	:	+81-44-754-3769
Contact Person	:	Tsuyoshi Uchihara

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

2.1 Identification of E.U.T.

Type of Equipment	:	Personal Computer
Model No.	:	P1510D
Serial No.	:	R5100002
Rating	:	AC120V/60Hz (AC Adapter)
Country of Manufacture	:	Japan
Receipt Date of Sample	:	August 29, 2005
Condition of EUT	:	Engineering prototype (Not for Sale: This sample is equivalent to mass-produced items.)

2.2 Product Description

This EUT has IEEE802.11 a/b/g module which consists of 2.4GHz and 5GHz in the same chip, and has also Bluetooth module.

< IEEE802.11 a/b/g >

Equipment Type	: Transceiver
Frequency of operation	: 11bg: 2412-2462MHz 11a: 5150-5350MHz/5745 - 5825MHz
Channel Spacing	: 5MHz(11bg), 20MHz (11a)
Duty Cycle	: over 90%
Type of Modulation	: DSSS, OFDM, CCK
Mode of operation	: Duplex
Antenna Type	: Monopole Antenna (M/N: YCE-5008)
Antenna Gain	: IEEE802.11b/g: Main -4.78 dBi /AUX -1.49 dBi IEEE802.11a: Main Antenna: 0.90dBi, AUX Antenna -0.97 dBi (This antenna gain are values in which antenna was mounted to the PC)
Antenna Connector Type	: U-FL
Operating voltage (inner)	: DC3.3V
Operating temperature range	: 0-+70 deg.C.

<Bluetooth>

Equipment Type	: Transceiver
Frequency of operation	: 2402-2480MHz
Type of Modulation	: FHSS
Antenna Type	: Monopole Antenna (M/N: YCE-5008)
Antenna Gain	: AUX-1.49 dBi (This antenna gain are values in which antenna was mounted to the PC)
Antenna Connector Type	: U-FL
Operating voltage	: DC3.3V
Operating temperature range	: 0-+70 deg.C.

FCC 15.31 (e)

This EUT provides stable voltage (DC3.3V) constantly to RF Modules regardless of input voltage. Therefore, this EUT complies with the requirement.

FCC Part 15.203 Antenna requirement

These modules have the external (particular) antenna connector, and the installation is to be done by the professionals. Therefore, the equipment complies with the antenna requirement of Section 15.203.

2.3 Other Information about the report

Standards	Test Report No. *1)			
	IEEE802.11 a/b/g		Bluetooth	Bluetooth + IEEE802.11a/b/g
FCC	26AE0214-HO-1 (15.247)	26AE214-HO-2 (15.407)	26AE0214-HO-9 *2)	26AE0214-HO-10
RSS-210	26AE0214-HO-3	26AE0214-HO-4	26AE0214-HO-11	26AE0214-HO-12

*1) The tests were made with the same EUT.
*2) This mark stands for this report.

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification : FCC Part15 Subpart C : 2005
Title : FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators
Section 15.207 Conducted limits : 2005
Section 15.247 Operation within the bands 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz : 2005

3.2 Procedures and results

[FHSS]

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst Margin*0)	Results
1	Conducted emission	ANSI C63.4:2003 7. AC powerline conducted emission measurements	Section 15.207	-	N/A	8.9dB 7.50251MHz 0.17125MHz QP, L, N	Complied
2	Carrier Frequency Separation	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247(a)(1)	Conducted	N/A	*See data.	Complied
3	20dB Bandwidth	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247(a)(1)	Conducted	N/A		Complied
4	Number of Hopping Frequency	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247(a)(1)(iii)	Conducted	N/A		Complied
5	Dwell time	ANSI C63.4:2003 13.Measurement of intentional radiators	Section15.247(a)(1)(iii)	Conducted	N/A		Complied
6	Maximum Peak Output Power	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247(b)(1)	Conducted	N/A		Complied
7	Band Edge Compliance	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247(d)	Conducted	N/A		Complied
8	Spurious Emission	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247(d)	Conducted/ Radiated	N/A	2.4dB 1555.767MHz AV, Horizontal	Complied

Note: UL Apex's EMI Work Procedures No.QPM05 and QPM15.
*0) The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

Uncertainty:

Conducted Emission
The measurement uncertainty (with a 95% confidence level) for this test is ±1.3dB.
The data listed in this test report has enough margin, more than the site margin.

Spurious Emission (Radiated)
The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is ±4.5dB(3m)/ ±4.7dB(10m).
The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is ±5.2dB(3m)/ ±3.8dB(10m).
The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is ±6.6dB.
The data listed in this report meets the limits unless the uncertainty is taken into consideration.

Other test except Conducted Emission and Spurious Emission (Radiated)
The measurement uncertainty (with a 95% confidence level) for this test is ±3.0dB.

*These tests were also referred to FCC Public Notice DA 00-705 "Guidance on Measurement for Frequency Hopping Spread Spectrum Systems".
*These tests were performed without any deviations from test procedure except for additions or exclusions.

3.3 Addition to standards

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst margin	Results
1	99% Occupied Band Width	RSS-210(issue 5): 2001 + Amendment:2002 + Amendment2:2003 + Amendment3:2004 + Amendment4: 2004	RSS-210(issue 5): 2001 + Amendment:2002 + Amendment2:2003 + Amendment3:2004 + Amendment4: 2004	Conducted	N/A	N/A	N/A

3.4 Test Location

UL Apex Co., Ltd. Head Office EMC Lab. *NVLAP Lab. code: 200572-0
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8116 Facsimile : +81 596 24 8124

	FCC Registration Number	IC Registration Number	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Other rooms
No.1 semi-anechoic chamber	313583	IC4247A	19.2 x 11.2 x 7.7m	7.0 x 6.0m	Preparation room
No.2 semi-anechoic chamber	846015	IC4247A-2	7.5 x 5.8 x 5.2m	4.0 x 4.0m	-
No.3 shielded room	-	-	4.7 x 7.5 x 2.7m	4.7 x 7.5m	-
No.4 measurement room	-	-	3.1 x 5.0 x 2.7m	N/A	-

* Size of vertical conducting plane (for Conducted Emission test) : 2.0 x 2.0m for No.1 and No.2 semi-anechoic and No.3 shielded room.

3.5 Test set up, Test instruments and Data of EMI

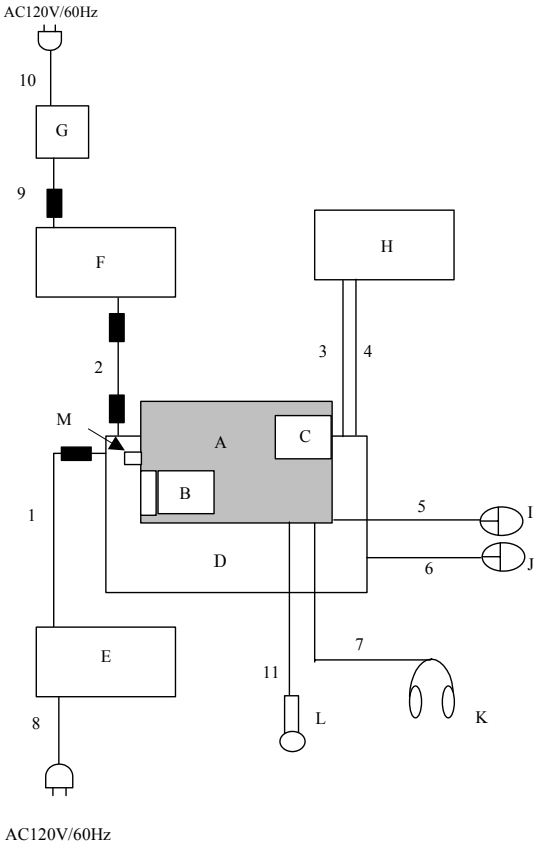
Refer to APPENDIX 1 to 3.

SECTION 4: Operation of E.U.T. during testing

4.1 Operating Modes

Operation : -Transmitting mode
Low Channel :2402MHz
Mid Channel :2441MHz
High channel :2480MHz
Inquiry

4.2 Configuration and peripherals



* Cabling was taken into consideration and test data was taken under worse case conditions.

Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	FCC ID	Remarks
A	Personal Computer	P1510D	R5100002	FUJITSU LIMITED	EJE-WB0037	EUT
B	PC Card	-	-	IO DATA	-	-
C	SD Card	-	-	IO DATA	-	-
D	Port Replicator	-	30	FUJITSU LIMITED	-	-
E	AC Adapter	CA01007-0730	01208879C	FUJITSU LIMITED	-	-
F	LCD Monitor	PLE430-B1S	05205G4538698	Iiyama	-	-
G	AC Adapter	ADPC12416BB	12416B042126921	Iiyama	-	-
H	Personal Computer	PGMJ140M	09632777	SHARP	-	-
I	Mouse	M-UB48	LZE02650788	Logitech	-	-
J	Mouse	M-UB48	LZE02601001	Logitech	-	-
K	Headset	LT-100	0010D	Panasonic	-	-
L	Microphone	-	-	Fujitsu	-	-
M	USB memory	BUF-C256M/U2	B5061410952	BUFFALO	-	-

List of cables used

No.	Name	Length (m)	Shield	Backshell Material
1	DC Cable	1.8	N	Polyvinyl chloride
2	Monitor Cable	1.8	Y	Polyvinyl chloride
3	LAN Cable	2.9	N	Polyvinyl chloride
4	TEL Line	2.0	N	Polyvinyl chloride
5	Mouse Cable	0.7	N	Polyvinyl chloride
6	Mouse Cable	0.7	N	Polyvinyl chloride
7	Headset Cable	3.0	N	Polyvinyl chloride
8	AC Cable	2.0	N	Polyvinyl chloride
9	DC Cable	1.2	N	Polyvinyl chloride
10	AC Cable	1.8	N	Polyvinyl chloride
11	Microphone Cable	1.6	N	Polyvinyl chloride

SECTION 5: Conducted Emission

Test Procedure and conditions

EUT was placed on a platform of nominal size, 1.0m by 1.0m, raised 80cm above the conducting ground plane.
The rear of tabletop was located 40cm to the vertical conducting plane. The rear of EUT, including peripherals aligned and flushed with rear of tabletop. All other surfaces of tabletop were at least 80cm from any other grounded conducting surface. EUT was located 80cm from a Line Impedance Stabilization Network (LISN)/ Artificial mains Network (AMN) and excess AC cable was bundled in center.

For the tests on EUT with other peripherals (as a whole system)
I/O cable and AC cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 30cm to 40cm long and were hanged at a 40cm height to the ground plane.

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT in a Semi Anechoic Chamber or a Measurement Room.
The EUT was connected to a LISN (AMN).
An overview sweep with peak detection has been performed.

Detector : CISPR quasi-peak and average detector (IF BW 9 kHz)
Measurement range : 0.15-30MHz
Test data : APPENDIX 3
Test result : Pass

SECTION 6: Spurious Emission

[Conducted]

Test Procedure
The Out of Band Emission was measured with a spectrum analyzer connected to the antenna port.
Test data : APPENDIX 3
Test result : Pass

[Radiated]

Test Procedure
EUT was placed on a platform of nominal size, 1.0m by 1.0m, raised 80cm above the conducting ground plane.
The Radiated Electric Field Strength intensity has been measured in a Semi Anechoic Chamber with a ground plane and at a distance of 3m(Below 10GHz) and 1m(Upper 10GHz).
The height of the measuring varied between 1 and 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.
The measurements were performed for both vertical and horizontal antenna polarization with the Test Receiver, or the Spectrum Analyzer (in linear mode).
The test was made with the detector (RBW/VBW) in the following table.
When using Spectrum analyzer, the test was made with adjusting span to zero by using peak hold.

In any 100kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator confirmed 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on a radiated measurement.

20dBc was applied to the frequency over the limit of FCC 15.209 and outside the restricted band of 15.205.

Frequency	Below 1GHz	Above 1GHz
Instrument used	Test Receiver / Spectrum Analyzer	Spectrum Analyzer
Detector IF Bandwidth	QP: BW 120kHz(T/R) 20dBc : RBW: 100kHz VBW: 300kHz (S/A)	PK: RBW:1MHz/VBW: 1MHz AV: RBW:1MHz/VBW:10Hz 20dBc : RBW:100kHz/VBW:300kHz

Test data : APPENDIX 3
Test result : Pass

- The carrier level and noise levels were confirmed at each position of X, Y and Z axes of EUT to see the position of maximum noise, and the test was made at the position that has the maximum noise.

SECTION 7: Bandwidth

Test Procedure

The bandwidth was measured with a spectrum analyzer connected to the antenna port.

Test data : APPENDIX 3
Test result : Pass

SECTION 8: Maximum Peak Output Power

Test Procedure
The test was made with the spectrum analyzer that has a function of channel-power measurements.
The Maximum Peak Output Power was measured with a spectrum analyzer connected to the antenna port.

Test data : APPENDIX 3
Test result : Pass

SECTION 9: Carrier Frequency Separation

Test Procedure

The carrier frequency separation was measured with a spectrum analyzer connected to the antenna port.

Test data : APPENDIX 3
Test result : Pass

SECTION 10: Number of Hopping Frequency

Test Procedure

The Number of Hopping Frequency was measured with a spectrum analyzer connected to the antenna port.

Test data : APPENDIX 3
Test result : Pass

SECTION 11: Dwell time

Test Procedure

The Dwell time was measured with a spectrum analyzer connected to the antenna port.

