T E S T R E P O R T

REPORT NUMBER	:	ANKK–102298
APPLICANT	:	Sony Corporation
MODEL NUMBER	:	PCWA-C700
FCC ID	:	AK8PCWAC700
REGULATION	:	FCC Part15 Subpart C
	:	FCC Part15 Subpart E

LAB CODE 100290–0

NVLAP accreditation is valid for FCC Part15 (Digital Devices), CISPR22 and AS/NZS 3548. NVLAP accreditation does not cover ICES–003.

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TABLE OF CONTENTS

ABBREVIATIONS

LISN = Line Impedance Stabilization Network

AMN = Artificial Mains Network

ANT = Antenna

BBA = Broad–band Antenna

DIP = Dipole Antenna

AMP = Amplifier

ATT = Attenuator

EUT = Equipment Under Test

Q–P = Quasi–peak

AVG = Average

Ch = Channel

CCK = Complementary Code Keying

OFDM = Orthogonal Frequency Division Multiplexing

EIRP = Effective Isotropic Radiated Power

SECTION 1. TEST CERTIFICATION

APPLICANT INFORMATION

Company	:	Sony Corporation
Address	:	6-7-35, Kitashinagawa, Shinagawa-ku, Tokyo, 141-0001 Japan
Telephone number	:	+81 3 5795 8712
Fax number	:	+81 3 5795 8981

DESCRIPTION OF TEST ITEM

Kind of equipment	:	Wireless LAN PC Card
Condition of equipment	:	Pre-Production
Type	:	Tabletop
Trademark	:	SONY
FCC ID	:	AK8PCWAC700
Model number	:	PCWA-C700
Serial number	:	0000041

TEST PERFORMED

Location	:	Kashima No. 1 Test Site (FCC Reg. No. : 90433)
EUT received	:	December 6, 2002
Test started	:	December 13, 2002
Test completed	:	December 28, 2002
Regulation	:	FCC Part15 Subpart C Section 15.247 FCC Part15 Subpart E Section 15.407 Intentional Radiators
Test setup	:	ANSI C63.4–1992

Report issue date : January 15, 2002

Test engineer : Kazuhiro Ando

Report approved by : Takeshi Yamanaka
[Site Manager]

On the basis of the measurements made, the equipment tested is capable of operation in compliance with the requirements of Part 15 of the FCC Rules under normal use and maintenance.

Note

a. The test result of this report is effective for equipment under test itself and under the test configuration described on the report.

b. This test report does not assure that whether the test result taken in other testing laboratory is compatible or reproducible to the test result on this report or not.

c. This test report shall not be reproduced except in full, without issuer's permission.

SECTION 2. SUMMARY OF RESULTS

2.1 FCC Part 15 Subpart C – Intentional Radiator

Test	Reference	Result
Minimum 6dB Bandwidth	15.247(a)(2)	Pass
Maximum Peak Output Power	15.247(b)	Pass
Spurious Emissions - RF Antenna Conducted Test	15.247(c)	Pass
Spurious Emissions - Radiated Emission Test	15.247(c) 15.205 15.209	Pass
Power Spectral Density	15.247(d)	Pass
Antenna Requirement	15.203	Pass Note1
Restricted Bands of Operation	15.247(c) 15.205 15.209	Pass
AC Conducted Emission	15.207	Pass
Unintentional Radiators	15.107 15.109	- Note 2

Note 1 : The EUT uses Integral antenna.
Note 2 : As for the FCC Part 15 Subpart B-Unintentional Radiators, the EUT has been measured and declared as DoC by Sony Corporation.

2.2 FCC Part 15 Subpart E – Intentional Radiator

Test	Reference	Result
26dB Emission Bandwidth	15.407(a)(1) 15.407(a)(2)	N.A.
Maximum Peak Output Power	15.407(a)(1) 15.407(a)(2)	Pass
Peak Power Spectral Density	15.407(a)(1) 15.407(a)(2)	Pass
Peak Excursion Ratio	15.407(a)(6)	Pass
Spurious Emissions - RF Antenna Conducted	15.407(b)(1) 15.407(b)(2)	Pass
Spurious Emissions - Radiated Emissions (below 1 GHz)	15.407(b)(5) 15.209	Pass
Spurious Emissions - Radiated Emissions (above 1 GHz)	15.407(b)(6) 15.205	Pass
Spurious Emissions - Radiated Emissions (Band Edge)	15.407(b)(6) 15.205	Pass
AC Conducted Emissions	15.407(b)(5) 15.207	Pass
Automatic Discontinuance of Transmission	15.407(c)	Pass Note 1
Antenna Requirement	15.407(d)	Pass Note 2
Indoor Operation	15.407(e)	Pass Note 3
Frequency Stability	15.407(g)	Pass Note 4
Unintentional Radiators	15.107 15.109	- Note 5

Note 1 : Refer to the “Theory of Operations” in separate attachment.
Note 2 : The EUT uses Integral antenna.
Note 3 : Refer to page 2 of the user's manual in separate attachment for the statement regarding restriction of indoor operation.
Note 4 : Frequency Stability is ±20ppm. Refer to the data in separate attachment.
Note 5 : As for the FCC Part 15 Subpart B-Unintentional Radiators, the EUT has been measured and declared as DoC by Sony Corporation.

SECTION 3. EQUIPMENT UNDER TEST

The equipment under test (EUT) consisted of the following equipment.
Indication in the following left side column corresponds to Section 6.

Symbol	Item	Model No.	Serial No.	FCC ID / DoC	Manufacturer	Remarks
A)	Wireless LAN PC Card	PCWA-C700	0000041	AK8PCWAC700	Sony Corporation	

Power ratings of EUT : DC 3.3V, Max. 660mA

DoC : Device for Declaration of Conformity

3.1 Overview of EUT

3.1.1 Access Method : IEEE 802.11b

Operating Frequency Range	2.4 – 2.4835 GHz	
Modulation Method	CCK	
Number of Operating Channel	11	
Data Transfer Rate	1Mbps / 2Mbps / 5.5Mbps / 11Mbps	
Antenna Gain	Antenna A	0.7 dBi
	Antenna B	2.0 dBi
Output Power	14.5 mW	
EIRP	22.9 mW	

3.1.1 Access Method : IEEE 802.11a

Operating Frequency Range	5.15 - 5.35 GHz	
Modulation Method	OFDM	
Number of Operating Channel	8	
Data Transfer Rate	6Mbps / 9Mbps / 12Mbps / 18Mbps / 24Mbps / 36Mbps / 48Mbps / 54Mbps	
Antenna Gain	Antenna A	0.8 dBi
	Antenna B	4.0 dBi
Output Power	20.0 mW	
EIRP	50.1 mW	

3.2 Operating channels and frequencies

3.2.1 Access Method : IEEE 802.11b

Ch	Frequency (GHz)	Ch	Frequency (GHz)
1	2.412	7	2.442
2	2.417	8	2.447
3	2.422	9	2.452
4	2.427	10	2.457
5	2.432	11	2.462
6	2.437		

Note:

1. This is for sure that all frequencies are in 2.412 GHz to 2.462 GHz.
2. Section 15.31(m): Measurements on intentional radiators or receivers shall be performed at three frequencies for operating frequency range over 10 MHz. (The locations of these frequencies one near the low, one near the middle and one near the high.)
3. After test, the EUT operating frequencies are in 2.412 GHz to 2.462 GHz. So all the items as followed in testing report are need to test these three frequencies: low: ch 1, middle: ch 6, high: ch 11.

3.2.2 Access Method : IEEE 802.11a

Ch	Frequency (MHz)	Ch	Frequency (MHz)
36	5.18	52	5.26
40	5.20	56	5.28
44	5.22	60	5.30
48	5.24	64	5.32

Note:

1. This is for sure that all frequencies are in 5.18GHz to 5.32GHz.
2. Section 15.31(m): Measurements on intentional radiators or receivers shall be performed at three frequencies for operating frequency range over 10 MHz. (The locations of these frequencies one near the low, one near the middle and one near the high.)
3. After test, the EUT operating frequencies are in 5.18GHz to 5.32GHz. So all the items as followed in testing report are need to test these three frequencies: low: ch 36, middle: ch 48, high: ch 64.

3.3 Port(s)/Connector(s) :

Port name	Connector type	Connector pin	Remarks
Card Bus Port	PC Card Card Bus	68 pin	

3.4 Oscillator(s)/Crystal(s) :

Oscillator	Operating frequency	Board name	Remarks
32 MHz	40 MHz	IFX-230	
	32 MHz	IFX-230	
	1.036 – 1.064 GHz	IFX-230	
	4.144 – 4.256 GHz	IFX-230	
	5.18 – 5.32 GHz	IFX-230	
	1.116 – 1.126 GHz	IFX-230	
	4.464 – 4.504 GHz	IFX-230	
	5.580 – 5.630 GHz	IFX-230	Highest frequency
	3.168 GHz	IFX-230	
	2.412 – 2.462 GHz	IFX-230	

SECTION 4. SUPPORT EQUIPMENT USED

The EUT was supported by the following equipment during the test.
Indication in the following left side column corresponds to Section 6.

Symbol Item	Model No.	Serial No.	FCC ID / DoC	Manufacturer Remarks
B) Computer	PVC-MXS20	100000060	DoC	Sony Corporation
C) CRT Display	E551	MY-044NEK-46632-0BF-9065	DoC	Dell
D) Keyboard	PCVA-KB2P/JC	100000058	DoC	Sony Corporation
E) Mouse	1-796-183-31	100000060	DoC	Sony Corporation
F) Serial Joystick	863129-0000	LZA64701141	DZL201048	Logitech
G) Printer	P12PB	0E11397879	BKM9A8P12PB	EPSON

DoC : Device was tested and authorized under a Declaration of Conformity to the applicable FCC rules.

SECTION 5. CABLE (S) USED

The following cable(s) was used for the test.
Indication number in the following left side column corresponds to Section 6.

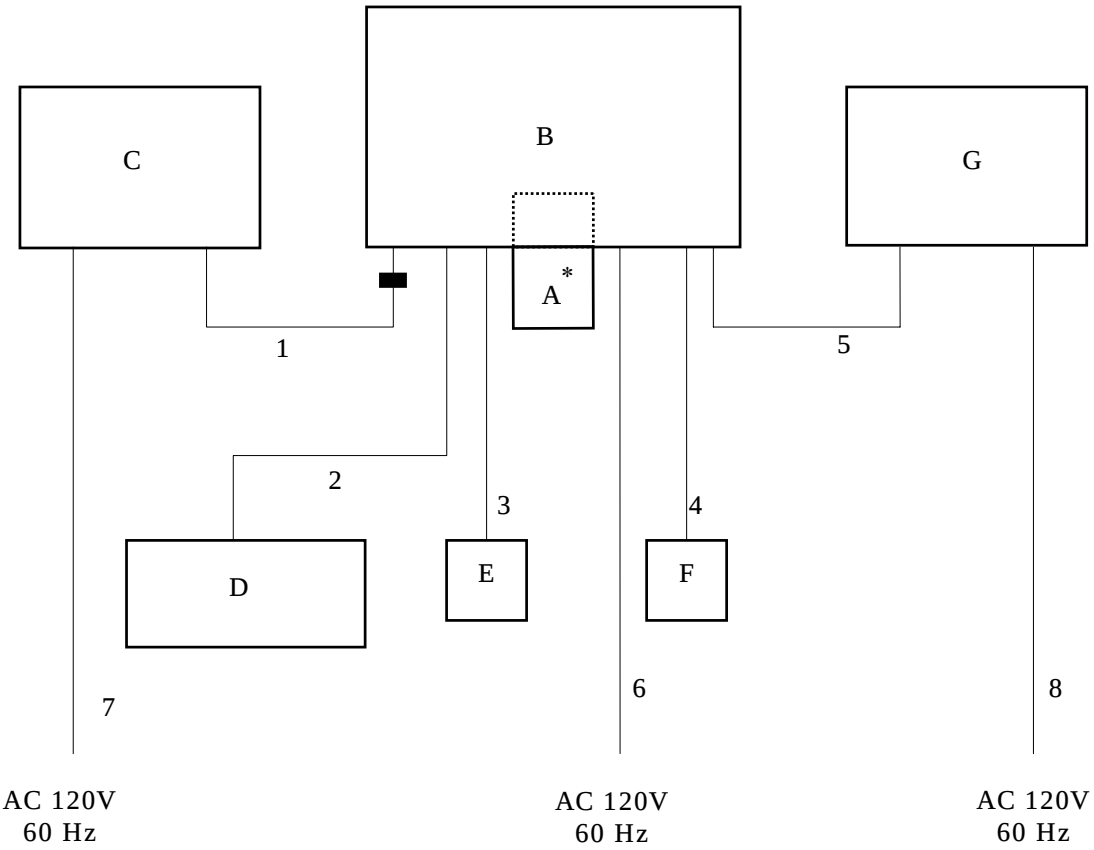
Number	Name	Length	Shield	Connector	Core
1)	Video cable	1.70 m	Yes	Metal	Fixed ×1
2)	Keyboard cable	1.80 m	Yes	Metal	
3)	Mouse cable	1.80 m	Yes	Metal	
4)	Serial cable	1.70 m	Yes	Metal	
5)	Centronics cable	2.40 m	Yes	Metal	
6)	Power cable for Computer	1.80 m	None		
7)	Power cable for CRT Display	1.90 m	None		
8)	Power cable for Printer	1.90 m	None		

SECTION 6. CONSTRUCTION OF EQUIPMENT

The construction of EUT during the test was as follows.