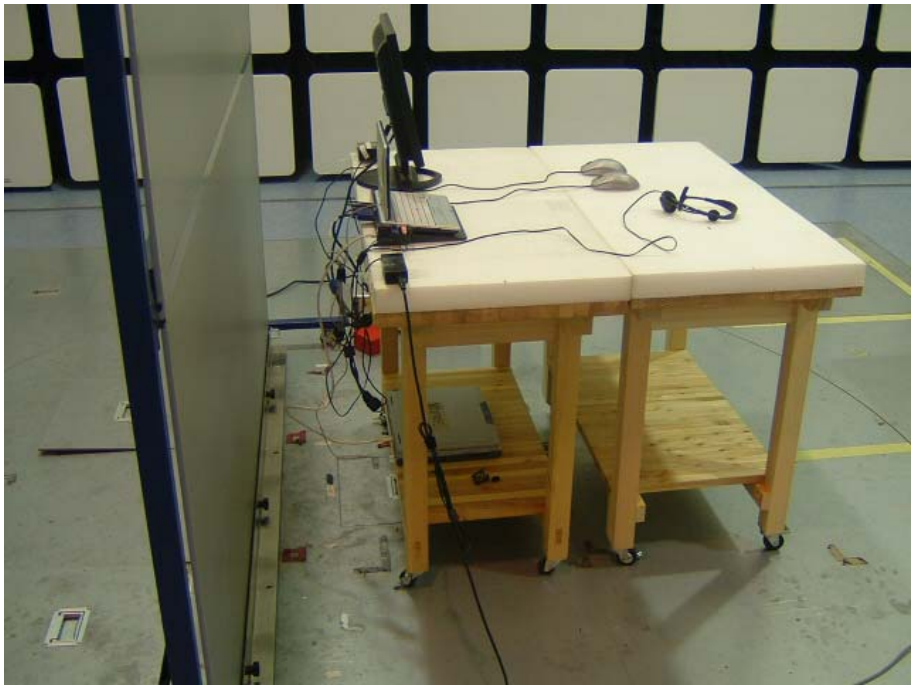
Test data : APPENDIX 3
Test result : Pass

APPENDIX 1: Photographs of test setup

Conducted Emission

Front

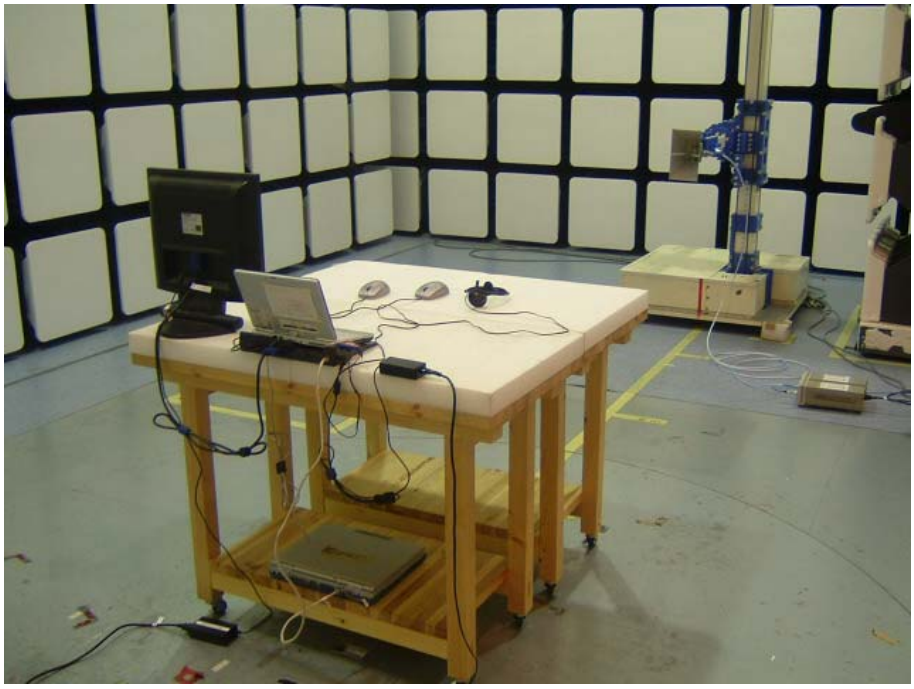
Rear



Spurious Emission (Radiated)

Front

Rear



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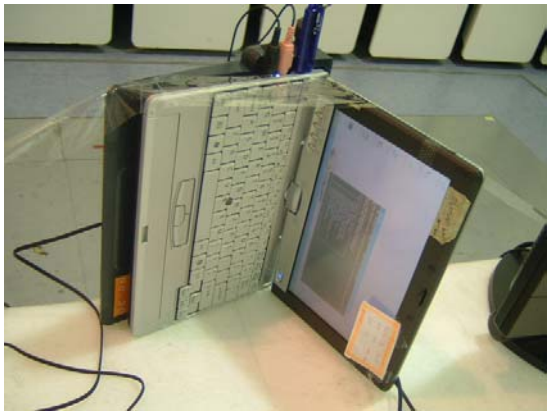
Worst Case Position (Y-axis:Horizontal / X-axis:Vertical)

X-axis

Y-axis

Z-axis



APPENDIX 2:Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
MAEC-02	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	RE	2005/04/11 * 12
MHA-06	Horn Antenna	Schwarzbeck	BBHA9120D	RE	2005/01/10 * 12
MCC-04	Microwave Cable 1G-50GHz	Storm	421-011 (90-1394-079)	RE	2005/01/05 * 12
MCC-19	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX 104	RE	2005/02/03 * 12
MPA-01	Pre Amplifier	Agilent	8449B	RE	2005/02/05 * 12
MSA-04	Spectrum Analyzer	Agilent	E4448A	RE	2005/05/19 * 12
MHF-02	High Pass Filter	Tokimec	TF323DCA	RE	2004/09/18 * 12
MAEC-01	Anechoic Chamber	TDK	Semi Anechoic Chamber 10m	RE	2004/11/13 * 12
MTR-01	Test Receiver	Rohde & Schwarz	ESI40	RE	2004/11/12 * 12
MCC-05	Microwave Cable 1G-50GHz	Storm	421-011 (90-1394-079)	RE	2005/01/05 * 12
MBF-10	Band Pass Filter	M-City	BPF8000-01	RE	2005/03/18 * 12
MCC-16	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX 104	RE	2005/02/03 * 12
MBF-03	SHF Bandpass Filter	M-City	13GHz BPF	RE	2005/05/20 * 12
MCC-18	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX 104	RE	2005/02/03 * 12
MHA-05	Horn Antenna	Schwarzbeck	BBHA9120D	RE	2005/01/10 * 12
MHA-01	Horn Antenna	EMCO	3160-09	RE	2005/01/10 * 12
MHA-03	Horn Antenna	EMCO	3160-10	RE	2005/01/10 * 12
MCC-17	Microwave Cable 1G-50GHz	Suhner	SUCOFLEX 101	RE	2005/02/03 * 12
MCC-14	Microwave Cable 1G-50GHz	Suhner	SUCOFLEX 101	RE	2005/02/03 * 12
MPA-03	Microwave System Power Amplifier	Agilent	83050A	RE	2005/05/11 * 12
MCC-01	Coaxial Cable 0.1-3000MHz	Suhner/storm/Agilent/TSJ	-	RE	2004/12/19 * 12
MPA-04	Pre Amplifier	Agilent	8447D	RE	2005/05/24 * 12
MAT-07	Attenuator(6dB)	Weinschel Corp	2	RE	2004/12/16 * 12
MBA-01	Biconical Antenna	Schwarzbeck	BBA9106	RE	2004/10/14 * 12
MLA-01	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2004/10/14 * 12
MBA-02	Biconical Antenna	Schwarzbeck	BBA9106	RE	2004/10/14 * 12
MLA-02	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2004/10/14 * 12
MCC-13	Coaxial Cable	Fujikura/Agilent	-	RE/CE	2005/02/24 * 12
MPA-06	Pre Amplifier	Hewlett Packard	8447D	RE	2005/08/31 * 12
MSA-04	Spectrum Analyzer	Agilent	E4448A	RE	2005/05/19 * 12
MAT-07	Attenuator(6dB)	Weinschel Corp	2	RE	2004/12/16 * 12
MCC-12	Coaxial Cable	Fujikura/Agilent	-	RE	2005/02/24 * 12
MLS-02	LISN(AMN)	Schwarzbeck	NSLK8127	CE EUT	2004/11/10 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	CE	2005/02/04 * 12
MTA-02	Termination	TME	CT-01	CE	2005/02/03 * 12

All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
Test Item:
CE: Conducted emission,
RE: Radiated emission,
AT: Antenna terminal disturbance voltage.

APPENDIX 3: Data of EMI test

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

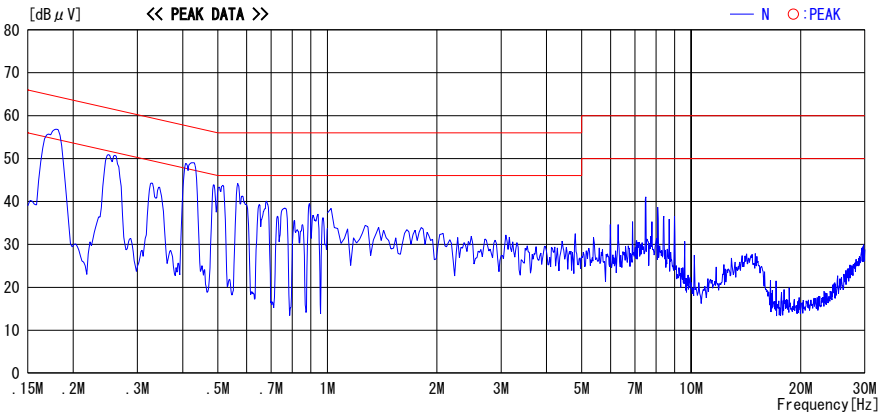
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/09/03 20:01:32

Applicant : Fujitsu Limited
Kind of EUT : Personal Computer
Model No. : P1510D
Serial No. : R5100002

Report No. : 26AE0214-HO
Power : AC120V / 60Hz(AC Adaptor)
Temp℃/Humi% : 26deg.C / 65%
Operator : Yutaka Yoshida

Mode / Remarks : Tx 2402MHz

LIMIT : FCC15C §15.207 (QP)
FCC15C §15.207 (AV)



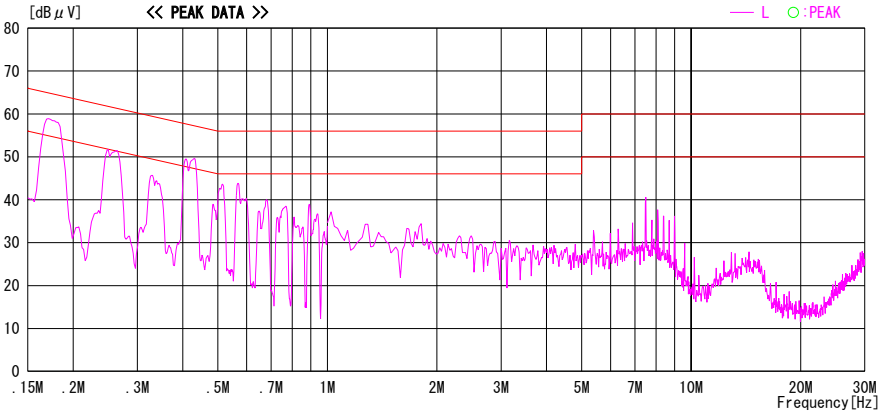


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

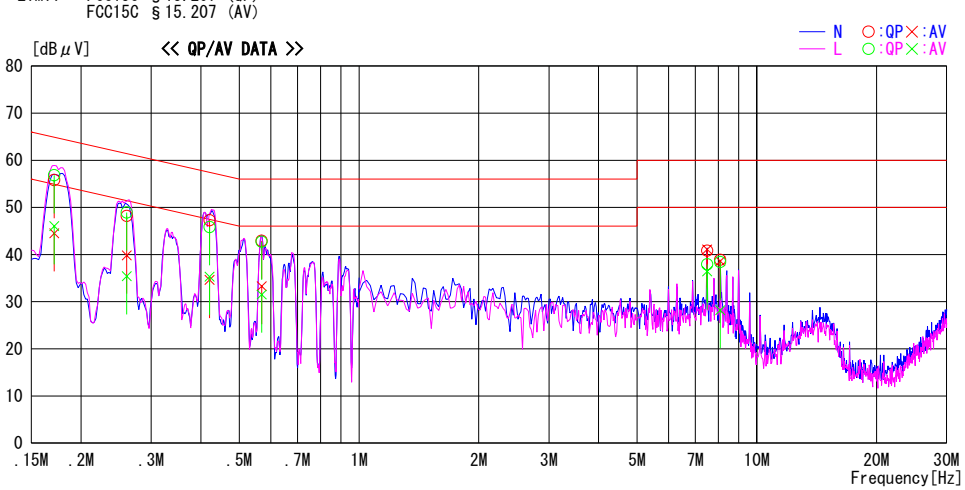
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/09/03 20:04:59

Applicant : Fujitsu Limited
Kind of EUT : Personal Computer
Model No. : P1510D
Serial No. : R5100002

Report No. : 26AE0214-HO
Power : AC120V / 60Hz(AC Adaptor)
Temp℃/Humi% : 26deg.C / 65%
Operator : Yutaka Yoshida

Mode / Remarks : Tx 2441MHz

LIMIT : FCC15C §15.207 (QP)
FCC15C §15.207 (AV)



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase
	QP	AV	Factor	QP	AV	QP	AV	QP	AV	
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
0.17125	55.6	44.3	0.2	55.8	44.5	64.9	54.9	9.1	10.4	N
0.26050	48.0	39.6	0.2	48.2	39.8	61.4	51.4	13.2	11.6	N
0.42107	47.1	34.4	0.2	47.3	34.6	57.4	47.4	10.1	12.8	N
0.56863	42.7	33.1	0.2	42.9	33.3	56.0	46.0	13.1	12.7	N
7.50251	39.7	40.0	1.1	40.8	41.1	60.0	50.0	19.2	8.9	N
8.08751	37.8	37.5	1.1	38.9	38.6	60.0	50.0	21.1	11.4	N
0.17125	56.6	45.8	0.2	56.8	46.0	64.9	54.9	8.1	8.9	L
0.26050	48.7	35.2	0.2	48.9	35.4	61.4	51.4	12.5	16.0	L
0.42107	45.6	35.1	0.2	45.8	35.3	57.4	47.4	11.6	12.1	L
0.56863	42.5	31.3	0.2	42.7	31.5	56.0	46.0	13.3	14.5	L
7.50251	36.8	35.3	1.1	37.9	36.4	60.0	50.0	22.1	13.6	L
8.08751	37.3	27.1	1.1	38.4	28.2	60.0	50.0	21.6	21.8	L

CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

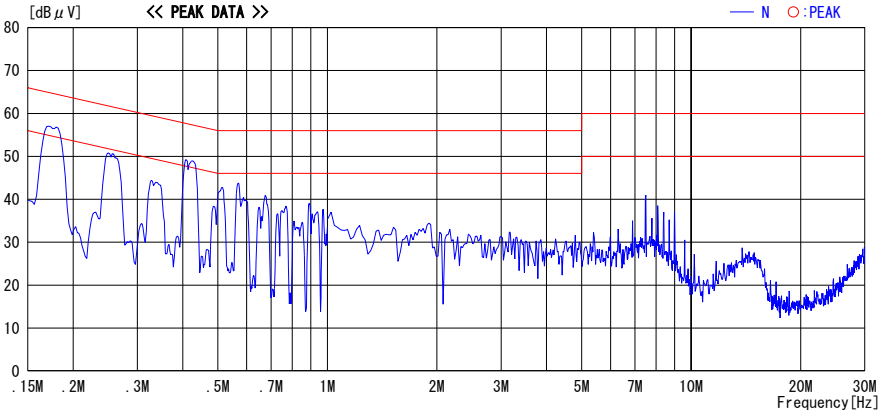
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/09/03 20:09:32

Applicant	: Fujitsu Limited	Report No.	: 26AE0214-HO
Kind of EUT	: Personal Computer	Power	: AC120V / 60Hz(AC Adaptor)
Model No.	: P1510D	Temp℃/Humi%	: 26deg.C / 65%
Serial No.	: R5100002	Operator	: Yutaka Yoshida

Mode / Remarks : Tx 2480MHz

LIMIT : FCC15C §15.207 (QP)
FCC15C §15.207 (AV)



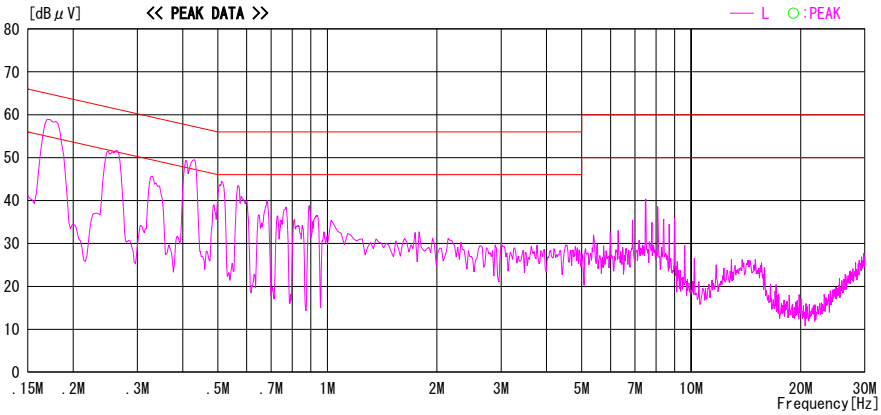


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Carrier Frequency Separation(FHSS)

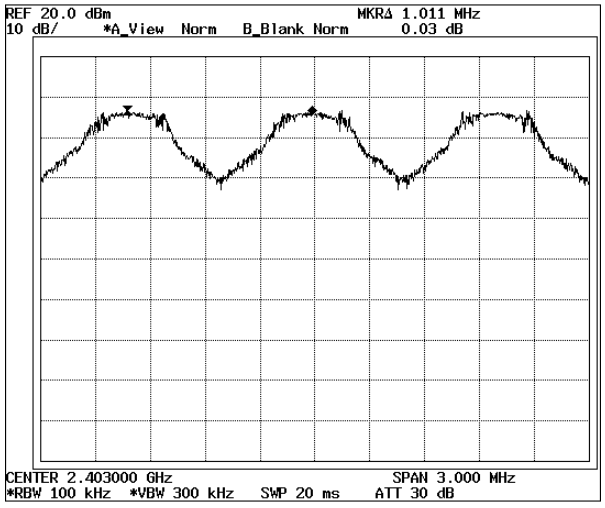
UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Shielded Room

COMPANY	: Fujitsu Limited	REGULATION	: Fcc Part15 Subpart C 15.247(a)(1)
EQUIPMENT	: Personal Computer	TEST DISTANCE	: -
MODEL	: P1510D	DATE	: 09/07/2005
S/ N	: R5100002	TEMPERATURE	: 26deg.C
POWER	: AC 120V /60Hz	HUMIDITY	: 51%
MODE	: Tx(Hopping on)/Inquiry	ENGINEER	: Hiroka Umeyama

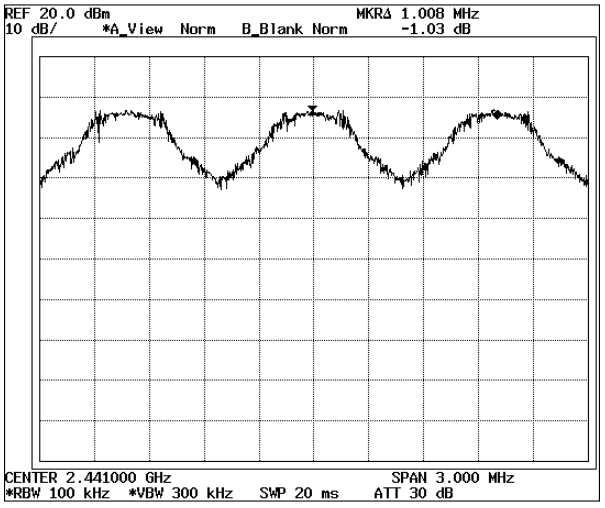
Ch	Freq. [MHz]	Channel separation [MHz]	Limit
Low	2402.0	1.011	>20dB Bandwidth and 25[kHz]
Mid	2441.0	1.008	>20dB Bandwidth and 25[kHz]
High	2480.0	1.005	>20dB Bandwidth and 25[kHz]
Inquiry	2441.0	2.000	>20dB Bandwidth and 25[kHz]

Carrier Frequency Separation(FHSS)

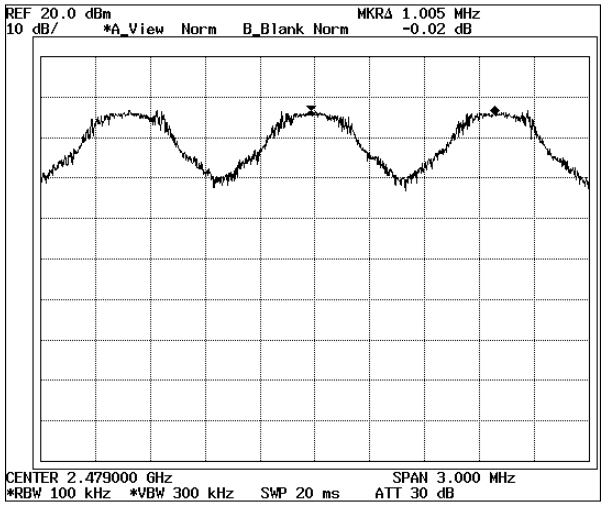
Ch:Low



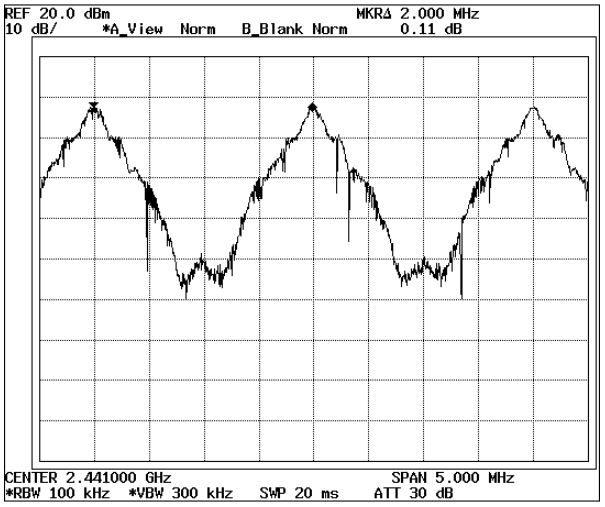
Ch:Mid



Ch:High



Inquiry



20dB Bandwidth(FHSS)

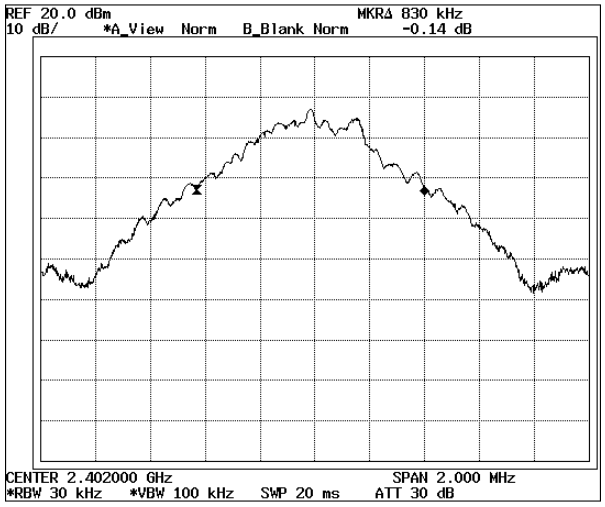
UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Shielded Room

COMPANY	: Fujitsu Limited	REGULATION	: Fcc Part15 Subpart C 15.247(a)(1)
EQUIPMENT	: Personal Computer	TEST DISTANCE	: -
MODEL	: P1510D	DATE	: 09/07/2005
S/ N	: R5100002	TEMPERATURE	: 26deg.C
POWER	: AC 120V /60Hz	HUMIDITY	: 51%
MODE	: Tx (Hopping off) /Inquiry	ENGINEER	: Hiroka Umeyama

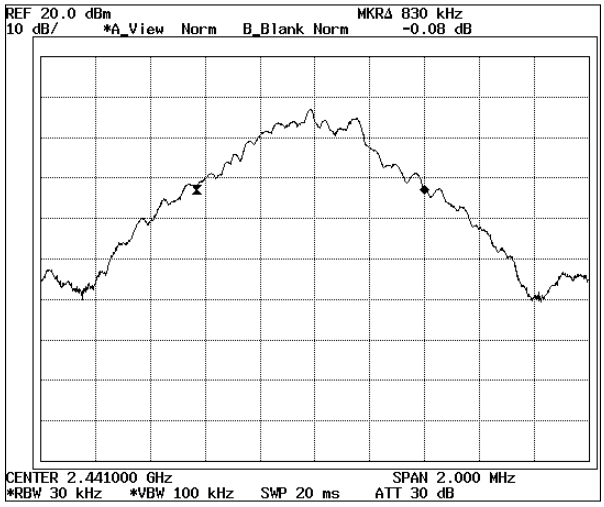
Ch	Freq. [MHz]	20dB Bandwidth [MHz]	Limit [MHz]
Low	2402.0	0.830	-
Mid	2441.0	0.830	-
High	2480.0	0.830	-
Inquiry	2441.0	0.766	-

20dB Bandwidth(FHSS)

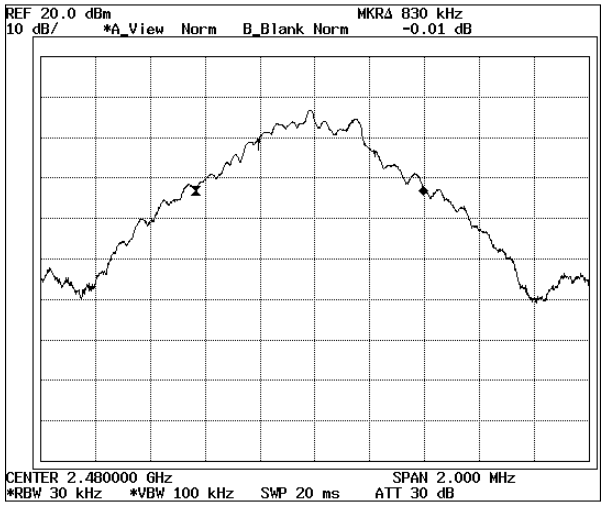
Ch:Low



Ch:Mid



Ch:High



Inquiry

Number of Hopping Frequency(FHSS)

UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Shielded Room

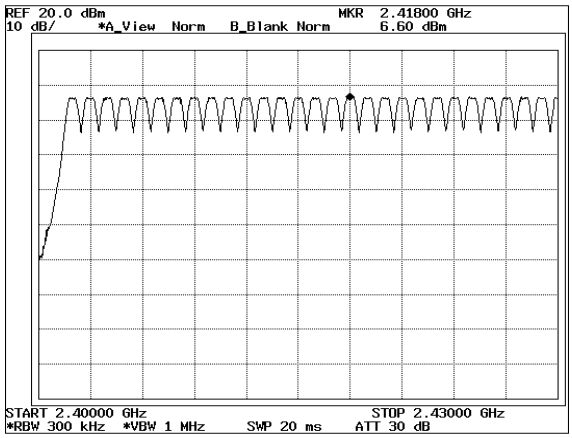
COMPANY	: Fujitsu Limited	REGULATION	: Fcc Part15 Subpart C 15.247(a)(1)(iii)
EQUIPMENT	: Personal Computer	TEST DISTANCE	: -
MODEL	: P1510D	DATE	: 09/07/2005
S/ N	: R5100002	TEMPERATURE	: 26deg.C
POWER	: AC 120V /60Hz	HUMIDITY	: 51%
MODE	: Tx (Hopping on) /Inquiry	ENGINEER	: Hiroka Umeyama

Mode	Number of channel [time]	Limit [time]
Tx(Hopping on)	79	≧15

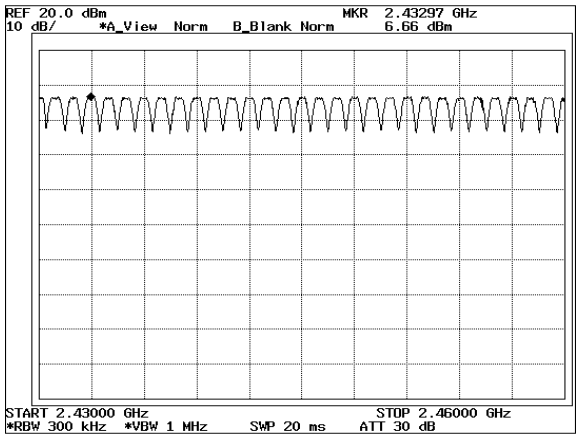
Mode	Number of channel [time]	Limit [time]
Inquiry	32	≧15

Number of Hopping Frequency(FHSS)

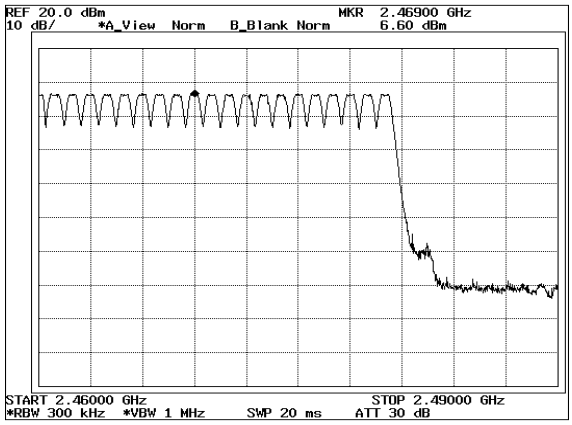
Hopping on (1/3)