System configuration

* : EUT
■ : Ferrite core



Symbols or numbers assigned to equipment or cables on this diagram are corresponded to the symbols or numbers assigned to equipment or cables on tables in Sections 3 to 5.

SECTION 7. GENERAL TEST CONDITIONS

The EUT was operated under the following conditions during the test.

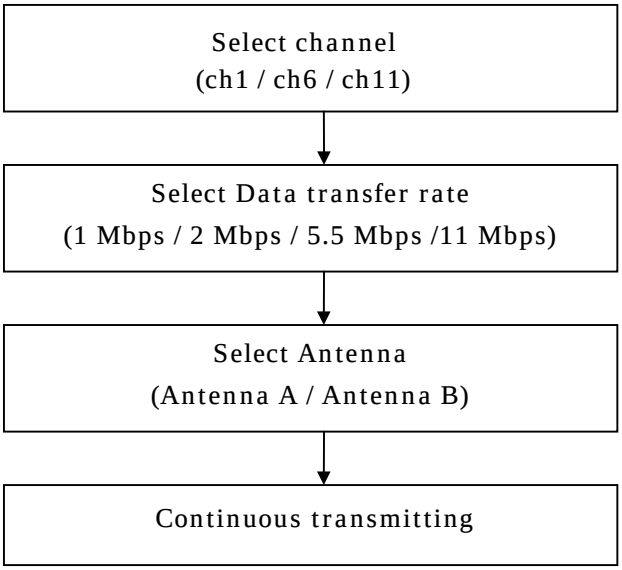
7.1 Operating condition

The test was carried out with the transmitter set at maximum power in Test mode. EUT was examined in the operating conditions that had maximum emissions.

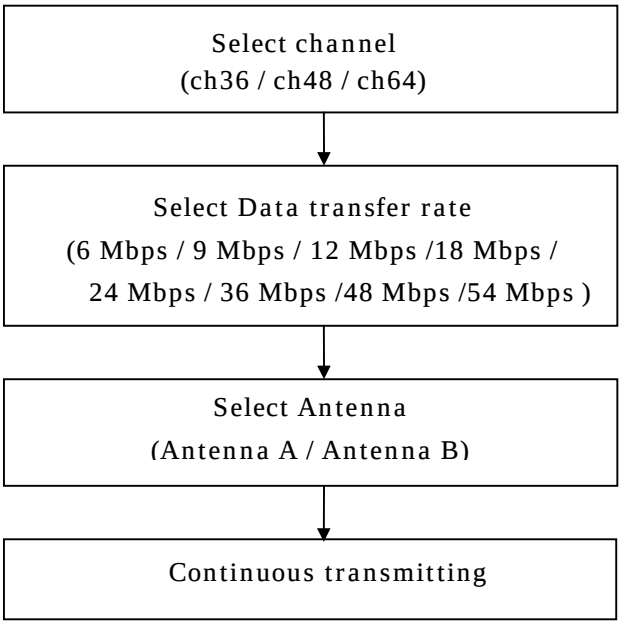
7.2 Operating flow

Following operations were performed continuously.

7.2.1 Test mode (Access Method : IEEE 802.11b)



7.2.2 Test mode (Access Method : IEEE 802.11a)



SECTION 8. TEST PROCEDURE(S)

Test was carried out under the following conditions.
Test was carried out with no deviations from standards and test methods.

8.1 Conducted Emission Test [15.207]

8.1.1 Equipment Setup

System configuration and Equipment setup are shown on Section 6 and Section 10.

8.1.1.1 Table–Top Equipment

EUT is placed on the wooden table raised 0.8meter above the metal ground plane.

8.1.1.2 Interconnecting Cables

Excess part of the interconnecting cables longer than 1 meter are bundled in the center. Cables that hang closer than 40 cm to the ground plane is folded back and forth forming bundle 30 to 40 cm long, hanging approx, in the middle between ground plane and table.

8.1.1.3 AC Power Cable

AC power cable for EUT is connected to one LISN which is placed on the ground plane. The LISN is placed in 80 cm from the nearest part of EUT chassis.
The excess power cable is bundled in the center, or shortened to appropriate length.
AC cables except from the EUT are connected second LISN.

8.1.2 Measuring Instruments

Brief description of Measuring Instruments are as follows;

8.1.2.1 Spectrum Analyzer

The Spectrum analyzer is used for preliminary measurement.

8.1.2.2 EMI Test Receiver

The Quasi–peak detector (IF bandwidth : 10 kHz) and average detector (IF bandwidth : 10 kHz) built in test receiver is used for final measurement.
The test receiver is complied with the specification of the CISPR publication 16.

8.1.2.3 LISN

Two 50μH//50Ω LISN are used. The chassis of the LISN is bonded to the ground plane by the copper blade.
One LISN is connected to the EUT. Other LISN (2nd LISN) is connected to the support equipment. The signal output of the 2nd LISN is terminated with a 50Ω termination.

8.1.3 Test Procedure

8.1.3.1 Preliminary Measurement

EUT is tested on all operating conditions.
The spectrum analyzer is controlled by the computer program to sweep the frequency range to be measured, then spectrum chart are plotted out to find the worst emission conditions in operating mode and/or configuration decision for the final test.
All leads other than safety ground are tested.

8.1.3.2 Final Measurement

The EUT is operated in the worst emission condition found by the preliminary test.
The equipment and cables are arranged or manipulated within the range of the test standard in the above condition.
At least six highest spectrum are measured in quasi–peak and average (if necessary) using the test receiver.

8.2 Radiated Emission Test [15.209]

8.2.1 Equipment Setup

System configuration and Equipment setup are shown on Section 6 and Section 10.

8.2.1.1 Table–Top Equipment

EUT is placed on the wooden table raised 0.8meter above the metal ground plane (turntable).

8.2.1.2 Interconnecting Cables

Excess part of the interconnecting cables longer than 1 meter are bundled in the center. Cables that hang closer than 40 cm to the ground plane is folded back and forth forming bundle 30 to 40 cm long, hanging approx, in the middle between ground plane and table.

8.2.2 Measuring Instruments

Brief description of Measuring Instruments are as follows;

8.2.2.1 Antennas

The broadband Bi–cog antenna is used for measurement on the frequency range 30 – 1000 MHz.
The Double ridged guide antenna and the Standard gain horn antennas are used for frequency higher than 1000 MHz.
If uncertain result was obtained, the broadband antenna is replaced by the half wave length dipole, then measurement is carried out over again.

8.2.2.2 Pre–amplifier

The broadband pre–amplifier is used for radiated emission measurement.
The signal to noise ratio is improved by using pre–amplifier.

8.2.2.3 Spectrum Analyzer

The spectrum analyzer is used for preliminary measurement of frequency range 30 – 1000 MHz, and also used for final measurement of higher than 1000 MHz (Resolution bandwidth : 1 MHz).

8.2.2.4 EMI Test Receiver

The Quasi–peak detector (IF bandwidth : 120 kHz) built in test receiver is used for final measurement of the frequency 30 – 1000 MHz.
The test receiver is complied with the specification of the CISPR publication 16.

8.2.2.5 Turntable

The turntable is capable for EUT weight and rotatable 0 to 360 degree horizontally by remote control in the test room.

8.2.2.6 Antenna Mast

The antenna mast is attachable to all antennas described on clause 8.2.2.1 and antenna height is adjustable 1 to 4 meters continuously by remote control at the test room, and antenna polarization is also changed by the remote control.

8.2.3 Test Procedure

8.2.3.1 Preliminary Measurement

EUT is tested on all operating conditions.
The spectrum analyzer is set max–hold mode and swept during turntable was rotated 0 to 360 degree. Then spectrum chart are plotted out to detect the worst conditions in configuration, operating mode, or ambient noise notation.

8.2.3.2 Final Measurement

The EUT operated in the condition where maximum emission is detected in the preliminary test.
The turntable azimuth (EUT direction) and antenna height are adjusted the position so that maximum field strength is obtained for each frequency spectrum to be measured. The equipment and cables are arranged or manipulated within the range of the test standard in the above condition.
When the uncertain result was obtained, the measurement is retried by using the half wave dipole antenna instead of the broadband antenna.

SECTION 9. TEST DATA (FCC PART 15 SUBPART C – INTENTIONAL RADIATOR)

9.1 Minimum 6dB Bandwidth [15.247(a)(2)]

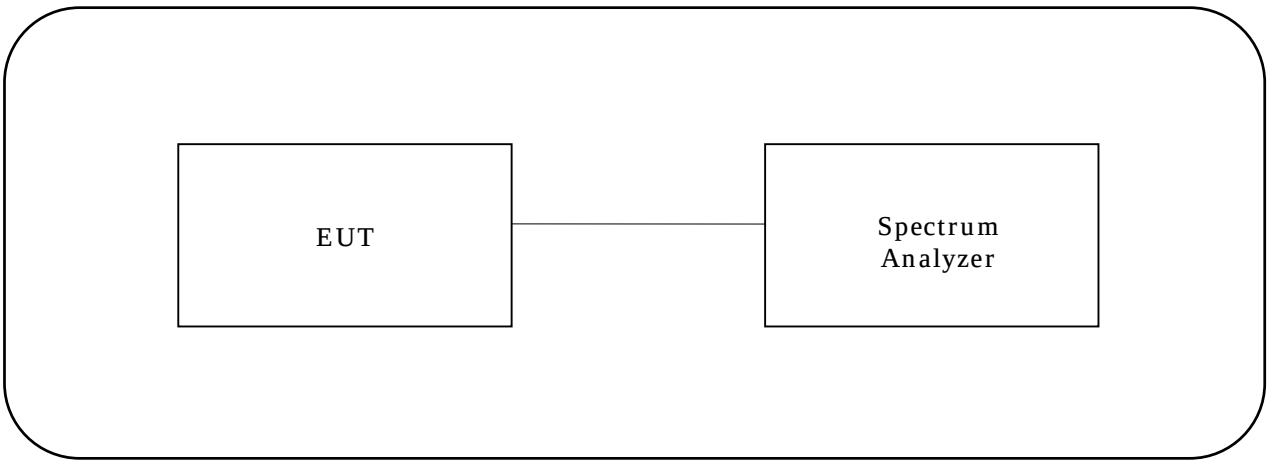
MEASUREMENT PROCEDURE:

1. The EUT was set to operate with following conditions.
   - ch1 / ch6 / ch11
   - Data Transfer Rate (1 Mbps / 2 Mbps / 5.5 Mbps / 11 Mbps)
2. The Spectrum Analyzer was connected directly to the transmitter output.
3. The Spectrum Analyzer was setup using RBW = 100kHz, VBW = 100kHz, and span = 50MHz (span>>RBW).
4. As for the typical chart of the observed RF profiles, refer to page 20 - 21.

Test date : December 17, 2002
Temperature : 20 °C
Humidity : 35 %

ch	Frequency (GHz)	Data Transfer Rate (Mbps)	6dB Bandwidth (MHz)	15.247(a)(2) Limit (kHz)	Chart
1	2.412	1	12.17	500	Page 20
		2	12.33	500	-
		5.5	12.25	500	-
		11	12.58	500	-
6	2.437	1	12.50	500	-
		2	12.58	500	-
		5.5	12.33	500	Page 20
		11	12.67	500	-
11	2.462	1	12.08	500	Page 21
		2	12.17	500	-
		5.5	12.50	500	-
		11	12.75	500	-

TEST INSTRUMENTS CONFIGURATION



TEST INSTRUMENTS

Instrument	Model No.	Serial No.	Manufacturer	Last cal. date	Period
Spectrum Analyzer	8564E	3643A00665	HEWLETT PACKARD	Jun. 28, 02	1 Year

Chart of ch 1 with 1 Mbps

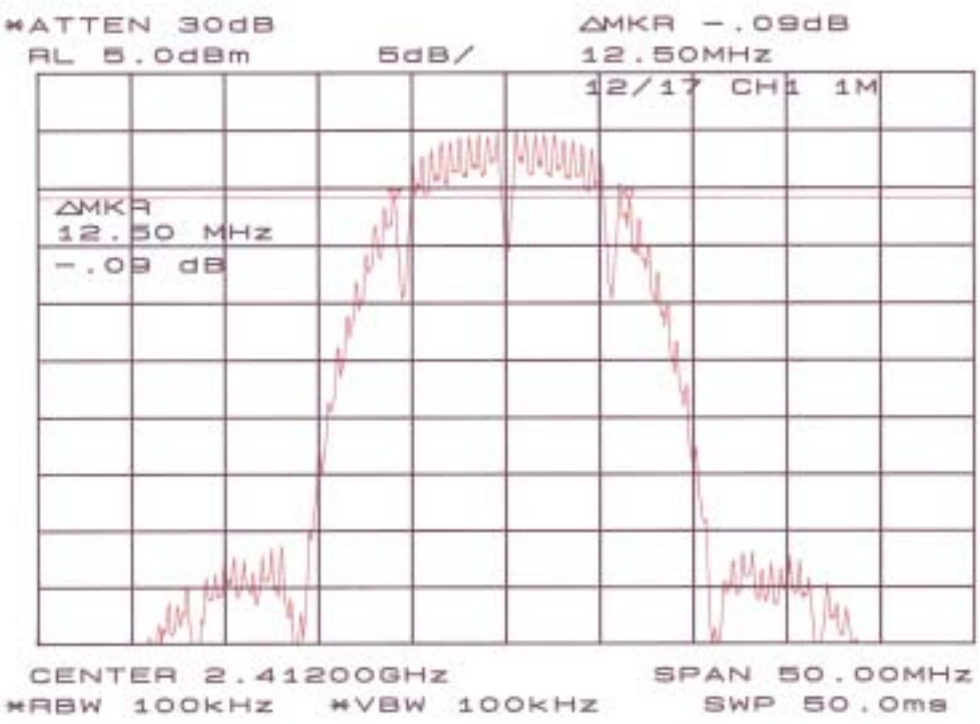


Chart of ch 6 with 5.5 Mbps

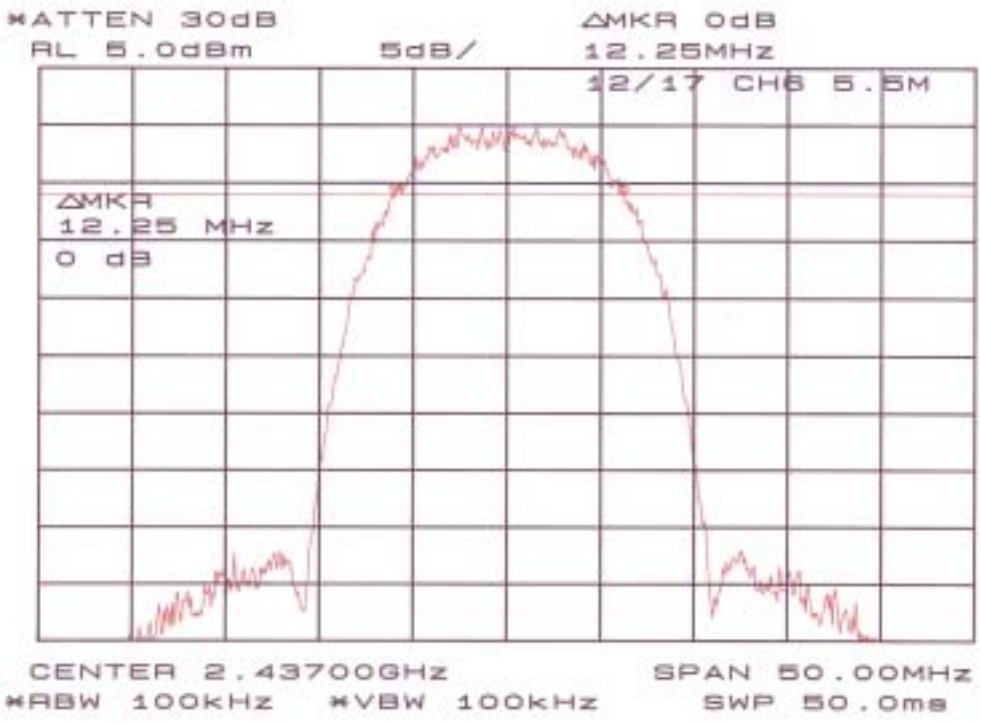
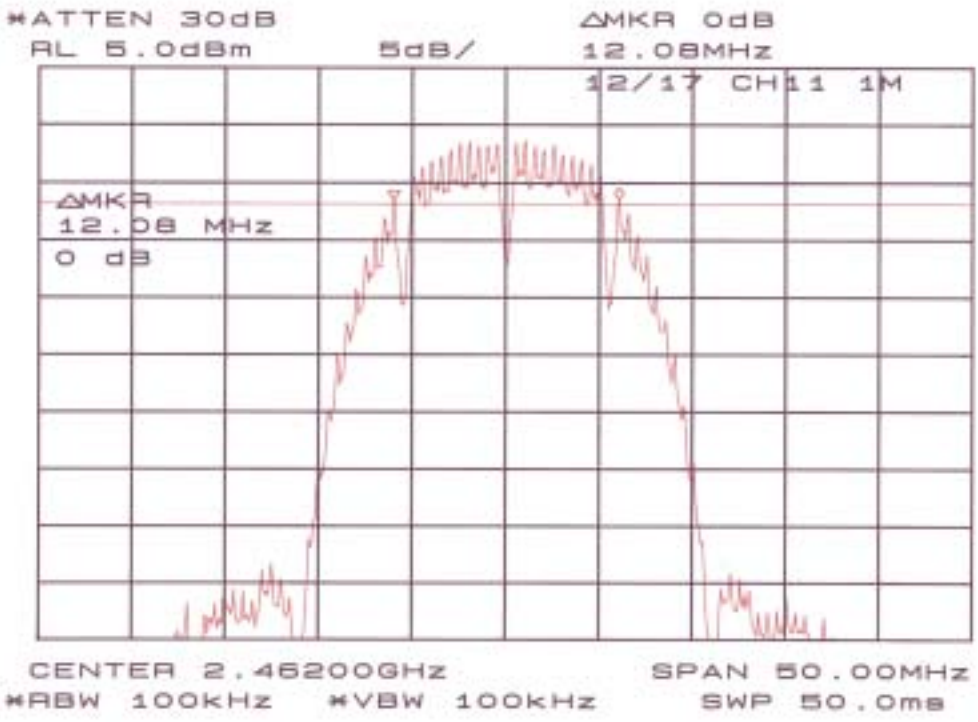


Chart of ch 11 with 1 Mbps



9.2 Maximum Peak Output Power [15.247(b)]

MEASUREMENT PROCEDURE:

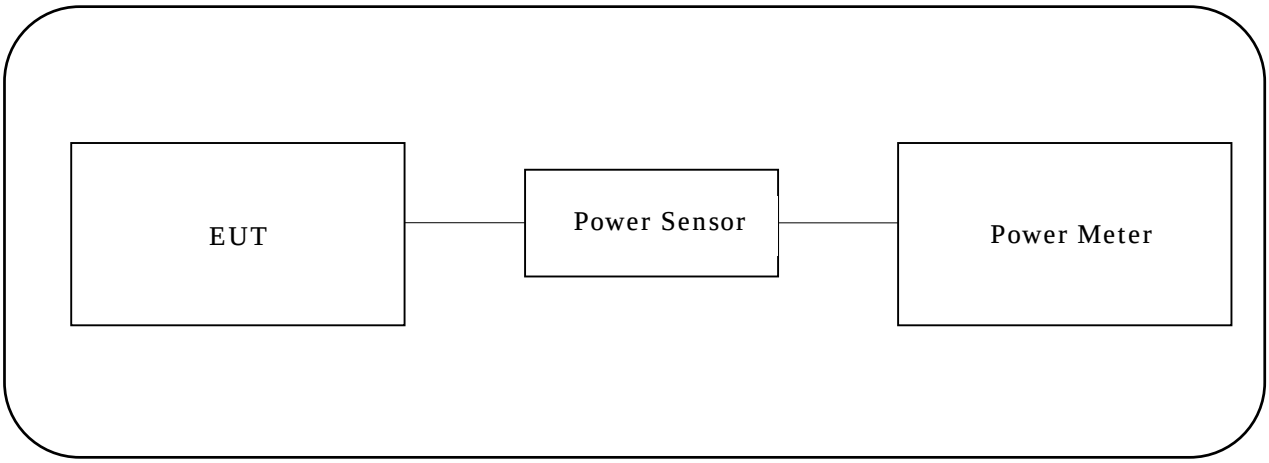
1. The EUT was set to operate with following conditions.
   - ch1 / ch6 / ch11
   - Data Transfer Rate (1 Mbps / 2 Mbps / 5.5 Mbps / 11 Mbps)
2. The power Meter was connected directly to the transmitter output.
5. Maximum Antenna Gain : Antenna A = 0.7 dBi
   Antenna B = 2.0 dBi

Test date : December 13, 2002
Temperature : 18 °C
Humidity : 45 %

ch	Frequency (GHz)	Data Transfer Rate (Mbps)	Reading (dBm)	Cable Loss (dB)	Maximum Peak Output Power (dBm)	Maximum Peak Output Power (mW)	15.247(b) Limit (mW)
1	2.412	1	10.9	0.7	11.6	14.5	1000
		2	10.9	0.7	11.6	14.5	1000
		5.5	10.8	0.7	11.5	14.1	1000
		11	10.7	0.7	11.4	13.8	1000
61	2.437	1	10.8	0.7	11.5	14.1	1000
		2	10.8	0.7	11.5	14.1	1000
		5.5	10.8	0.7	11.5	14.1	1000
		11	10.9	0.7	11.6	14.5	1000
11	2.462	1	9.0	0.7	9.7	9.3	1000
		2	9.0	0.7	9.7	9.3	1000
		5.5	9.1	0.7	9.8	9.5	1000
		11	9.1	0.7	9.8	9.5	1000

Note: Maximum peak output power was detected at ch 1 with 1Mbps in Antenna B.
= 11.6 dBm (=14.5 mW)
Therefore, the maximum EIRP = 11.6 dBm + 2.0 dBi = 13.6 dBm (=22.9 mW)

TEST INSTRUMENTS CONFIGURATION



TEST INSTRUMENTS

Instrument	Model No.	Serial No.	Manufacturer	Last cal. date	Period
Power Meter	E4418B	GB38410265	HEWLETT PACKARD	Dec. 20, 01	1 Year
Power Sensor	8481A	3318A99780	HEWLETT PACKARD	Dec. 20, 01	1 Year