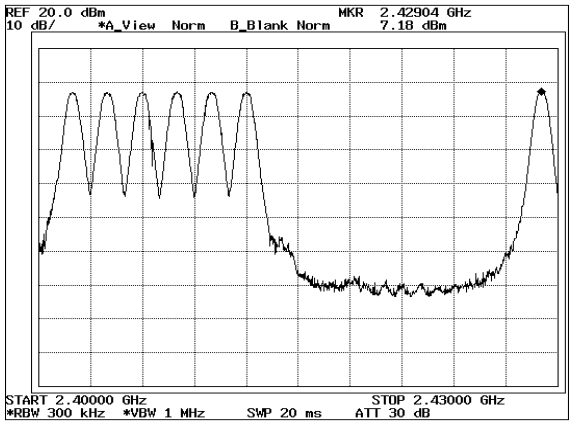
Hopping on (2/3)



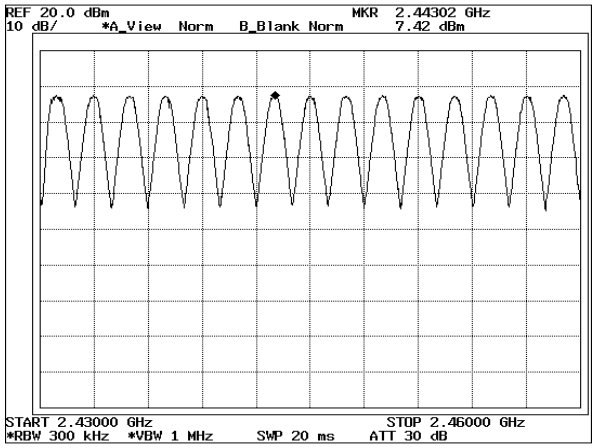
Hopping on (3/3)



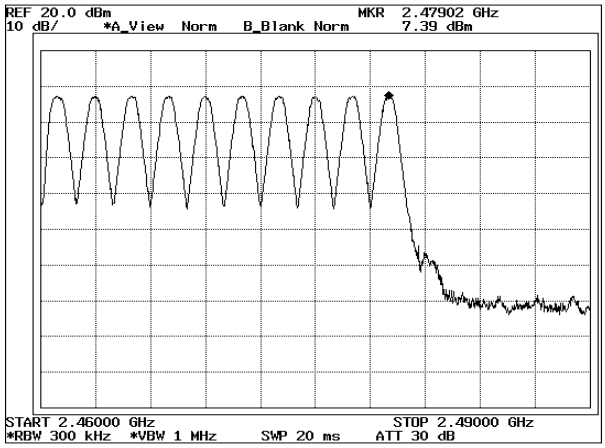
Inquiry (1/3)



Inquiry (2/3)



Inquiry (2/3)



Dwell time(FHSS)

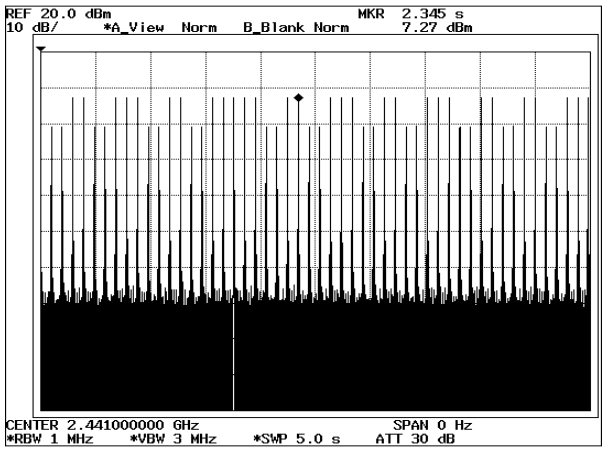
UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Shielded Room

COMPANY	: Fujitsu Limited	REGULATION	: Fcc Part15 Subpart C 15.247(a)(1)(iii)
EQUIPMENT	: Personal Computer	TEST DISTANCE	: -
MODEL	: P1510D	DATE	: 09/07/2005
S/ N	: R5100002	TEMPERATURE	: 26deg.C
POWER	: AC 120V /60Hz	HUMIDITY	: 51%
MODE	: Tx(Hopping on)/Inquiry	ENGINEER	: Hiroka Umeyama

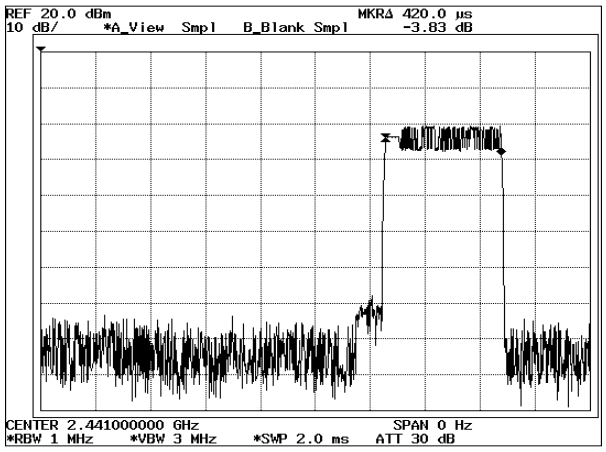
Mode	Number of transmission in a 31.6(79 Hopping x 0.4) / 12.8(32 Hopping x 0.4)second period	Length of transmission time [msec]	Result [msec]	Limit [msec]
DH1	51 times /5sec. x 31.6 = 323 times	0.420	136	400
DH3	26 times / 5sec. x 31.6 = 165 times	1.670	276	400
DH5	17 times / 5 sec. x 31.6 = 108 times	2.918	316	400
Inquiry	(52+51+52+44+40)/ 5= 47.8 times / 1sec. x 12.8 = 612 times	0.122	75	400

Dwell time(FHSS)

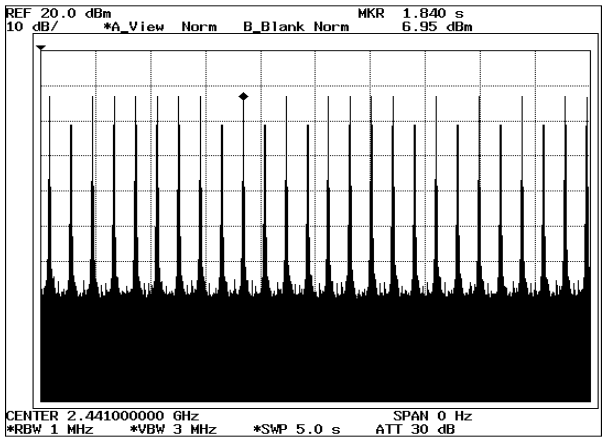
DH1 (1/2)



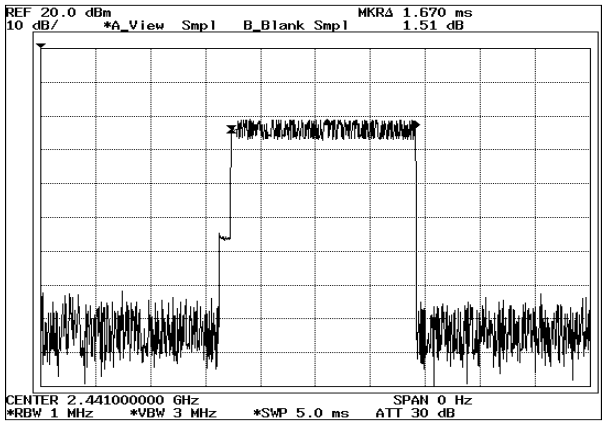
DH1 (2/2)



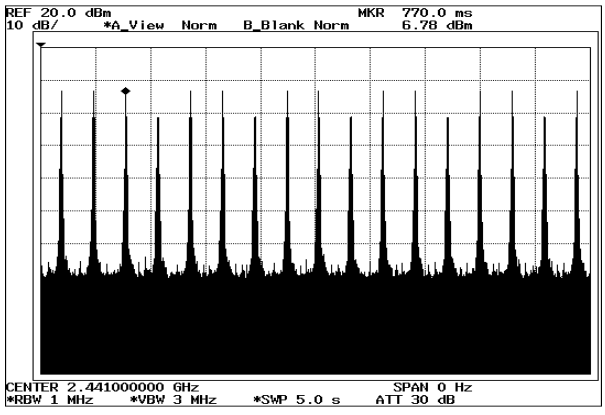
DH3 (1/2)



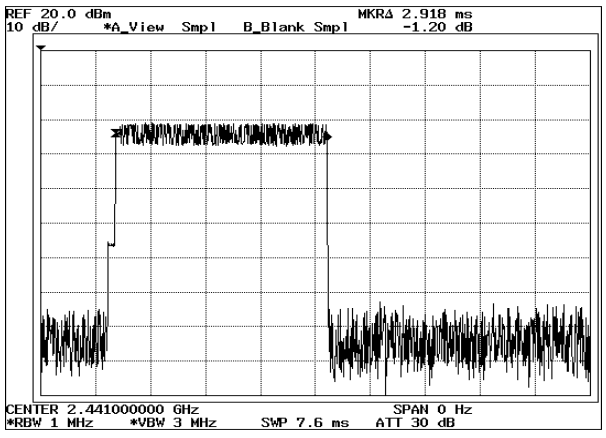
DH3 (2/2)



DH5 (1/2)

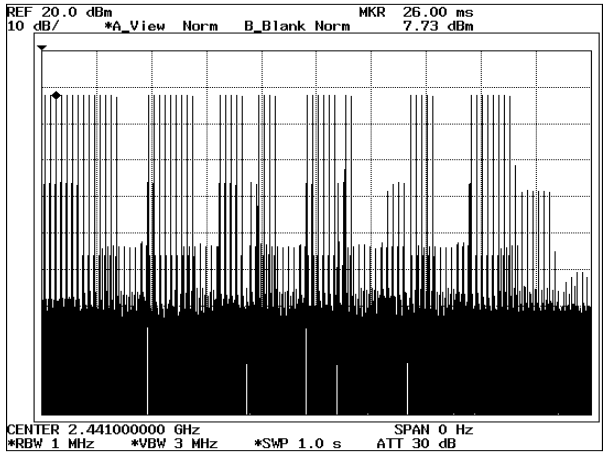


DH5 (2/2)

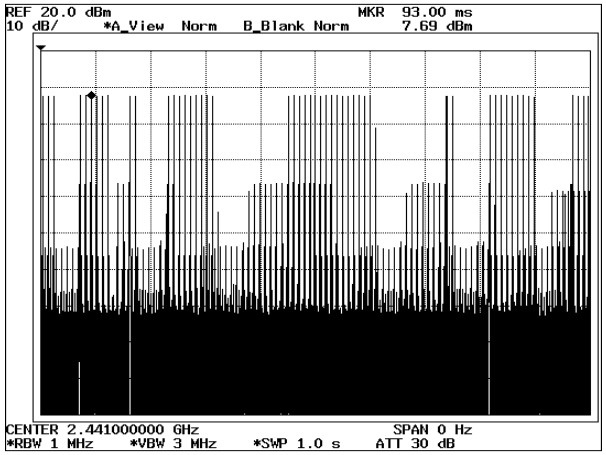


Dwell time(FHSS)

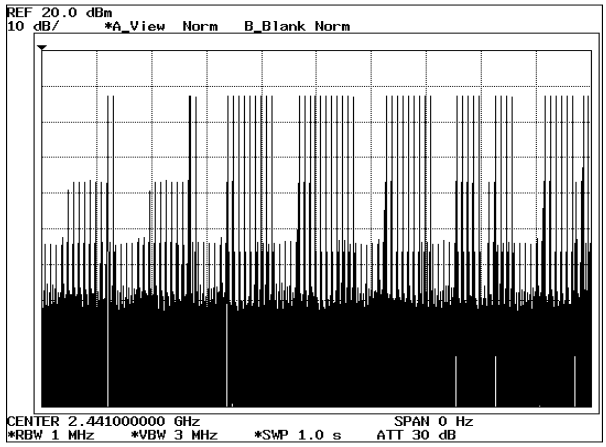
Inquiry (1/6) 52 time



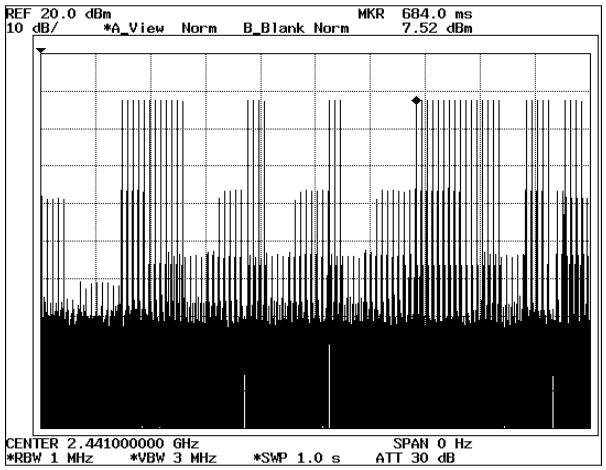
Inquiry (2/6) 51 time



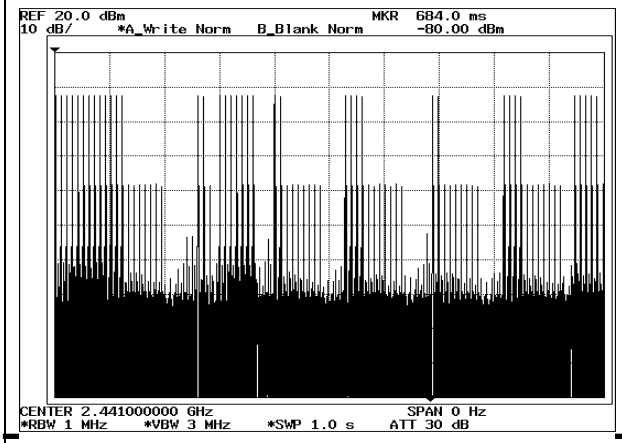
Inquiry (3/6) 52 time



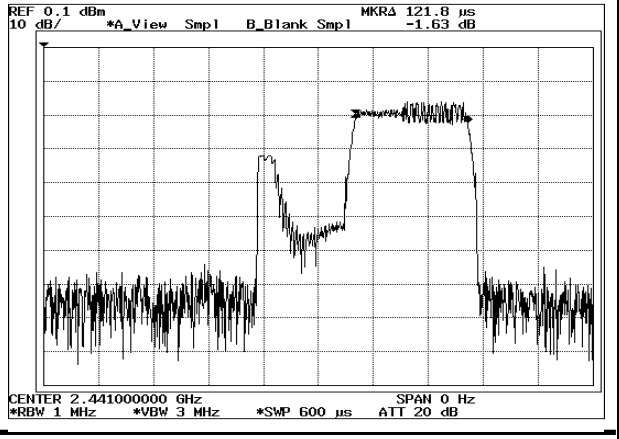
Inquiry (4/6) 44 time



Inquiry (5/6) 40 time



Inquiry (6/6)