9.3 Power Spectral Density [15.247(d)]

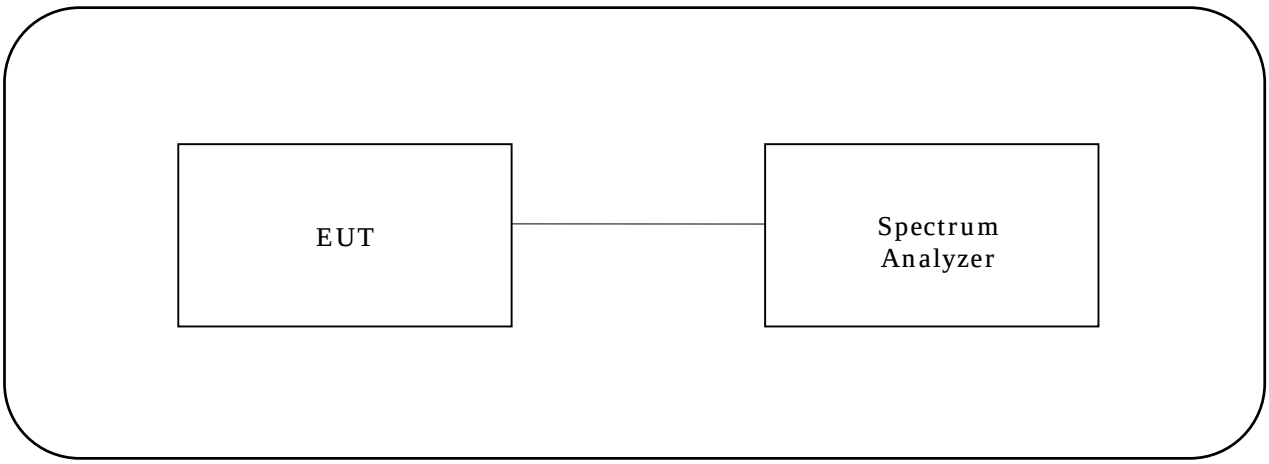
MEASUREMENT PROCEDURE:

1. The EUT was set to operate with following conditions.
   - ch1 / ch6 / ch11
   - Data Transfer Rate (1 Mbps / 2 Mbps / 5.5 Mbps / 11 Mbps)
2. The Spectrum Analyzer was connected directly to the transmitter output.
3. The Spectrum Analyzer was setup using RBW = 3kHz, VBW = 10kHz, span = 300kHz and sweep = 100sec.(span/3kHz).
4. As for the typical chart of the observed RF profiles, refer to page 26 - 27.

Test date : December 17, 2002
Temperature : 20 °C
Humidity : 35 %

ch	Frequency (MHz)	Data Transfer Rate (Mbps)	Reading (dBm)	Cable Loss (dB)	Peak Power Spectral Dencity (dBm)	15.247(d) Limit (dBm)	Chart
1	2412	1	-11.0	0.7	-10.3	8	Page 26
		2	-11.5	0.7	-10.8	8	-
		5.5	-12.5	0.7	-11.8	8	-
		11	-13.0	0.7	-12.3	8	-
61	2437	1	-11.0	0.7	-10.3	8	Page 26
		2	-11.8	0.7	-11.1	8	-
		5.5	-12.8	0.7	-12.1	8	-
		11	-11.8	0.7	-11.1	8	-
11	2462	1	-13.5	0.7	-7.8	8	-
		2	-13.3	0.7	-7.6	8	Page 27
		5.5	-14.2	0.7	-9.1	8	-
		11	-14.5	0.7	-7.6	8	-

TEST INSTRUMENTS CONFIGURATION



TEST INSTRUMENTS

Instrument	Model No.	Serial No.	Manufacturer	Last cal. date	Period
Spectrum Analyzer	8564E	3643A00665	HEWLETT PACKARD	Jun. 28, 02	1 Year

Chart of ch 1 with 1 Mbps

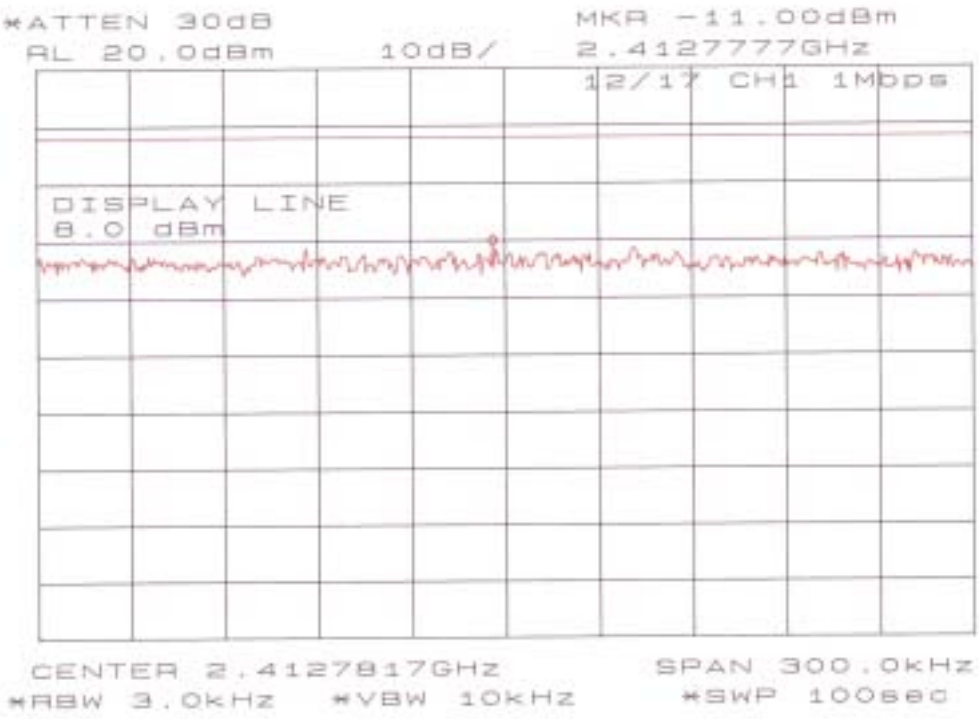


Chart of ch 6 with 1 Mbps

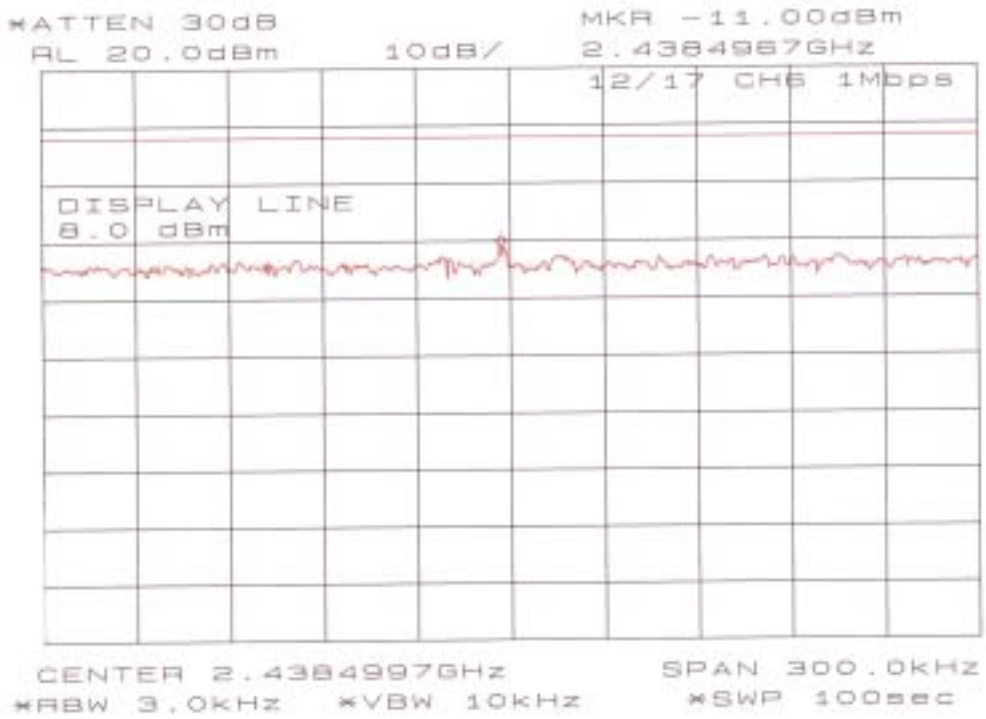
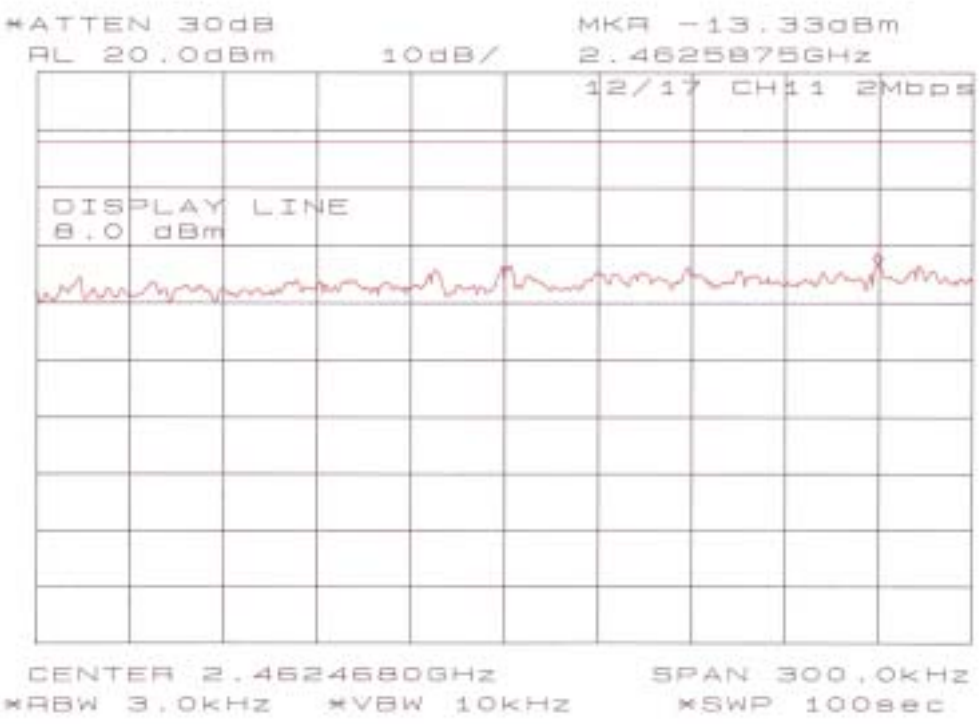


Chart of ch 11 with 2 Mbps



9.4 Spurious Emissions – RF Antenna Conducted Test [15.247(c)]

MEASUREMENT PROCEDURE:

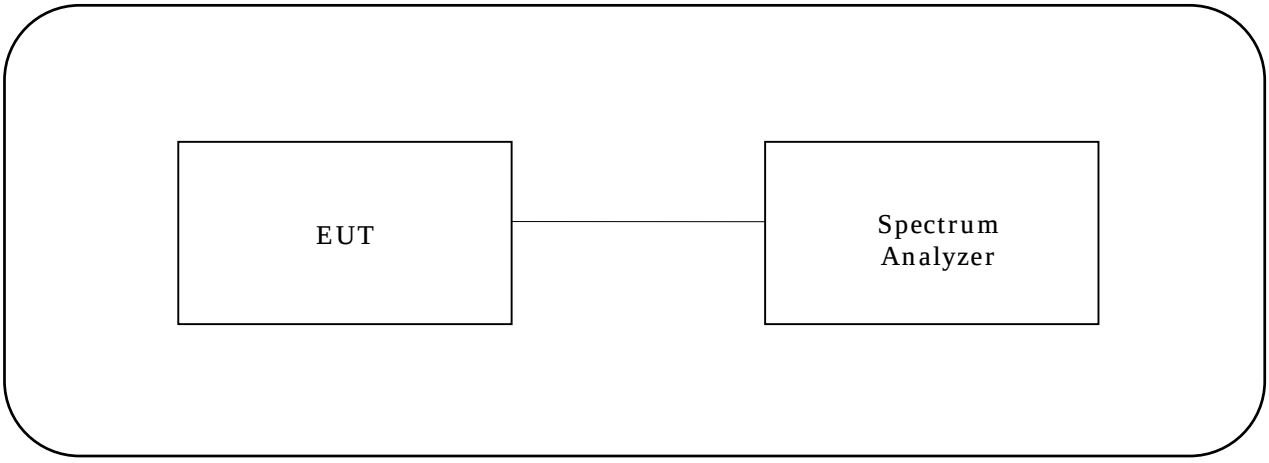
1. The EUT was set to operate with following conditions.
   - ch1 / ch6 / ch11
   - Data Transfer Rate (1 Mbps / 2 Mbps / 5.5 Mbps / 11 Mbps)
2. The Spectrum Analyzer was connected directly to the transmitter output.
3. The Spectrum Analyzer was setup using RBW = 100kHz, VBW = 100kHz.
4. As for the typical chart of the observed RF profiles, refer to Annex A.

Test date : December 18, 2002
Temperature : 19 °C
Humidity : 40 %

ch	Frequency (MHz)	Chart
1	2412	Annex A page 2-4
6	2437	Annex A page 5-7
11	2462	Annex A page 8-10

Note:
1. All out-of-band conducted emissions were more than 20 dB below a carrier.

TEST INSTRUMENTS CONFIGURATION



TEST INSTRUMENTS

Instrument	Model No.	Serial No.	Manufacturer	Last cal. date	Period
Spectrum Analyzer	8564E	3643A00665	HEWLETT PACKARD	Jun. 28, 02	1 Year

9.5 Spurious Emissions – Radiated Emission Test [15.247(c), 15.205, 15.209]

MEASUREMENT PROCEDURE:

1. The EUT was set to operate with following conditions.
   - Antenna A / Antenna B
   - ch1 / ch6 / ch11
   - Data Transfer Rate (1 Mbps / 2 Mbps / 5.5 Mbps / 11 Mbps)
2. The Spectrum Analyzer was setup using
   Peak mode: RBW = 1MHz, VBW = 1MHz
   Average mode: RBW = 1MHz, VBW = 10Hz
3. Following data is the worst case.

Data of CH1 with 1Mbps in Antenna B (30MHz-1000MHz)

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.247(c), 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4-1992
SERIAL NO.	: 0000041	DISTANCE	: 3.0 [m]
TEST MODE	: Tx mode CH1(2.412GHz) 1Mbps Ant.B	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 42.0 [%]
DATE TESTED	: Dec 28 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	ANT.	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	53.83	BBA	-	34.1	-5.7	-5.7	-	28.4	40.0	-	11.6
2	133.29	BBA	-	38.0	-7.9	-7.9	-	30.1	43.5	-	13.4
3	180.18	BBA	45.2	-	-8.1	-8.1	37.1	-	43.5	6.4	-
4	198.59	BBA	47.2	-	-7.9	-7.9	39.3	-	43.5	4.2	-
5	231.66	BBA	39.8	-	-5.7	-5.7	34.1	-	46.0	11.9	-
6	300.01	BBA	41.1	-	-4.1	-4.1	37.0	-	46.0	9.0	-
7	380.91	BBA	36.9	-	-1.0	-1.0	35.9	-	46.0	10.1	-
8	480.00	BBA	32.5	-	0.6	0.6	33.1	-	46.0	12.9	-
9	577.51	BBA	-	31.2	3.3	3.3	-	34.5	46.0	-	11.5
10	599.70	BBA	-	31.5	2.7	2.7	-	34.2	46.0	-	11.8
11	832.02	BBA	27.5	26.2	7.4	7.4	34.9	33.6	46.0	11.1	12.4
12	896.00	BBA	27.1	26.3	8.1	8.1	35.2	34.4	46.0	10.8	11.6
13	926.32	BBA	32.0	-	8.8	8.8	40.8	-	46.0	5.2	-

Other frequencies : Below the FCC 15.247(c), 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

ANT. : Used antenna(BBA = Broadband antenna, DIP = Dipole antenna)

Data of CH6 with 1Mbps in Antenna B (30MHz-1000MHz)

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.247(c), 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4-1992
SERIAL NO.	: 0000041	DISTANCE	: 3.0 [m]
TEST MODE	: Tx mode CH6(2.437GHz) 1Mbps Ant.B	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 42.0 [%]
DATE TESTED	: Dec 28 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	ANT.	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	53.83	BBA	-	35.1	-5.7	-5.7	-	29.4	40.0	-	10.6
2	133.29	BBA	-	40.0	-7.9	-7.9	-	32.1	43.5	-	11.4
3	180.18	BBA	45.8	-	-8.1	-8.1	37.7	-	43.5	5.8	-
4	198.59	BBA	48.1	-	-7.9	-7.9	40.2	-	43.5	3.3	-
5	231.66	BBA	40.6	-	-5.7	-5.7	34.9	-	46.0	11.1	-
6	300.01	BBA	41.0	-	-4.1	-4.1	36.9	-	46.0	9.1	-
7	380.91	BBA	36.5	-	-1.0	-1.0	35.5	-	46.0	10.5	-
8	480.00	BBA	31.9	-	0.6	0.6	32.5	-	46.0	13.5	-
9	577.51	BBA	-	31.8	3.3	3.3	-	35.1	46.0	-	10.9
10	599.70	BBA	-	31.0	2.7	2.7	-	33.7	46.0	-	12.3
11	832.02	BBA	27.1	25.8	7.4	7.4	34.5	33.2	46.0	11.5	12.8
12	896.00	BBA	27.2	26.5	8.1	8.1	35.3	34.6	46.0	10.7	11.4
13	926.32	BBA	31.6	-	8.8	8.8	40.4	-	46.0	5.6	-

Other frequencies : Below the FCC 15.247(c), 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

ANT. : Used antenna(BBA = Broadband antenna, DIP = Dipole antenna)

Data of CH11 with 1Mbps in Antenna B (30MHz-1000MHz)

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.247(c), 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4-1992
SERIAL NO.	: 0000041	DISTANCE	: 3.0 [m]
TEST MODE	: Tx mode CH11(2.462GHz) 1Mbps Ant.B	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 42.0 [%]
DATE TESTED	: Dec 16 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	ANT.	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	53.83	BBA	-	33.0	-5.7	-5.7	-	27.3	40.0	-	12.7
2	133.29	BBA	-	36.5	-7.9	-7.9	-	28.6	43.5	-	14.9
3	180.18	BBA	43.0	-	-8.1	-8.1	34.9	-	43.5	8.6	-
4	198.59	BBA	45.0	-	-7.9	-7.9	37.1	-	43.5	6.4	-
5	231.66	BBA	41.0	-	-5.7	-5.7	35.3	-	46.0	10.7	-
6	300.01	BBA	41.5	-	-4.1	-4.1	37.4	-	46.0	8.6	-
7	380.91	BBA	36.0	-	-1.0	-1.0	35.0	-	46.0	11.0	-
8	480.00	BBA	35.0	-	0.6	0.6	35.6	-	46.0	10.4	-
9	577.51	BBA	-	31.2	3.3	3.3	-	34.5	46.0	-	11.5
10	599.70	BBA	-	30.0	2.7	2.7	-	32.7	46.0	-	13.3
11	832.02	BBA	26.0	25.0	7.4	7.4	33.4	32.4	46.0	12.6	13.6
12	896.00	BBA	26.5	25.2	8.1	8.1	34.6	33.3	46.0	11.4	12.7
13	926.32	BBA	33.0	-	8.8	8.8	41.8	-	46.0	4.2	-

Other frequencies : Below the FCC 15.247(c), 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

ANT. : Used antenna(BBA = Broadband antenna, DIP = Dipole antenna)

Data of CH1 with 1Mbps in Antenna A (1GHz-25GHz)

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.247(c), 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 1.0 [m]
TEST MODE	: Tx mode CH1(2.412GHz) 1Mbps Ant.A	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 42.0 [%]
DATE TESTED	: Dec 21 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	4824.00	PEK	44.2	48.4	-1.7	-1.7	42.5	46.7	74.0	31.5	27.3
2	4824.00	AVG	40.4	46.8	-1.7	-1.7	38.7	45.1	54.0	15.3	8.9
3	7236.00	PEK	44.0	43.4	5.9	5.9	49.9	49.3	74.0	24.1	24.7
4	7236.00	AVG	38.2	36.0	5.9	5.9	44.1	41.9	54.0	9.9	12.1

Other frequencies : Below the FCC 15.247(c), 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

Data of CH1 with 1Mbps in Antenna B (1GHz-25GHz)

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.247(c), 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 1.0 [m]
TEST MODE	: Tx mode CH1(2.412GHz) 1Mbps Ant.B	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 42.0 [%]
DATE TESTED	: Dec 21 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	4824.00	PEK	45.5	50.3	-1.7	-1.7	43.8	48.6	74.0	30.2	25.4
2	4824.00	AVG	41.7	48.0	-1.7	-1.7	40.0	46.3	54.0	14.0	7.7
3	7236.00	PEK	45.6	44.1	5.9	5.9	51.5	50.0	74.0	22.5	24.0
4	7236.00	AVG	40.1	37.8	5.9	5.9	46.0	43.7	54.0	8.0	10.3

Other frequencies : Below the FCC 15.247(c), 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

Data of CH6 with 1Mbps in Antenna A (1GHz-25GHz)

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.247(c), 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 1.0 [m]
TEST MODE	: Tx mode CH6(2.437GHz) 1Mbps Ant.A	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 42.0 [%]
DATE TESTED	: Dec 21 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	4874.00	PEK	44.8	50.0	-1.6	-1.6	43.2	48.4	74.0	30.8	25.6
2	4874.00	AVG	40.6	48.5	-1.6	-1.6	39.0	46.9	54.0	15.0	7.1
3	7311.00	PEK	43.0	42.3	6.0	6.0	49.0	48.3	74.0	25.0	25.7
4	7311.00	AVG	36.4	34.8	6.0	6.0	42.4	40.8	54.0	11.6	13.2

Other frequencies : Below the FCC 15.247(c), 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

Data of CH6 with 1Mbps in Antenna B (1GHz-25GHz)

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.247(c), 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 1.0 [m]
TEST MODE	: Tx mode CH6(2.437GHz) 1Mbps Ant.B	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 42.0 [%]
DATE TESTED	: Dec 21 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	4874.00	PEK	46.6	52.9	-1.6	-1.6	45.0	51.3	74.0	29.0	22.7
2	4874.00	AVG	42.5	50.3	-1.6	-1.6	40.9	48.7	54.0	13.1	5.3
3	7311.00	PEK	44.8	42.5	6.0	6.0	50.8	48.5	74.0	23.2	25.5
4	7311.00	AVG	37.2	34.8	6.0	6.0	43.2	40.8	54.0	10.8	13.2

Other frequencies : Below the FCC 15.247(c), 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

Data of CH11 with 1Mbps in Antenna A (1GHz-25GHz)

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.247(c), 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 1.0 [m]
TEST MODE	: Tx mode CH11(2.462GHz) 1Mbps Ant.A	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 42.0 [%]
DATE TESTED	: Dec 21 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	4924.00	PEK	42.5	47.6	-1.5	-1.5	41.0	46.1	74.0	33.0	27.9
2	4924.00	AVG	37.7	45.5	-1.5	-1.5	36.2	44.0	54.0	17.8	10.0
3	7386.00	PEK	39.2	38.7	6.1	6.1	45.3	44.8	74.0	28.7	29.2
4	7386.00	AVG	31.0	28.5	6.1	6.1	37.1	34.6	54.0	16.9	19.4

Other frequencies : Below the FCC 15.247(c), 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

Data of CH11 with 1Mbps in Antenna B (1GHz-25GHz)