Maximum Peak Output Power(FHSS)

UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Shielded Room

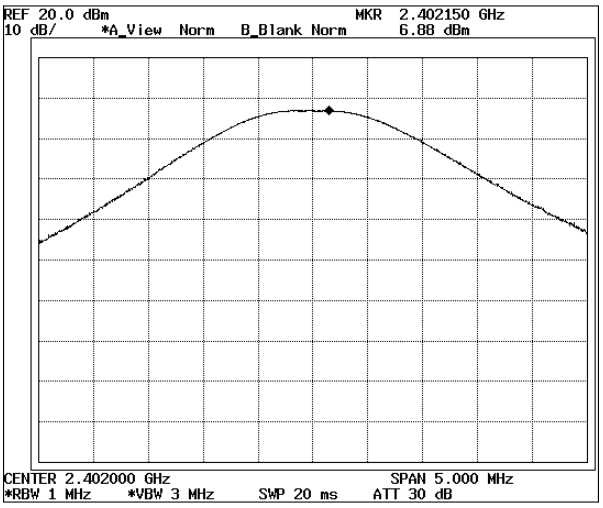
COMPANY	: Fujitsu Limited	REGULATION	: Fcc Part15 Subpart C 15.247(b)(1)
EQUIPMENT	: Personal Computer	TEST DISTANCE	: -
MODEL	: P1510D	DATE	: 09/07/2005
S/ N	: R5100002	TEMPERATURE	: 26deg.C
POWER	: AC 120V /60Hz	HUMIDITY	: 51%
MODE	: Tx(Hopping off)	ENGINEER	: Hiroka Umeyama

Ch	Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
Low	2402.0	6.88	1.46	2.93	11.27	20.96	9.69
Mid	2441.0	6.97	1.43	2.92	11.32	20.96	9.64
High	2480.0	6.88	1.38	2.88	11.14	20.96	9.82

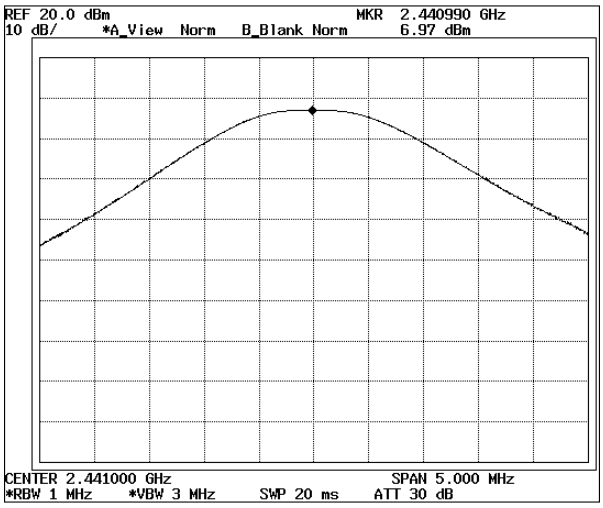
Sample Calculation:
Result = Reading + Cable Loss (supplied by customer)+ Attenuator
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

Maximum Peak Output Power(FHSS)

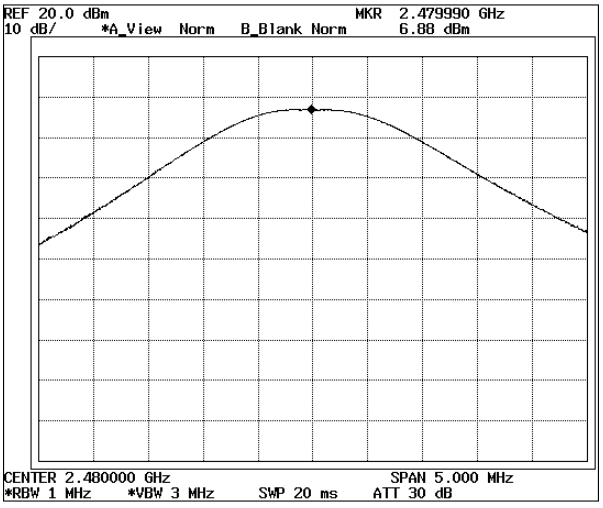
Ch: Low



Ch: Mid



Ch: High



Radiated Spurious Emission(FHSS)

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

DATA OF RADIATED EMISSION TEST

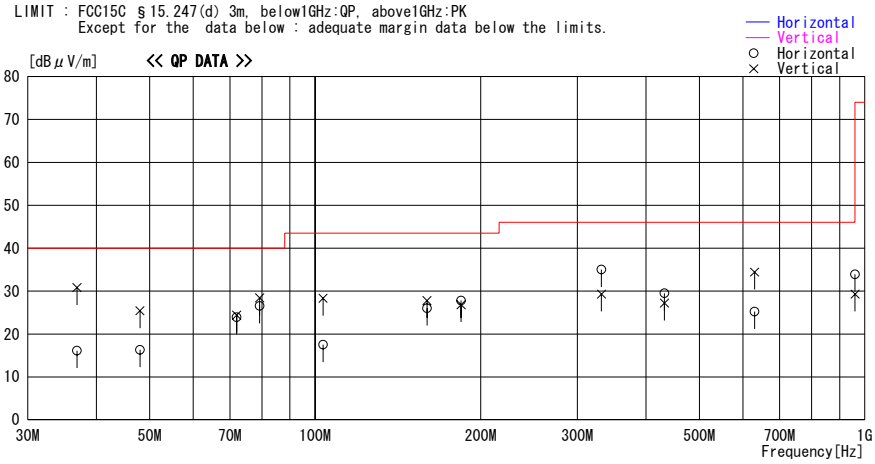
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/09/03 11:00:27

Applicant : Fujitsu Limited
Kind of EUT : Personal Computer
Model No. : P1510D
Serial No. : R5100002

Report No. : 26AE0214-HO
Power : AC120V / 60Hz (AC Adaptor)
Temp./Humi. : 26deg.C / 65%
Operator : Yutaka Yoshida

Mode / Remarks : Tx 2402MHz/ Hor:Y-Axis, Ver:X-Axis (Worst)

LIMIT : FCC15C §15.247(d) 3m, below1GHz:QP, above1GHz:PK
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
36.872	22.7	QP	15.4	-22.0	16.1	0	100	Hori.	40.0	23.9	
36.872	37.4	QP	15.4	-22.0	30.8	145	100	Vert.	40.0	9.2	
48.005	27.3	QP	10.7	-21.7	16.3	89	263	Hori.	40.0	23.7	
48.005	36.4	QP	10.7	-21.7	25.4	0	100	Vert.	40.0	14.6	
72.011	39.0	QP	6.9	-21.5	24.4	61	258	Vert.	40.0	15.6	
72.011	38.5	QP	6.9	-21.5	23.9	155	234	Hori.	40.0	16.1	
79.267	41.1	QP	6.7	-21.3	26.5	102	243	Hori.	40.0	13.5	
79.267	43.0	QP	6.7	-21.3	28.4	234	111	Vert.	40.0	11.6	
103.350	27.5	QP	10.9	-20.9	17.5	192	230	Hori.	43.5	26.0	
103.350	38.3	QP	10.9	-20.9	28.3	207	100	Vert.	43.5	15.2	
159.747	29.6	QP	16.8	-20.4	26.0	225	243	Hori.	43.5	17.5	
159.747	31.4	QP	16.8	-20.4	27.8	89	100	Vert.	43.5	15.7	
184.320	30.9	QP	16.9	-20.0	27.8	103	201	Hori.	43.5	15.7	
184.320	29.9	QP	16.9	-20.0	26.8	72	100	Vert.	43.5	16.7	
331.786	32.5	QP	16.1	-19.3	29.3	162	160	Vert.	46.0	16.7	
331.786	38.2	QP	16.1	-19.3	35.0	26	100	Hori.	46.0	11.0	
432.004	30.4	QP	18.7	-19.6	29.5	325	100	Hori.	46.0	16.5	
432.004	28.1	QP	18.7	-19.6	27.2	157	100	Vert.	46.0	18.8	
630.268	33.6	QP	20.0	-19.2	34.4	343	100	Vert.	46.0	11.6	
630.268	24.4	QP	20.0	-19.2	25.2	33	100	Hori.	46.0	20.8	
960.065	29.0	QP	22.8	-17.9	33.9	176	246	Hori.	74.0	40.1	
960.065	24.4	QP	22.8	-17.9	29.3	132	145	Vert.	74.0	44.7	

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

Radiated Spurious Emission(FHSS)

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/08/29 21:25:34

Applicant : Fujitsu Limited
Kind of EUT : Personal Computer
Model No. : P1510D
Serial No. : R5100002

Report No. : 26AE0214-HO
Power : AC120V / 60Hz(AC Adaptor)
Temp./Humi. : 25deg.C / 62%
Operator : Yutaka Yoshida

Mode / Remarks : Tx 2402MHz/ Hor:Y-axis, Ver:X-Axis(Worst)

LIMIT : FCC15C §15.247(d) 3m, below1GHz:QP, above1GHz:PK
FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
1120.117	71.4	PK	23.0	-34.4	60.0			Hori.	74.0	14.0	
1120.117	64.9	PK	23.0	-34.4	53.5			Vert.	74.0	20.5	
1120.117	60.1	AV	23.0	-34.4	48.7			Hori.	54.0	5.3	
1120.117	54.4	AV	23.0	-34.4	43.0			Vert.	54.0	11.0	
1555.767	60.8	PK	25.1	-33.6	52.3			Vert.	74.0	21.7	
1555.767	53.7	AV	25.1	-33.6	45.2			Vert.	54.0	8.8	
1555.767	60.0	AV	25.1	-33.6	51.5			Hori.	54.0	2.5	
1555.767	68.3	PK	25.1	-33.6	59.8			Hori.	74.0	14.2	
2390.000	51.6	PK	30.5	-32.7	49.4			Hori.	74.0	24.6	
2390.000	54.5	PK	30.5	-32.7	52.3			Vert.	74.0	21.7	
2390.000	37.6	AV	30.5	-32.7	35.4			Hori.	54.0	18.6	
2390.000	40.4	AV	30.5	-32.7	38.2			Vert.	54.0	15.9	
4804.000	43.0	PK	35.2	-29.7	48.5			Hori.	74.0	25.5	
4804.000	43.6	PK	35.2	-29.7	49.1			Vert.	74.0	24.9	
4804.000	31.3	AV	35.2	-29.7	36.8			Hori.	54.0	17.2	
4804.000	33.6	AV	35.2	-29.7	39.1			Vert.	54.0	14.9	
7206.000	43.2	PK	37.7	-29.1	51.8			Hori.	74.0	22.2	
7206.000	44.1	PK	37.7	-29.1	52.7			Vert.	74.0	21.3	
7206.000	30.1	AV	37.7	-29.1	38.7			Hori.	54.0	15.3	
7206.000	30.1	AV	37.7	-29.1	38.7			Vert.	54.0	15.3	
9608.000	38.4	PK	37.0	-28.4	47.0			Hori.	74.0	27.0	
9608.000	38.8	PK	37.0	-28.4	47.4			Vert.	74.0	26.6	
9608.000	29.7	AV	37.0	-28.4	38.3			Hori.	54.0	15.7	
9608.000	29.7	AV	37.0	-28.4	38.3			Vert.	54.0	15.7	

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

Radiated Spurious Emission(FHSS)

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chambe

Company	: Fujitsu Limited	REPORT NO	: 26AE0214-HO
Equipment	: Personal Computer	REGULATION	: Fcc Part15 Subpart C 15.247(d)
Model	: P1510D	TEST DISTANCE	: 3m
Sample No.	: R5100002	DATE	: 08/29/2005
Power	: AC 120V / 60Hz (AC Adapter)	TEMPERATURE	: 25deg.C
Mode	: Bluetooth, Tx: 2402MHz	HUMIDITY	: 62%
Remarks	: EUT-max-axis (Hor.: Y , Ver.: X)	ENGINEER	: Yutaka Yoshida

20dBc(Fundamental 2402MHz) (RBW: 100kHz, VBW: 300kHz)

No.	FREQ	S/A READING		ANT	AMP	CABLE	ATT or	RESULT		Limit	MARGIN	
		HOR	VER	Factor	GAIN	LOSS	Filter Loss	HOR	VER	20dBc	HOR	VER
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
1	2402.0	105.2	111.7	30.5	36.4	3.7	0.0	103.0	109.5	-	-	-
2	2400.0	58.2	64.7	30.5	36.4	3.7	0.0	56.0	62.5	Funda-20dB	27.0	27.0

*Except for the above table : All other spurious emissions were less than 20dB for the limit.
*The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.
*Hi-Pass Filter was not used for factor 0.0dB of the above table.

Radiated Spurious Emission(FHSS)

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/08/31 21:46:27

Applicant : Fujitsu Limited
Kind of EUT : Personal Computer
Model No. : P1510D
Serial No. : R5100002

Report No. : 26AE0214-HO
Power : AC120V / 60Hz(AC Adaptor)
Temp./Humi. : 27deg.C / 61%
Operator : Kenichi Adachi

Mode / Remarks : Bluetooth Tx 2402MHz/ Hor:Y-axis, Ver:X-Axis(Worst)

LIMIT : FCC15C §15.247(d) 3m, below1GHz:QP, above1GHz:PK
FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
12010.000	44.8	PK	41.4	-36.1	50.1			Vert.	74.0	23.9	
12010.000	31.1	AV	41.4	-36.1	36.4			Vert.	54.0	17.6	
12010.000	44.7	PK	41.4	-36.1	50.0			Hori.	74.0	24.0	
12010.000	31.0	AV	41.4	-36.1	36.3			Hori.	54.0	17.7	
14412.000	43.1	PK	41.7	-33.6	51.2			Vert.	74.0	22.8	
14412.000	30.1	AV	41.7	-33.6	38.2			Vert.	54.0	15.8	
14412.000	43.3	PK	41.7	-33.6	51.4			Hori.	74.0	22.6	
14412.000	30.2	AV	41.7	-33.6	38.3			Hori.	54.0	15.7	
16814.000	42.8	PK	44.7	-32.9	54.6			Vert.	74.0	19.4	
16814.000	29.9	AV	44.7	-32.9	41.7			Vert.	54.0	12.3	
16814.000	42.7	PK	44.7	-32.9	54.5			Hori.	74.0	19.5	
16814.000	30.0	AV	44.7	-32.9	41.8			Hori.	54.0	12.2	
19216.000	43.8	PK	41.7	-30.5	55.0			Vert.	74.0	19.0	
19216.000	30.0	AV	41.7	-30.5	41.2			Vert.	54.0	12.8	
19216.000	43.9	PK	41.7	-30.5	55.1			Hori.	74.0	18.9	
19216.000	30.0	AV	41.7	-30.5	41.2			Hori.	54.0	12.8	
21618.000	43.5	PK	40.4	-31.2	52.7			Vert.	74.0	21.3	
21618.000	30.7	AV	40.4	-31.2	39.9			Vert.	54.0	14.1	
21618.000	43.4	PK	40.4	-31.2	52.6			Hori.	74.0	21.4	
21618.000	30.7	AV	40.4	-31.2	39.9			Hori.	54.0	14.1	
24020.000	43.7	PK	41.0	-30.2	54.5			Vert.	74.0	19.5	
24020.000	30.8	AV	41.0	-30.2	41.6			Vert.	54.0	12.4	
24020.000	43.8	PK	41.0	-30.2	54.6			Hori.	74.0	19.4	
24020.000	30.9	AV	41.0	-30.2	41.7			Hori.	54.0	12.3	

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(FHSS)

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

DATA OF RADIATED EMISSION TEST

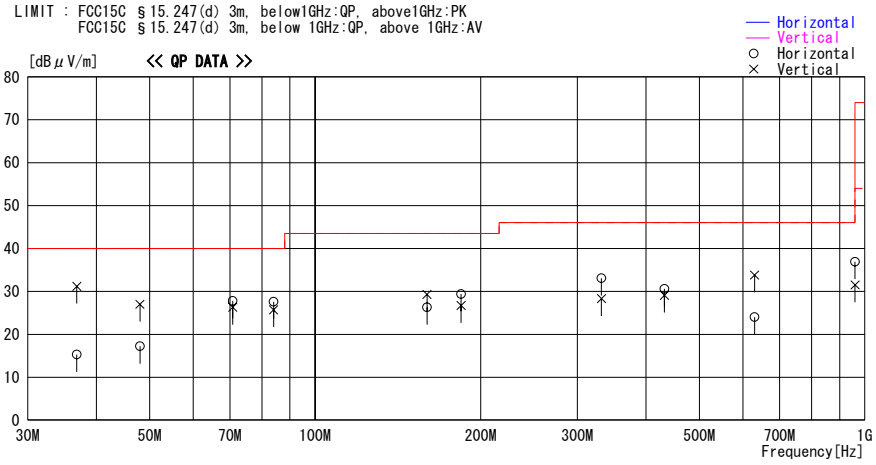
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/09/03 13:33:52

Applicant : Fujitsu Limited
Kind of EUT : Personal Computer
Model No. : P1510D
Serial No. : R5100002

Report No. : 26AE0214-HO
Power : AC120V / 60Hz (AC Adaptor)
Temp./Humi. : 26deg.C / 65%
Operator : Yutaka Yoshida

Mode / Remarks : Tx 2441MHz/ Hor:Y-Axis, Ver:X-Axis (Worst)

LIMIT : FCC15C §15.247(d) 3m, below1GHz:QP, above1GHz:PK
FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
36.862	37.8	QP	15.4	-22.0	31.2	129	100	Vert.	40.0	8.8	
36.862	21.9	QP	15.4	-22.0	15.3	0	100	Hori.	40.0	24.7	
48.000	28.2	QP	10.7	-21.7	17.2	273	287	Hori.	40.0	22.8	
48.000	38.0	QP	10.7	-21.7	27.0	72	100	Vert.	40.0	13.0	
70.792	42.5	QP	6.9	-21.6	27.8	343	200	Hori.	40.0	12.2	
70.792	41.0	QP	6.9	-21.6	26.3	254	291	Vert.	40.0	13.7	
84.000	41.4	QP	7.5	-21.3	27.6	290	246	Hori.	40.0	12.4	
84.000	39.5	QP	7.5	-21.3	25.7	239	100	Vert.	40.0	14.3	
159.744	29.9	QP	16.8	-20.4	26.3	108	121	Hori.	43.5	17.2	
159.744	32.9	QP	16.8	-20.4	29.3	354	100	Vert.	43.5	14.2	
184.321	32.5	QP	16.9	-20.0	29.4	106	185	Hori.	43.5	14.1	
184.321	29.8	QP	16.9	-20.0	26.7	71	100	Vert.	43.5	16.8	
331.781	36.3	QP	16.1	-19.3	33.1	53	100	Hori.	46.0	12.9	
331.781	31.5	QP	16.1	-19.3	28.3	0	200	Vert.	46.0	17.7	
431.991	31.5	QP	18.7	-19.6	30.6	315	100	Hori.	46.0	15.4	
431.991	30.0	QP	18.7	-19.6	29.1	168	115	Vert.	46.0	16.9	
630.236	23.2	QP	20.0	-19.2	24.0	86	100	Hori.	46.0	22.0	
630.236	33.0	QP	20.0	-19.2	33.8	354	100	Vert.	46.0	12.2	
960.071	32.0	QP	22.8	-17.9	36.9	211	168	Hori.	74.0	37.1	
960.071	26.6	QP	22.8	-17.9	31.5	284	100	Vert.	74.0	42.5	

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

Radiated Spurious Emission(FHSS)

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/08/29 22:26:25

Applicant : Fujitsu Limited
Kind of EUT : Personal Computer
Model No. : P1510D
Serial No. : R5100002

Report No. : 26AE0214-HO
Power : AC120V / 60Hz(AC Adaptor)
Temp./Humi. : 25deg.C / 62%
Operator : Yutaka Yoshida

Mode / Remarks : Tx 2441MHz/ Hor:Y-axis, Ver:X-Axis(Worst)

LIMIT : FCC15C §15.247(d) 3m, below1GHz:QP, above1GHz:PK
FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
1120.117	72.0	PK	23.0	-34.4	60.6			Hori.	74.0	13.4	
1120.117	69.2	PK	23.0	-34.4	57.8			Vert.	74.0	16.2	
1120.117	59.9	AV	23.0	-34.4	48.5			Hori.	54.0	5.5	
1120.117	57.7	AV	23.0	-34.4	46.3			Vert.	54.0	7.7	
1555.767	68.2	PK	25.1	-33.6	59.7			Hori.	74.0	14.3	
1555.767	64.9	PK	25.1	-33.6	56.4			Vert.	74.0	17.6	
1555.767	60.1	AV	25.1	-33.6	51.6			Hori.	54.0	2.4	
1555.767	54.7	AV	25.1	-33.6	46.2			Vert.	54.0	7.8	
4882.000	37.0	AV	35.6	-29.7	42.9			Hori.	54.0	11.1	
4882.000	33.7	AV	35.6	-29.7	39.6			Vert.	54.0	14.4	
4882.000	44.8	PK	35.6	-29.7	50.7			Hori.	74.0	23.3	
4882.000	44.2	PK	35.6	-29.7	50.1			Vert.	74.0	23.9	
7323.000	30.5	AV	37.9	-28.9	39.5			Hori.	54.0	14.5	
7323.000	30.4	AV	37.9	-28.9	39.4			Vert.	54.0	14.6	
7323.000	43.6	PK	37.9	-28.9	52.6			Hori.	74.0	21.5	
7323.000	42.6	PK	37.9	-28.9	51.6			Vert.	74.0	22.4	
9764.000	30.0	AV	36.8	-28.1	38.7			Hori.	54.0	15.3	
9764.000	30.0	AV	36.8	-28.1	38.7			Vert.	54.0	15.4	
9764.000	41.5	PK	36.8	-28.1	50.2			Hori.	74.0	23.8	
9764.000	41.8	PK	36.8	-28.1	50.5			Vert.	74.0	23.5	

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

Radiated Spurious Emission(FHSS)

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/08/31 21:57:42

Applicant : Fujitsu Limited
Kind of EUT : Personal Computer
Model No. : P1510D
Serial No. : R5100002

Report No. : 26AE0214-HO
Power : AC120V / 60Hz(AC Adaptor)
Temp./Humi. : 27deg.C / 61%
Operator : Kenichi Adachi

Mode / Remarks : Bluetooth Tx 2441MHz/ Hor:Y-axis, Ver:X-Axis(Worst)

LIMIT : FCC15C §15.247(d) 3m, below1GHz:QP, above1GHz:PK
FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
12205.000	43.9	PK	41.5	-36.0	49.4			Hori.	74.0	24.6	
12205.000	30.6	AV	41.5	-36.0	36.1			Hori.	54.0	17.9	
12205.000	44.0	PK	41.5	-36.0	49.5			Vert.	74.0	24.5	
12205.000	30.7	AV	41.5	-36.0	36.2			Vert.	54.0	17.8	
14646.000	43.4	PK	42.2	-34.1	51.5			Hori.	74.0	22.5	
14646.000	30.4	AV	42.2	-34.1	38.5			Hori.	54.0	15.5	
14646.000	43.5	PK	42.2	-34.1	51.6			Vert.	74.0	22.4	
14646.000	30.6	AV	42.2	-34.1	38.7			Vert.	54.0	15.3	
17087.000	42.7	PK	44.5	-32.6	54.6			Hori.	74.0	19.4	
17087.000	29.5	AV	44.5	-32.6	41.4			Hori.	54.0	12.6	
17087.000	42.8	PK	44.5	-32.6	54.7			Vert.	74.0	19.3	
17087.000	29.7	AV	44.5	-32.6	41.6			Vert.	54.0	12.4	
19528.000	42.6	PK	41.4	-30.5	53.5			Hori.	74.0	20.5	
19528.000	29.9	AV	41.4	-30.5	40.8			Hori.	54.0	13.2	
19528.000	42.5	PK	41.4	-30.5	53.4			Vert.	74.0	20.6	
19528.000	29.8	AV	41.4	-30.5	40.7			Vert.	54.0	13.3	
21969.000	45.1	PK	40.5	-30.8	54.8			Hori.	74.0	19.2	
21969.000	32.3	AV	40.5	-30.8	42.0			Hori.	54.0	12.0	
21969.000	45.0	PK	40.5	-30.8	54.7			Vert.	74.0	19.3	
21969.000	32.2	AV	40.5	-30.8	41.9			Vert.	54.0	12.1	
24410.000	44.0	PK	41.1	-30.5	54.6			Hori.	74.0	19.4	
24410.000	30.9	AV	41.1	-30.5	41.5			Hori.	54.0	12.5	
24410.000	43.9	PK	41.1	-30.5	54.5			Vert.	74.0	19.5	
24410.000	30.8	AV	41.1	-30.5	41.4			Vert.	54.0	12.6	

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)
Except for the data below : adequate margin data below the limits.

Radiated Spurious Emission(FHSS)

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

DATA OF RADIATED EMISSION TEST

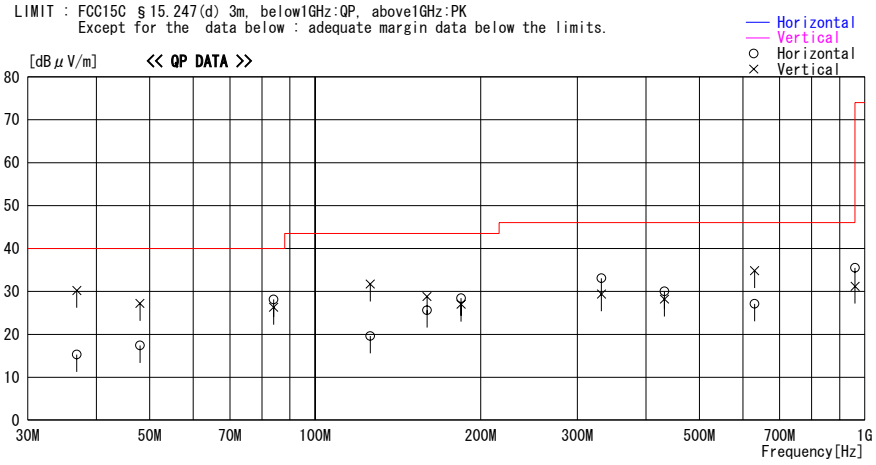
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/09/03 13:45:36

Applicant : Fujitsu Limited
Kind of EUT : Personal Computer
Model No. : P1510D
Serial No. : R5100002

Report No. : 26AE0214-HO
Power : AC120V / 60Hz (AC Adaptor)
Temp./Humi. : 26deg.C / 65%
Operator : Yutaka Yoshida

Mode / Remarks : Tx 2480MHz/ Hor:Y-Axis, Ver:X-Axis (Worst)

LIMIT : FCC15C §15.247(d) 3m, below1GHz:QP, above1GHz:PK
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
36.862	36.8	QP	15.4	-22.0	30.2	155	100	Vert.	40.0	9.8	
36.862	21.9	QP	15.4	-22.0	15.3	100	0	Hori.	40.0	24.7	
48.005	28.4	QP	10.7	-21.7	17.4	265	238	Hori.	40.0	22.6	
48.005	38.2	QP	10.7	-21.7	27.2	0	100	Vert.	40.0	12.8	
84.020	40.1	QP	7.5	-21.3	26.3	324	158	Vert.	40.0	13.7	
84.020	41.9	QP	7.5	-21.3	28.1	301	227	Hori.	40.0	11.9	
126.020	38.9	QP	13.6	-20.8	31.7	272	100	Vert.	43.5	11.8	
126.020	26.8	QP	13.6	-20.8	19.6	30	138	Hori.	43.5	23.9	
159.747	29.2	QP	16.8	-20.4	25.6	99	279	Hori.	43.5	17.9	
159.747	32.4	QP	16.8	-20.4	28.8	48	100	Vert.	43.5	14.7	
184.320	31.5	QP	16.9	-20.0	28.4	117	194	Hori.	43.5	15.1	
184.320	30.1	QP	16.9	-20.0	27.0	72	100	Vert.	43.5	16.5	
331.786	36.3	QP	16.1	-19.3	33.1	45	100	Hori.	46.0	12.9	
331.786	32.6	QP	16.1	-19.3	29.4	159	159	Vert.	46.0	16.6	
431.993	30.9	QP	18.7	-19.6	30.0	306	100	Hori.	46.0	16.0	
431.993	29.1	QP	18.7	-19.6	28.2	171	117	Vert.	46.0	17.8	
630.273	26.3	QP	20.0	-19.2	27.1	47	147	Hori.	46.0	18.9	
630.273	34.0	QP	20.0	-19.2	34.8	336	100	Vert.	46.0	11.2	
960.075	30.6	QP	22.8	-17.9	35.5	147	147	Hori.	74.0	38.5	
960.075	26.3	QP	22.8	-17.9	31.2	119	100	Vert.	74.0	42.8	

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

Radiated Spurious Emission(FHSS)