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.247(c), 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 1.0 [m]
TEST MODE	: Tx mode CH11(2.462GHz) 1Mbps Ant.B	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 42.0 [%]
DATE TESTED	: Dec 21 2002		

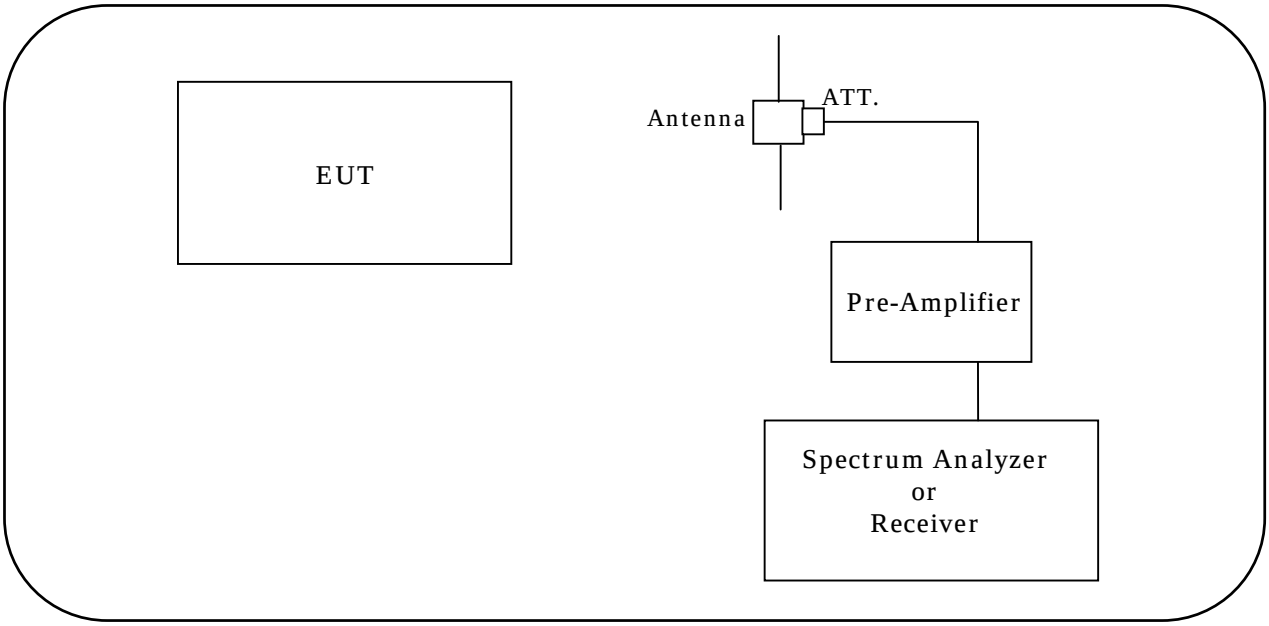
ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	4924.00	PEK	42.2	48.8	-1.5	-1.5	40.7	47.3	74.0	33.3	26.7
2	4924.00	AVG	36.5	46.4	-1.5	-1.5	35.0	44.9	54.0	19.0	9.1
3	7386.00	PEK	39.0	38.7	6.1	6.1	45.1	44.8	74.0	28.9	29.2
4	7386.00	AVG	28.9	27.8	6.1	6.1	35.0	33.9	54.0	19.0	20.1

Other frequencies : Below the FCC 15.247(c), 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

TEST INSTRUMENTS CONFIGURATION



TEST INSTRUMENTS

Instrument	Model No.	Serial No.	Manufacturer	Last cal. date	Period
Test Receiver	ESV	893271/018	ROHDE & SCHWARZ	Aug. 06, 02	1 Year
Spectrum Analyzer	8564E	3643A00665	HEWLETT PACKARD	Jun. 28, 02	1 Year
Pre-Amplifier	8447D	1937A03130	HEWLETT PACKARD	Oct. 4, 02	1 Year
	83051A	3332A00329	HEWLETT PACKARD	Jun. 02, 02	1 Year
6dB Attenuator	MP721B	M57593	ANRITSU	Oct. 4, 02	1 Year
3dB Attenuator	6803.17.B	None	SUHNER	Jun. 02, 02	1 Year
Bi-Cog Antenna	LPB-2513-A	1103	ARA	May 29, 02	1 Year
Double Ridged Antenna	3115	5044	EMCO	Jul. 09, 02	1 Year
	3116	9612-2320	EMCO	Jul. 12, 02	1 Year
Standard Gain Horn Antenna	3160-04	1080	EMCO	Jan. 10, 02	1 Year
	3160-05	1114	EMCO	Jan. 10, 02	1 Year
	3160-06	1075	EMCO	Jan. 10, 02	1 Year
	3160-07	1160	EMCO	Jan. 10, 02	1 Year
	3160-08	1144	EMCO	Jan. 10, 02	1 Year
	3160-09	1262	EMCO	Jan. 10, 02	1 Year

9.6 Restricted Bands of Operation [15.247(c), 15.205, 15.209]

MEASUREMENT PROCEDURE:

1. The EUT was set to operate with following conditions.
   - Antenna A / Antenna B
   - ch1 / ch6 / ch11
   - Data Transfer Rate (1 Mbps / 2 Mbps / 5.5 Mbps / 11 Mbps)
2. Measurement distance was 1 meter.
3. The Spectrum Analyzer was setup using
   Peak mode: RBW = 1MHz, VBW = 1MHz
   Average mode: RBW = 1MHz, VBW = 10Hz
4. Following data is the worst case.
5 As for the typical chart of the observed RF profiles, refer to Page 46 – 49.

Data of CH1 with 1Mbps in Antenna A

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.247(c), 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 1.0 [m]
TEST MODE	: Tx mode CH1(2.412GHz) 1Mbps Ant.A	TEMPERATURE	: 20.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 38.0 [%]
DATE TESTED	: Dec 24 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	2390.00	PEK	32.7	29.3	26.5	26.5	59.2	55.8	74.0	14.8	18.2
2	2390.00	AVG	21.2	17.8	26.5	26.5	47.7	44.3	54.0	6.3	9.7

Other frequencies : Below the FCC 15.247(c), 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

Data of CH11 with 1Mbps in Antenna A

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.247(c), 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 1.0 [m]
TEST MODE	: Tx mode CH11(2.462GHz) 1Mbps Ant.A	TEMPERATURE	: 20.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 38.0 [%]
DATE TESTED	: Dec 24 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV] Hori	READING [dBuV] Vert	FACTOR [dB/m] Hori	FACTOR [dB/m] Vert	EMISSION [dBuV/m] Hori	EMISSION [dBuV/m] Vert	LIMIT [dBuV/m]	MARGIN [dB] Hori	MARGIN [dB] Vert
1	2483.50	PEK	30.3	30.2	26.8	26.8	57.1	57.0	74.0	16.9	17.0
2	2483.50	AVG	19.0	18.0	26.8	26.8	45.8	44.8	54.0	8.2	9.2

Other frequencies : Below the FCC 15.247(c), 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

Data of CH1 with 1Mbps in Antenna B

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.247(c), 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 1.0 [m]
TEST MODE	: Tx mode CH1(2.412GHz) 1Mbps Ant.B	TEMPERATURE	: 20.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 38.0 [%]
DATE TESTED	: Dec 24 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	2390.00	PEK	30.0	28.5	26.5	26.5	56.5	55.0	74.0	17.5	19.0
2	2390.00	AVG	18.7	17.3	26.5	26.5	45.2	43.8	54.0	8.8	10.2

Other frequencies : Below the FCC 15.247(c), 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

Data of CH11 with 1Mbps in Antenna B

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.247(c), 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 1.0 [m]
TEST MODE	: Tx mode CH11(2.462GHz) 1Mbps Ant.B	TEMPERATURE	: 20.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 38.0 [%]
DATE TESTED	: Dec 24 2002		

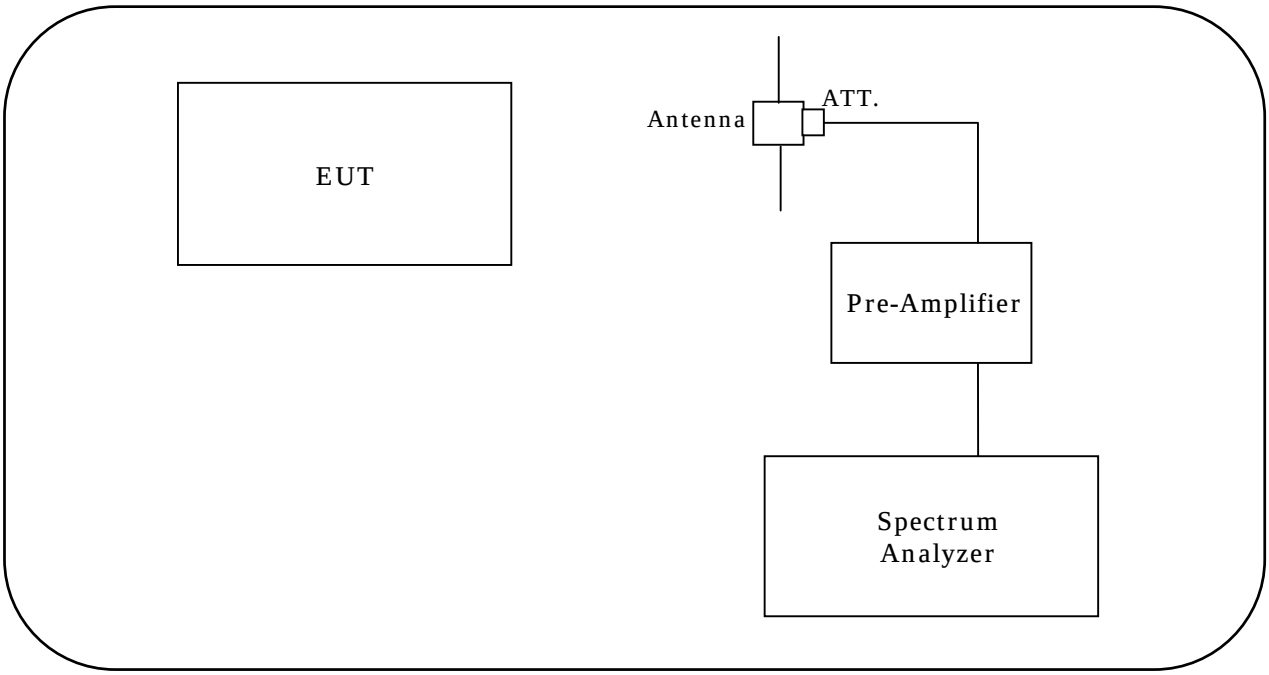
ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	2483.50	PEK	30.2	29.5	26.8	26.8	57.0	56.3	74.0	17.0	17.7
2	2483.50	AVG	19.7	17.8	26.8	26.8	46.5	44.6	54.0	7.5	9.4

Other frequencies : Below the FCC 15.247(c), 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

TEST INSTRUMENTS CONFIGURATION



TEST INSTRUMENTS

Instrument	Model No.	Serial No.	Manufacturer	Last cal. date	Period
Spectrum Analyzer	8564E	3643A00665	HEWLETT PACKARD	Jun. 28, 02	1 Year
3dB Attenuator	6803.17.B	None	SUHNER	Jun. 02, 02	1 Year
Double Ridged Guide Antenna	3115	5044	EMCO	Jul. 09, 02	1 Year