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/08/29 23:43:13

Applicant : Fujitsu Limited
Kind of EUT : Personal Computer
Model No. : P1510D
Serial No. : R5100002

Report No. : 26AE0214-HO
Power : AC120V / 60Hz(AC Adaptor)
Temp./Humi. : 25deg.C / 62%
Operator : Yutaka Yoshida

Mode / Remarks : Tx 2480MHz/ Hor:Y-axis, Ver:X-Axis(Worst)

LIMIT : FCC15C §15.247(d) 3m, below1GHz:QP, above1GHz:PK
FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV

Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
1120.117	72.7	PK	23.0	-34.4	61.3			Hori.	74.0	12.7	
1120.117	68.0	PK	23.0	-34.4	56.6			Vert.	74.0	17.4	
1120.117	58.5	AV	23.0	-34.4	47.1			Hori.	54.0	6.9	
1120.117	55.0	AV	23.0	-34.4	43.6			Vert.	54.0	10.4	
1555.767	68.2	PK	25.1	-33.6	59.7			Hori.	74.0	14.3	
1555.767	64.6	PK	25.1	-33.6	56.1			Vert.	74.0	18.0	
1555.767	59.7	AV	25.1	-33.6	51.2			Hori.	54.0	2.8	
1555.767	55.0	AV	25.1	-33.6	46.5			Vert.	54.0	7.5	
2483.500	56.8	PK	30.5	-32.7	54.6			Hori.	74.0	19.4	
2483.500	62.0	PK	30.5	-32.7	59.8			Vert.	74.0	14.2	
2483.500	38.5	AV	30.5	-32.7	36.3			Hori.	54.0	17.7	
2483.500	40.8	AV	30.5	-32.7	38.6			Vert.	54.0	15.4	
4960.000	45.8	PK	36.1	-29.4	52.5			Hori.	74.0	21.5	
4960.000	48.4	PK	36.1	-29.4	55.1			Vert.	74.0	18.9	
4960.000	33.5	AV	36.1	-29.4	40.2			Hori.	54.0	13.8	
4960.000	36.8	AV	36.1	-29.4	43.5			Vert.	54.0	10.5	
7440.000	42.1	PK	38.1	-28.4	51.8			Hori.	74.0	22.2	
7440.000	42.4	PK	38.1	-28.4	52.1			Vert.	74.0	21.9	
7440.000	30.3	AV	38.1	-28.4	40.0			Hori.	54.0	14.0	
7440.000	30.5	AV	38.1	-28.4	40.2			Vert.	54.0	13.9	
9920.000	42.6	PK	36.7	-28.1	51.2			Hori.	74.0	22.8	
9920.000	43.1	PK	36.7	-28.1	51.7			Vert.	74.0	22.3	
9920.000	30.3	AV	36.7	-28.1	38.9			Hori.	54.0	15.1	
9920.000	30.3	AV	36.7	-28.1	38.9			Vert.	54.0	15.1	

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

Radiated Spurious Emission(FHSS)

* The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/08/31 22:17:55

Applicant : Fujitsu Limited
Kind of EUT : Personal Computer
Model No. : P1510D
Serial No. : R5100002

Report No. : 26AE0214-HO
Power : AC120V / 60Hz(AC Adaptor)
Temp./Humi. : 27deg.C / 61%
Operator : Kenichi Adachi

Mode / Remarks : Bluetooth Tx 2480MHz/ Hor:Y-axis, Ver:X-Axis(Worst)

LIMIT : FCC15C §15.247(d) 3m, below1GHz:QP, above1GHz:PK
FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV

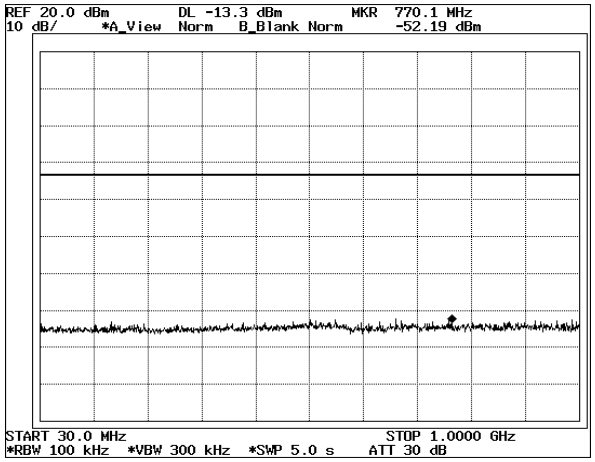
Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
12400.000	44.6	PK	41.6	-35.7	50.5			Hori.	74.0	23.5	
12400.000	31.1	AV	41.6	-35.7	37.0			Hori.	54.0	17.0	
12400.000	44.7	PK	41.6	-35.7	50.6			Vert.	74.0	23.4	
12400.000	31.3	AV	41.6	-35.7	37.2			Vert.	54.0	16.8	
14880.000	43.1	PK	42.6	-34.8	50.9			Hori.	74.0	23.1	
14880.000	30.5	AV	42.6	-34.8	38.3			Hori.	54.0	15.7	
14880.000	43.3	PK	42.6	-34.8	51.1			Vert.	74.0	22.9	
14880.000	30.6	AV	42.6	-34.8	38.4			Vert.	54.0	15.6	
17360.000	41.9	PK	44.4	-32.7	53.6			Hori.	74.0	20.4	
17360.000	29.8	AV	44.4	-32.7	41.5			Hori.	54.0	12.5	
17360.000	42.0	PK	44.4	-32.7	53.7			Vert.	74.0	20.3	
17360.000	29.9	AV	44.4	-32.7	41.6			Vert.	54.0	12.4	
19840.000	42.7	PK	41.1	-30.8	53.0			Hori.	74.0	21.0	
19840.000	29.7	AV	41.1	-30.8	40.0			Hori.	54.0	14.0	
19840.000	42.8	PK	41.1	-30.8	53.1			Vert.	74.0	20.9	
19840.000	29.9	AV	41.1	-30.8	40.2			Vert.	54.0	13.8	
22320.000	44.7	PK	40.4	-30.4	54.7			Hori.	74.0	19.3	
22320.000	32.3	AV	40.4	-30.4	42.3			Hori.	54.0	11.7	
22320.000	44.8	PK	40.4	-30.4	54.8			Vert.	74.0	19.2	
22320.000	32.4	AV	40.4	-30.4	42.4			Vert.	54.0	11.6	
24800.000	44.5	PK	41.1	-29.8	55.8			Hori.	74.0	18.2	
24800.000	31.0	AV	41.1	-29.8	42.3			Hori.	54.0	11.7	
24800.000	44.6	PK	41.1	-29.8	55.9			Vert.	74.0	18.1	
24800.000	31.1	AV	41.1	-29.8	42.4			Vert.	54.0	11.6	

CHART:WITH FACTOR ANT TYPE : -30MHz LOOP,30-300MHz BICONICAL,300MHz-1000MHz LOGPERIODIC,1000MHz- HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)
Except for the data below : adequate margin data below the limits.

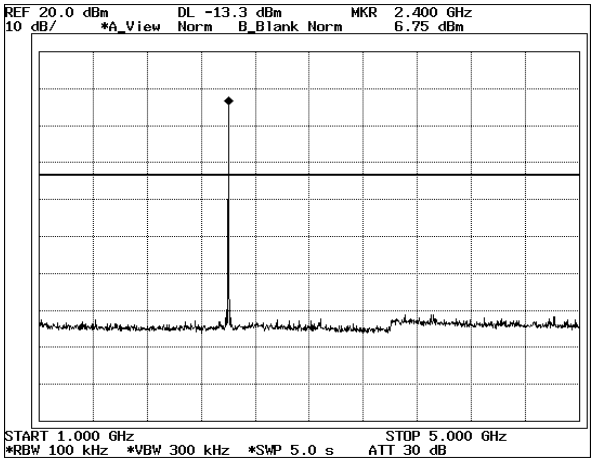
Conducted Spurious Emission (FHSS)

Ch:Low

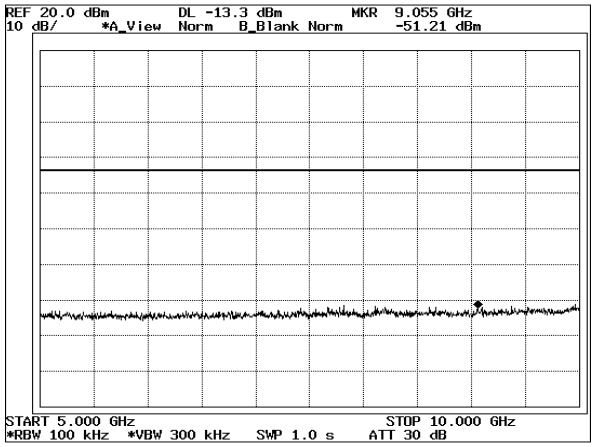
30MHz-1GHz



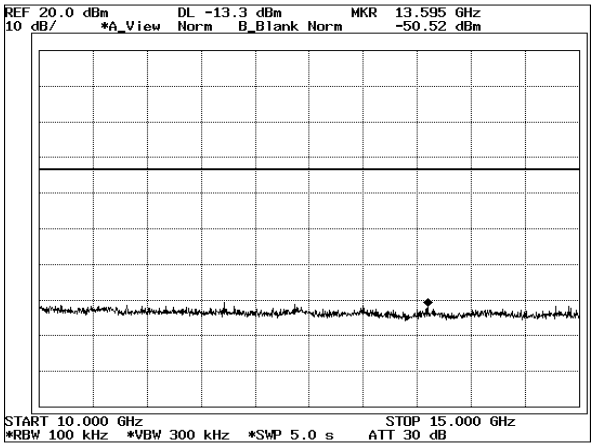
1GHz-5GHz



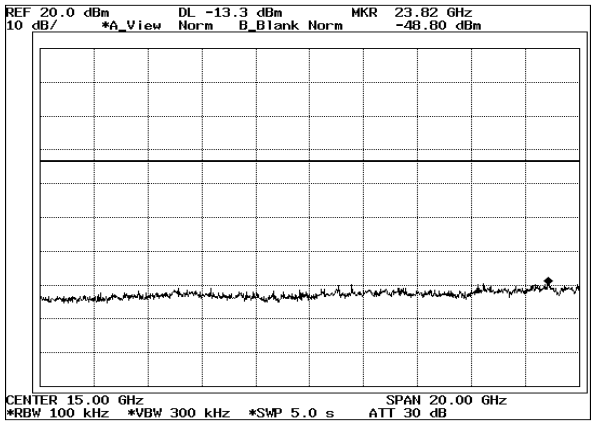
5GHz-10GHz



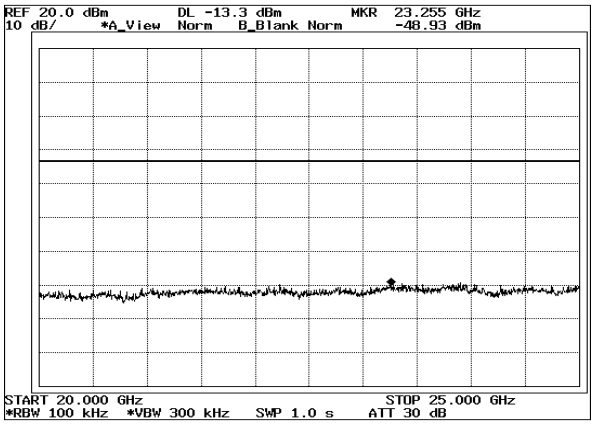
10GHz-15GHz



15GHz-20GHz



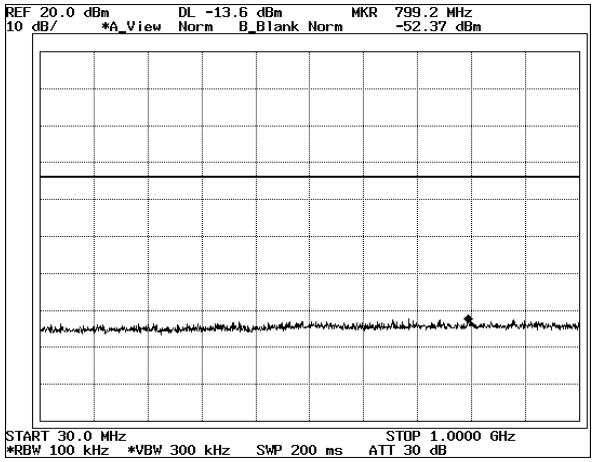
20GHz-25GHz



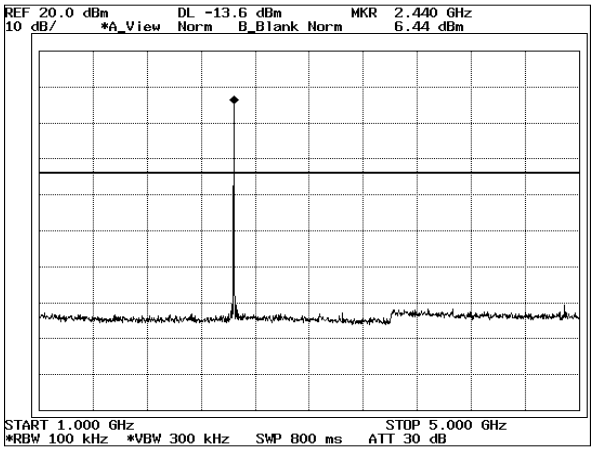
Conducted Spurious Emission (FHSS)