Chart of CH1 with 1Mbps in Antenna A

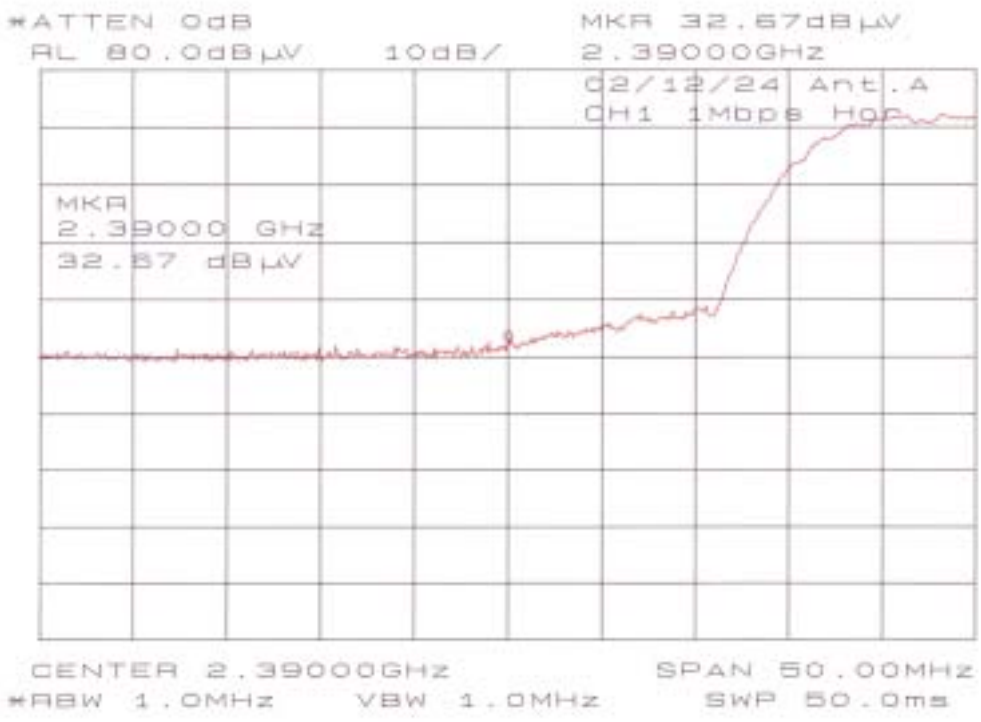


Chart of CH1 with 1Mbps in Antenna A

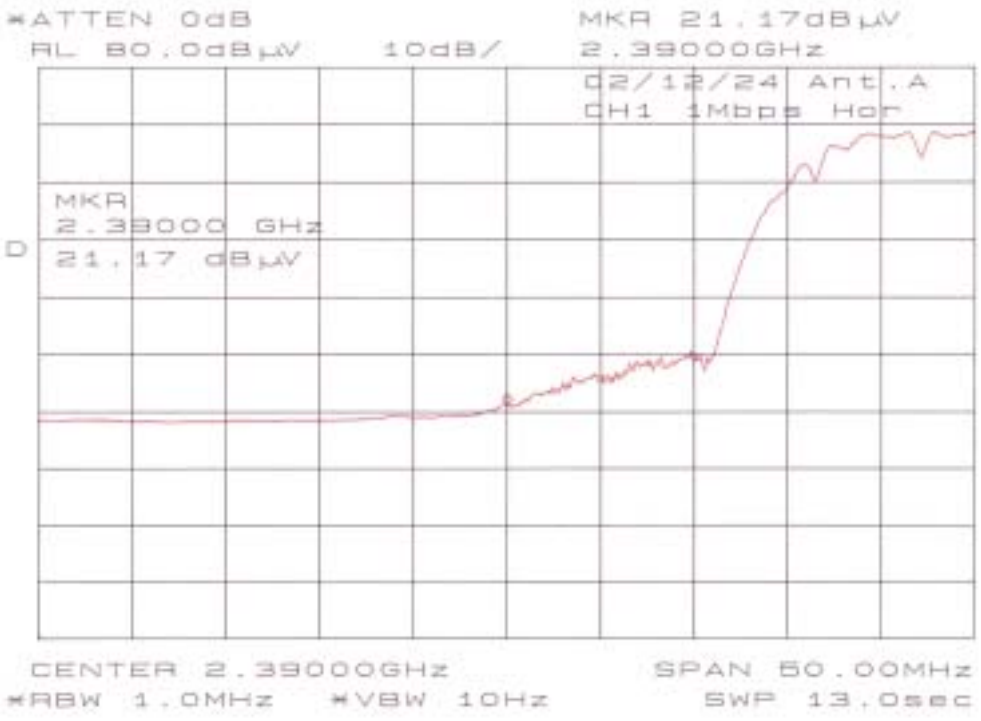


Chart of CH11 with 1Mbps in Antenna A

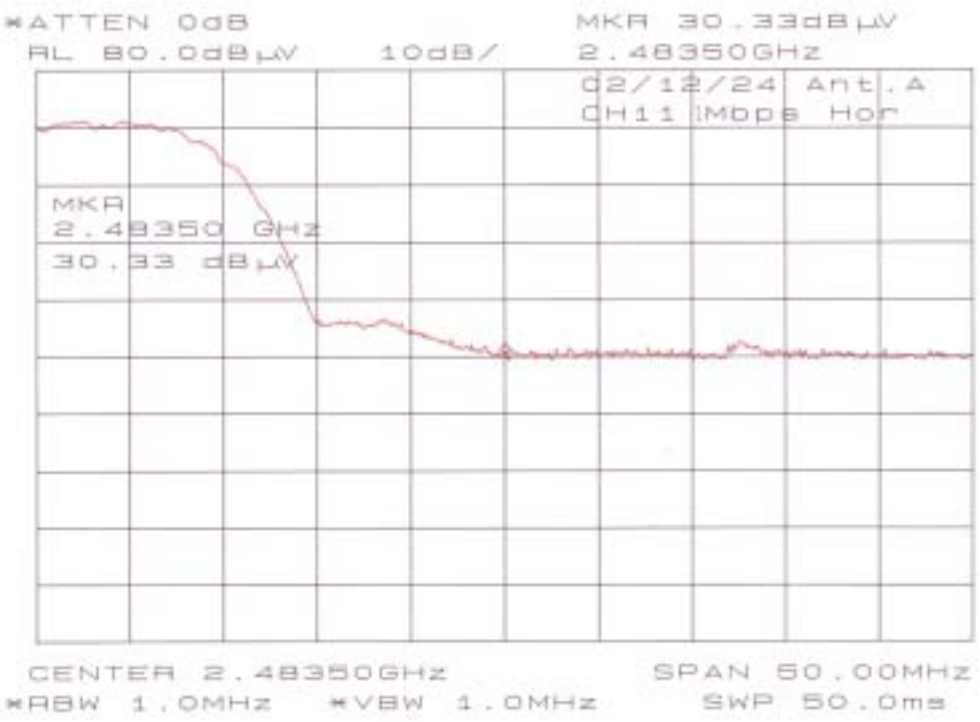


Chart of CH11 with 1Mbps in Antenna A

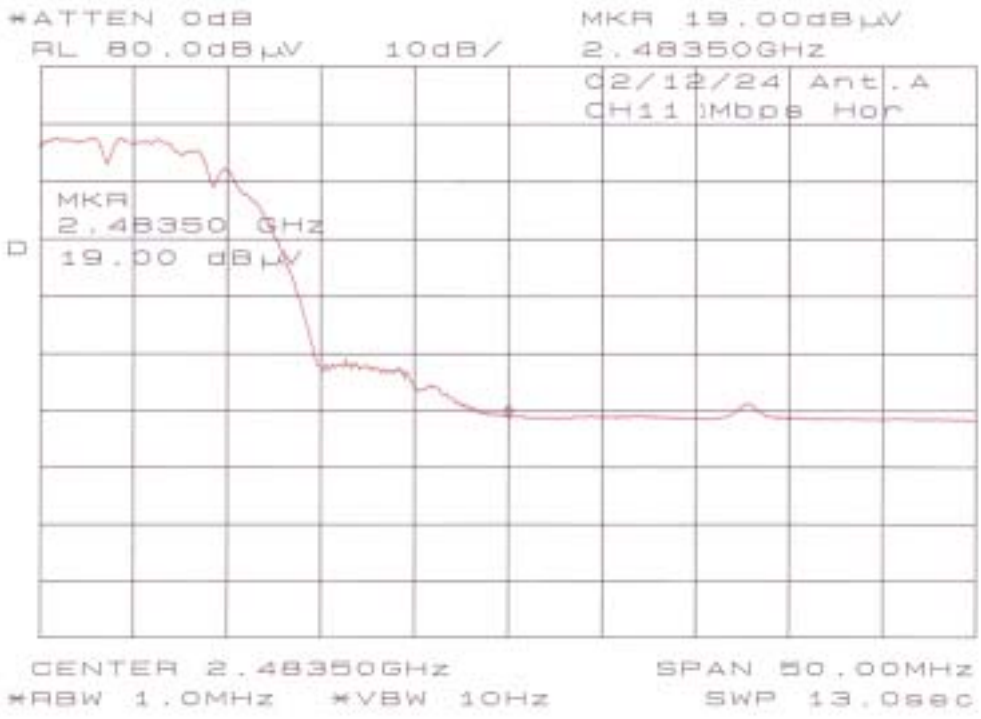


Chart of CH1 with 1Mbps in Antenna B

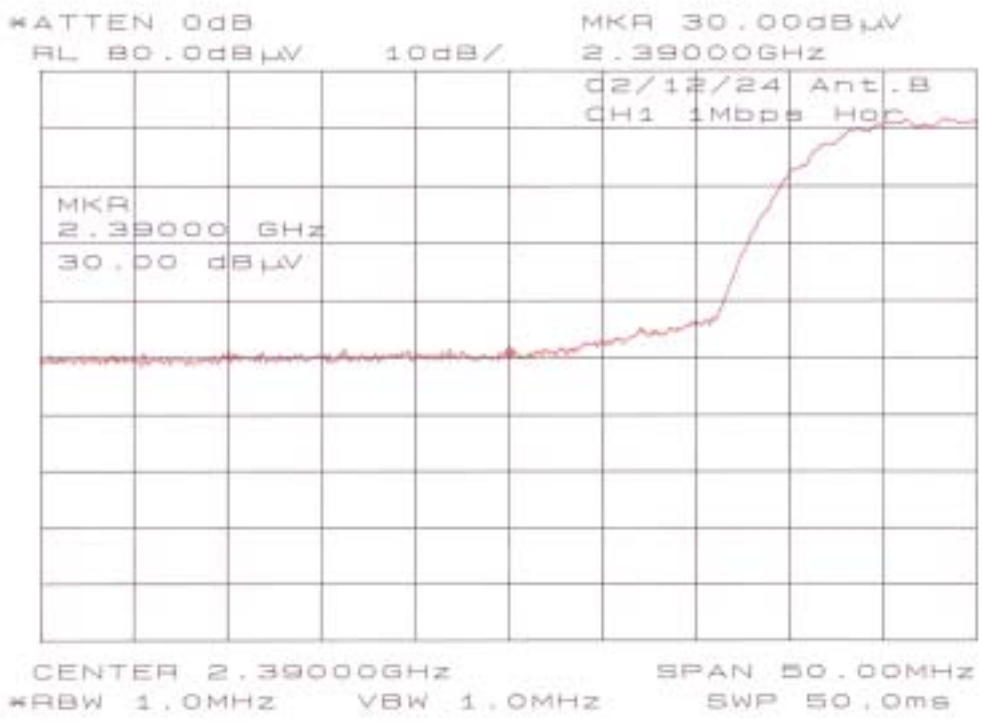


Chart of CH1 with 1Mbps in Antenna B

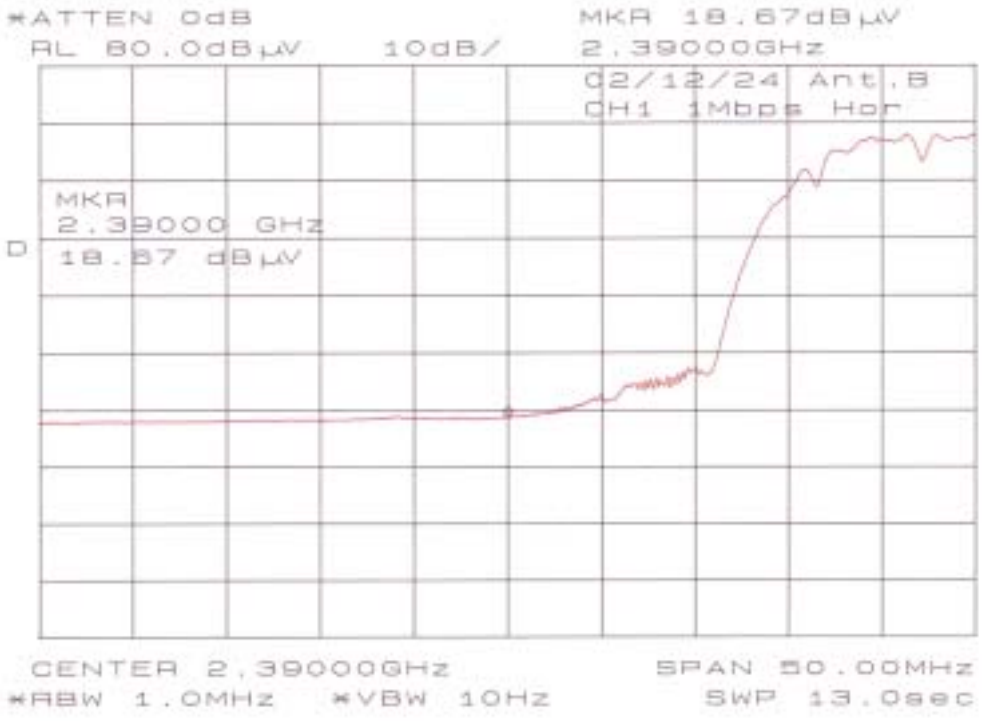


Chart of CH11 with 1Mbps in Antenna B

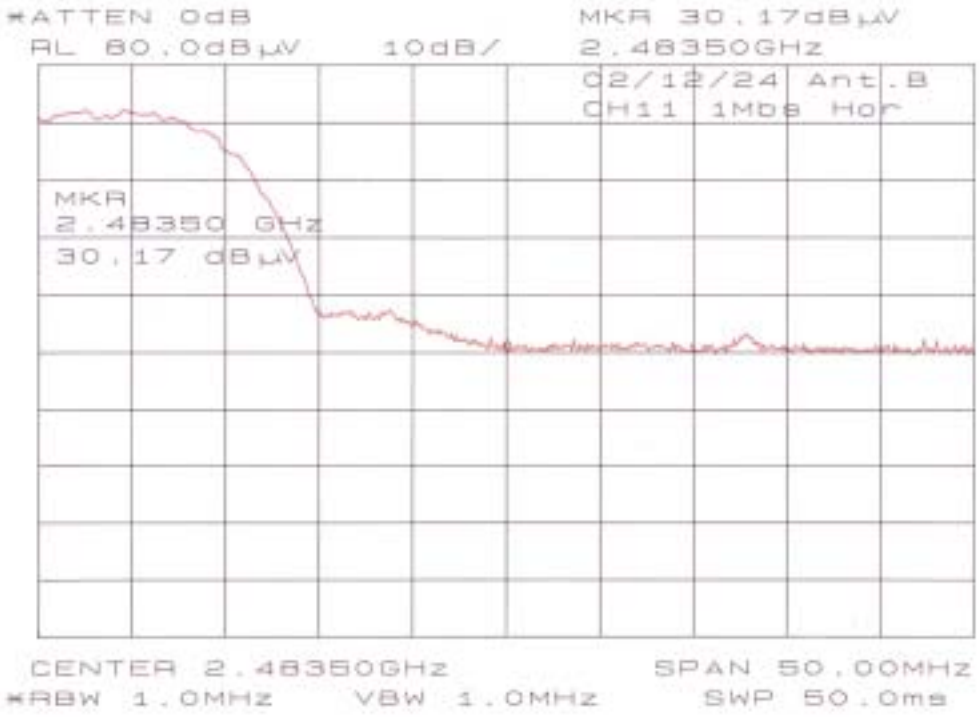
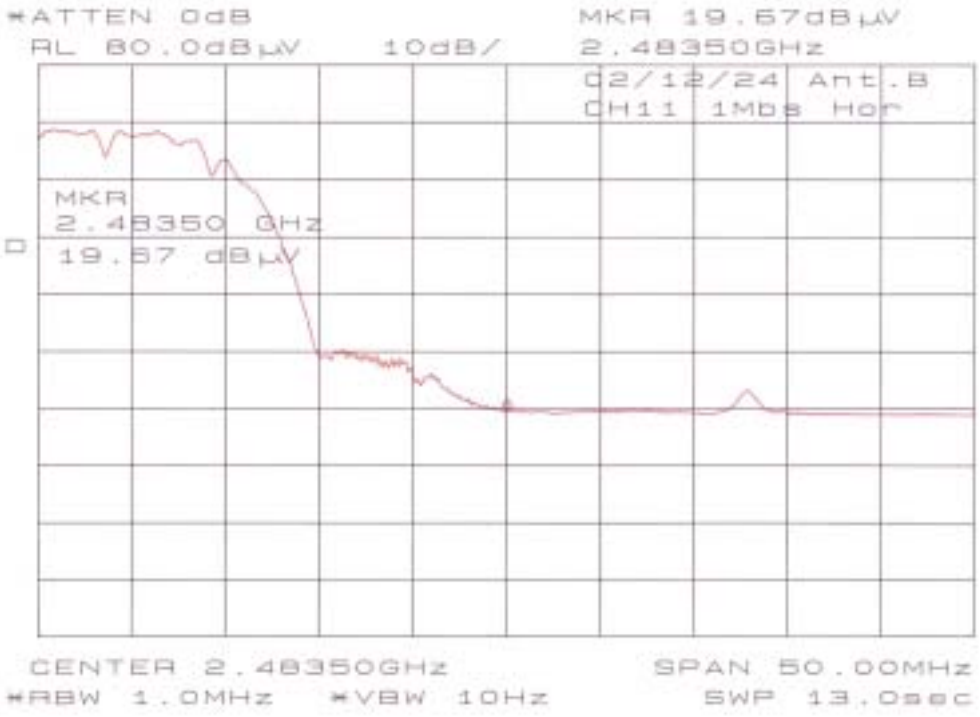


Chart of CH11 with 1Mbps in Antenna B



9.7 AC Conducted Emissions [15.207]

MEASUREMENT PROCEDURE:

1. The EUT was set to operate with following conditions.
   - Antenna A / Antenna B
   - ch1 / ch6 / ch11
   - Data Transfer Rate (1 Mbps / 2 Mbps / 5.5 Mbps / 11 Mbps)
2. The Test Receiver is complied with the specification of the CISPR publication 16.
3. Following data is the worst case.

Data of CH6 with 1Mbps in Antenna B

Akzo Nobel K. K.

Kashima No.1 Test Site

Conducted Voltages on Mains Port

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.207
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4-1992
SERIAL NO.	: 0000041		
TEST MODE	: Tx mode CH6(2.437GHz) 1Mbps Ant.B	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 45.0 [%]
DATE TESTED	: Dec 13 2002		