Ch:Mid

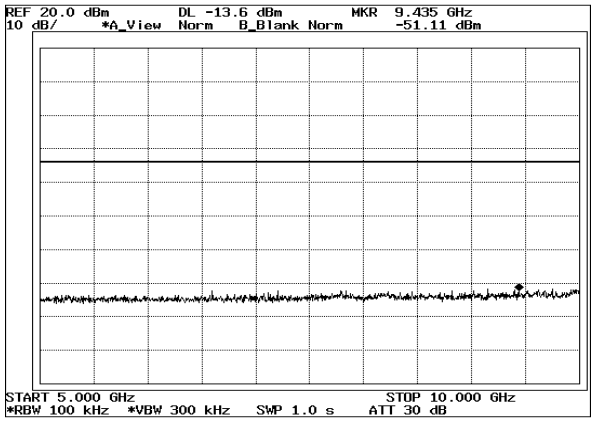
30MHz-1GHz



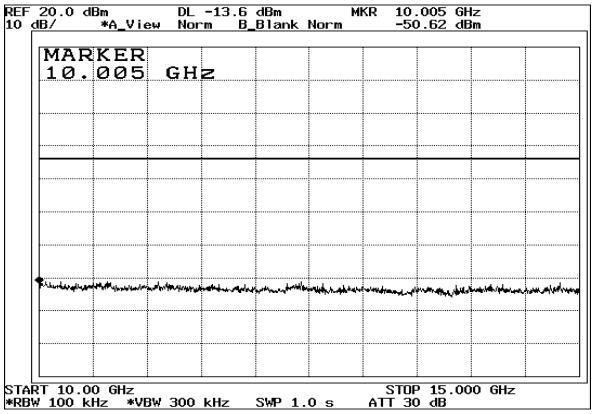
1GHz-5GHz



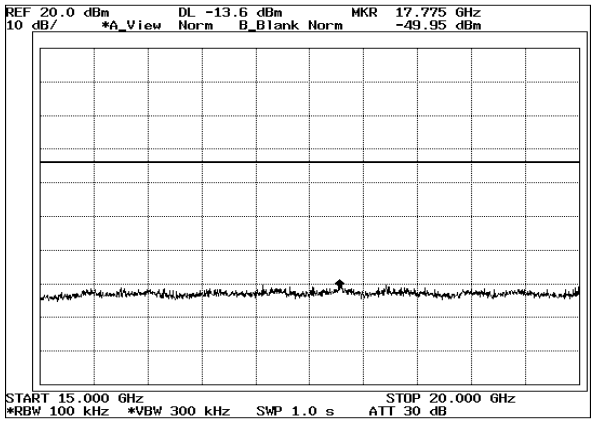
5GHz-10GHz



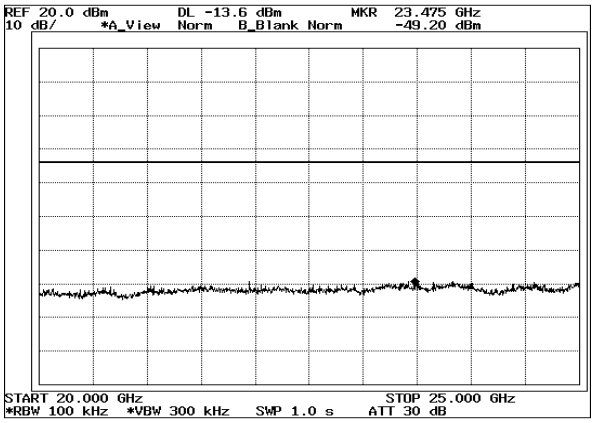
10GHz-15GHz



15GHz-20GHz



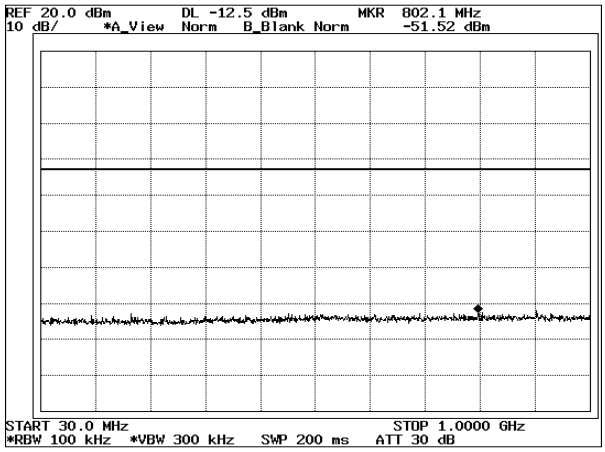
20GHz-25GHz



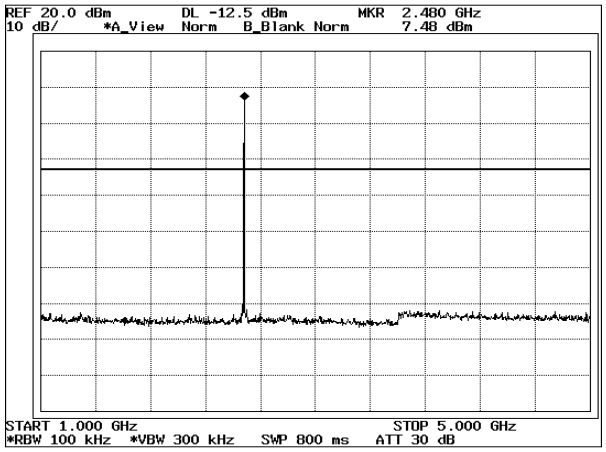
Conducted Spurious Emission (FHSS)

Ch:High

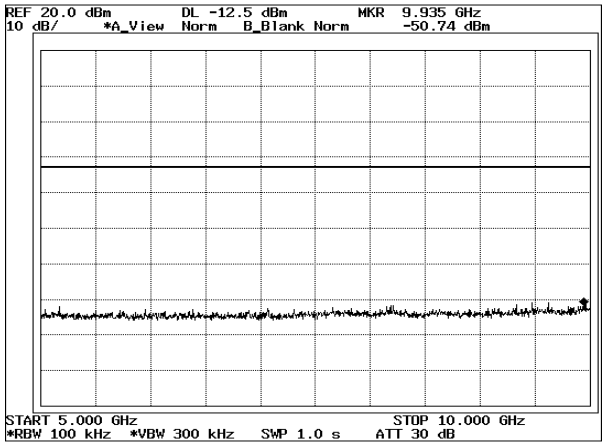
30MHz-1GHz



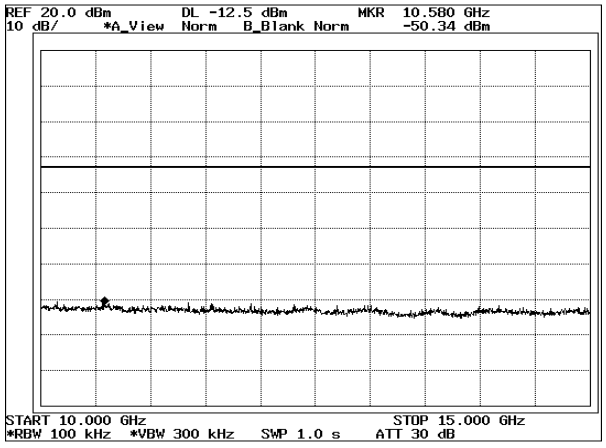
1GHz-5GHz



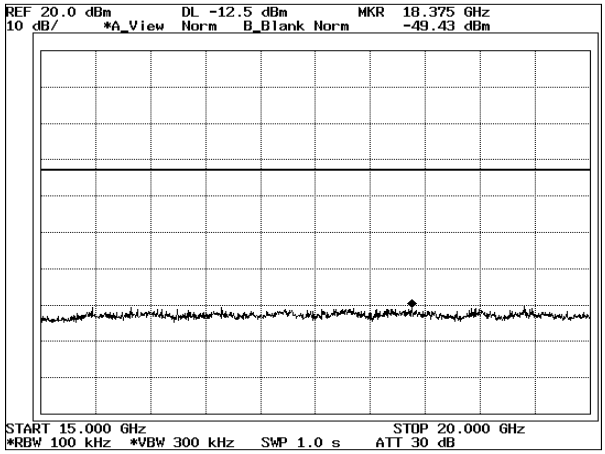
5GHz-10GHz



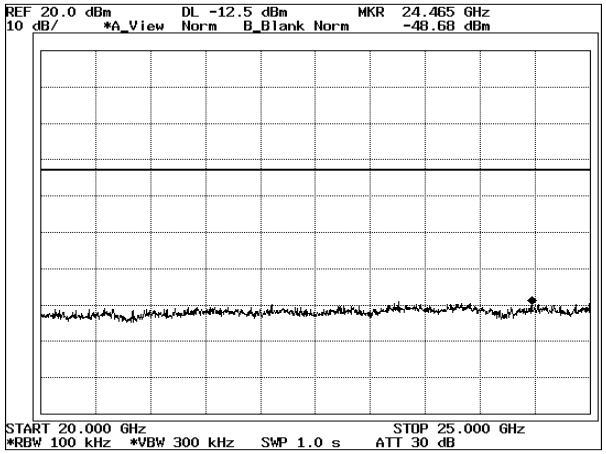
10GHz-15GHz



15GHz-20GHz



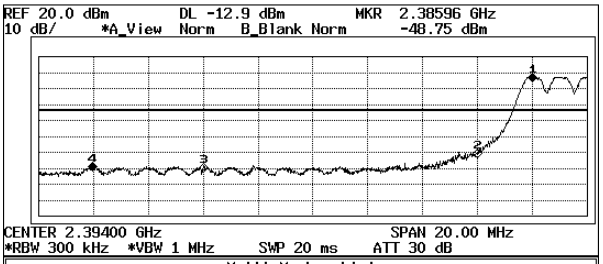
20GHz-25GHz



Conducted Spurious Emission (FHSS)

Band Edge compliance

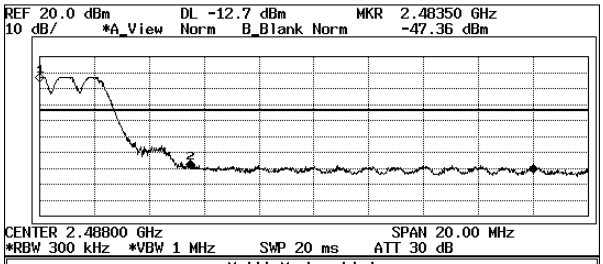
Hopping on (Ch:Low)



Multi Marker List

1:	2.40200 GHz	7.10 dBm
2:	2.40000 GHz	-40.55 dBm
3:	2.39000 GHz	-49.34 dBm
4:	2.38596 GHz	-48.75 dBm
5:		
6:		
7:		
8:		
9:		
10:		
Δ:		

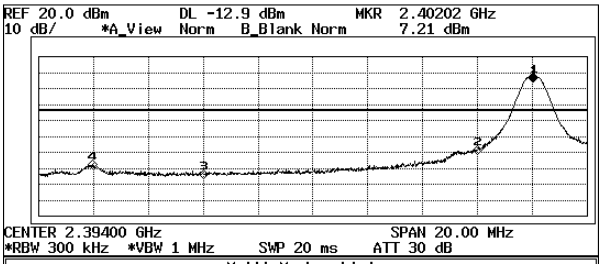
Hopping on (Ch:High)



Multi Marker List

1:	2.47802 GHz	7.26 dBm
2:	2.48350 GHz	-47.36 dBm
3:		
4:		
5:		
6:		
7:		
8:		
9:		
10:		
Δ:		

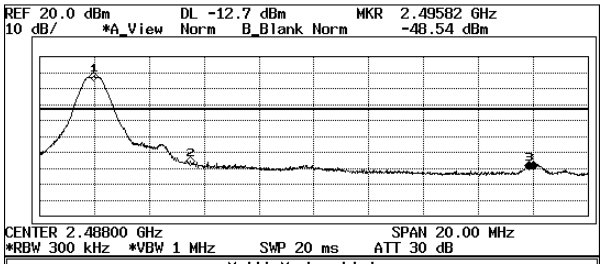
Hopping off (Ch:Low)



Multi Marker List

1:	2.40202 GHz	7.21 dBm
2:	2.40000 GHz	-38.79 dBm
3:	2.39000 GHz	-53.48 dBm
4:	2.38596 GHz	-47.85 dBm
5:		
6:		
7:		
8:		
9:		
10:		
Δ:		

Hopping off (Ch:High)

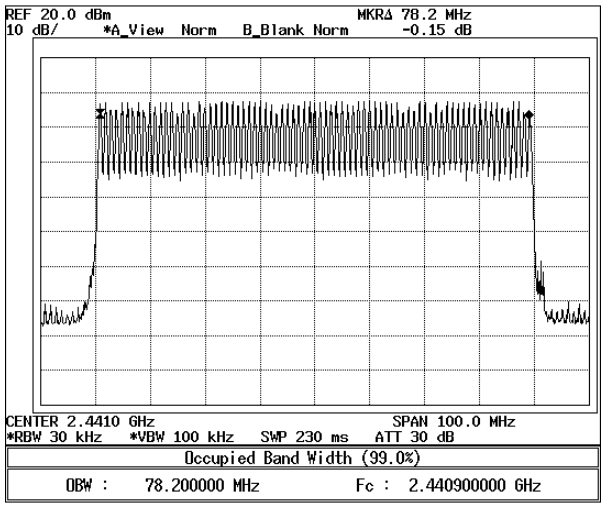


Multi Marker List

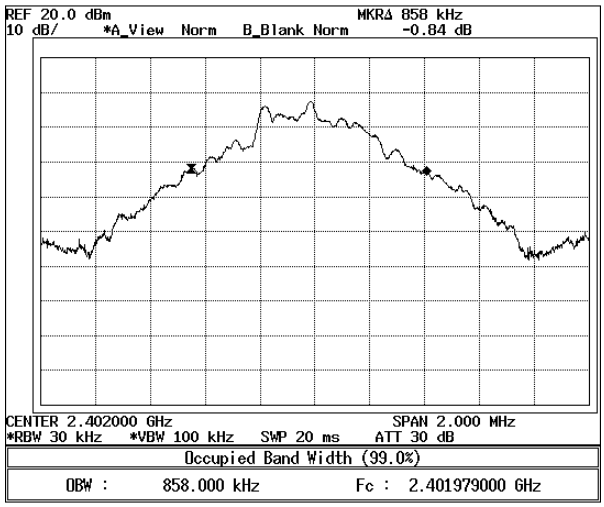
1:	2.47998 GHz	7.33 dBm
2:	2.48350 GHz	-45.72 dBm
3:	2.49582 GHz	-48.54 dBm
4:		
5:		
6:		
7:		
8:		
9:		
10:		
Δ:		

99% Occupied Bandwidth(FHSS)

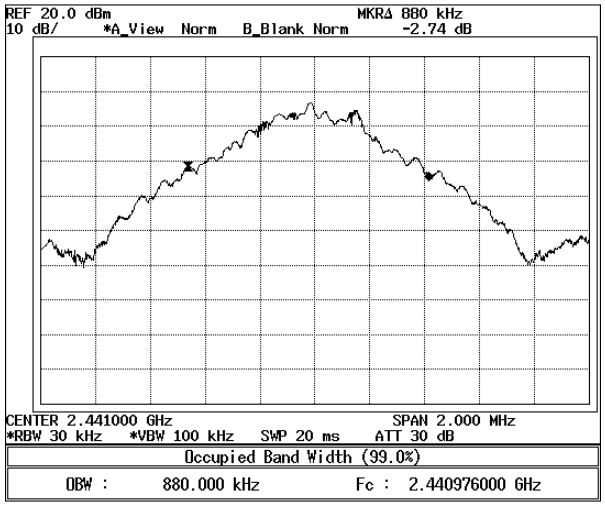
Hopping On



Ch:Low



Ch:Mid



Ch:High