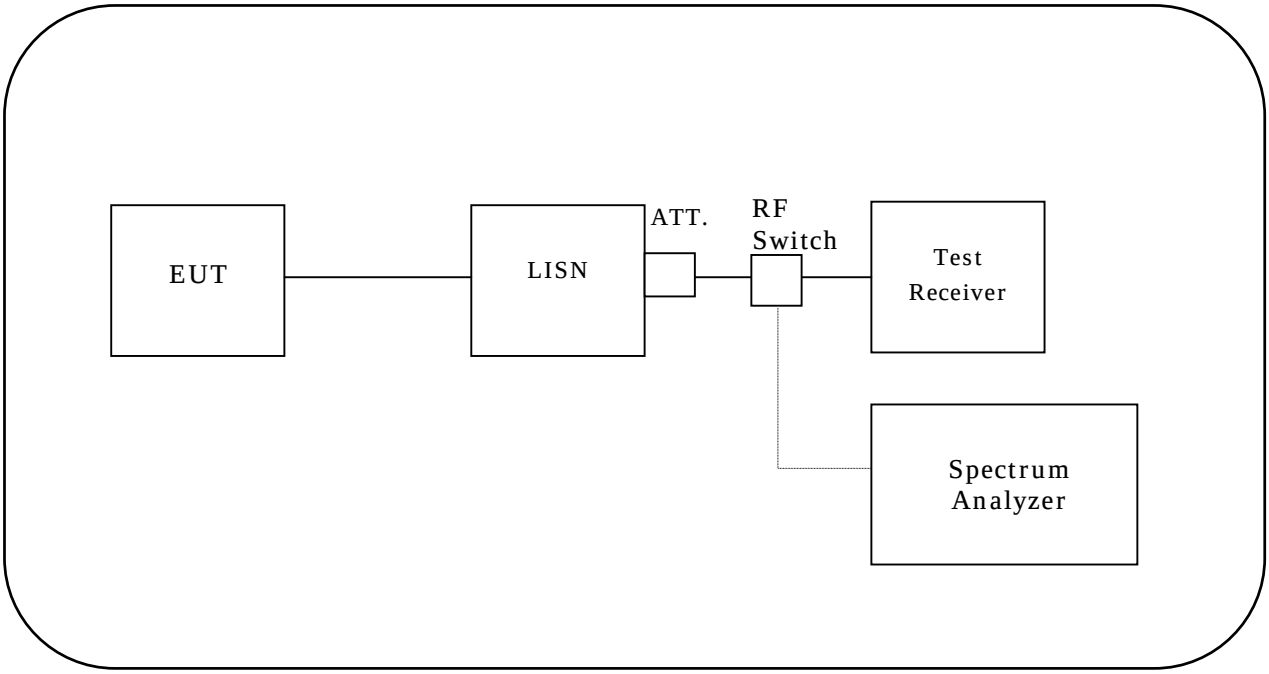
ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB]		EMISSION [dBuV]		LIMIT [dBuV]	MARGIN [dB]	
			Line1	Line2	Line1	Line2	Line1	Line2		Line1	Line2
1	0.1777	QP	43.7	40.5	5.8	5.8	49.5	46.3	64.6	15.1	18.3
2	0.2046	QP	36.2	36.6	5.8	5.8	42.0	42.4	63.4	21.4	21.0
3	0.3531	QP	31.7	22.7	5.8	5.8	37.5	28.5	58.9	21.4	30.4
4	0.4446	QP	31.0	26.8	5.9	5.9	36.9	32.7	57.0	20.1	24.3
5	0.5280	QP	31.8	24.8	5.8	5.8	37.6	30.6	56.0	18.4	25.4
6	9.8648	QP	35.7	36.0	6.3	6.3	42.0	42.3	60.0	18.0	17.7
7	11.7029	QP	39.0	39.3	6.3	6.3	45.3	45.6	60.0	14.7	14.4
8	12.4761	QP	37.0	37.2	6.3	6.4	43.3	43.6	60.0	16.7	16.4
9	13.5398	QP	37.4	37.3	6.4	6.5	43.8	43.8	60.0	16.2	16.2

Other frequencies : Below the FCC 15.207 limit

Emisson Level = Read + Factor(LISN,Pad,Cable)

TEST INSTRUMENTS CONFIGURATION



TEST INSTRUMENTS

Instrument	Model No.	Serial No.	Manufacturer	Last cal. date	Period
Test receiver	ESH2	891678/010	ROHDE & SCHWARZ	Jul. 26, 02	1 Year
LISN (EUT)	ESH2-Z5	881492/014	ROHDE & SCHWARZ	Sep. 30, 02	1 Year
6dB Attenuator	CFA-01	None	TME	Oct. 04, 02	1 Year
LISN (Peripheral)	KNW-242	8-532-21	KYORITSU	Feb. 25, 02	1 Year
50Ω Termination	CT-01	A010CON50	TME	Feb. 25, 02	1 Year
RF Switch	ACX-150	None	AKZO NOBEL	Oct. 24, 02	1 Year

SECTION 10. TEST DATA (FCC PART 15 SUBPART E – INTENTIONAL RADIATOR)

10.1 26dB Emission Bandwidth [15.407(a)(1), 15.407(a)(2)]

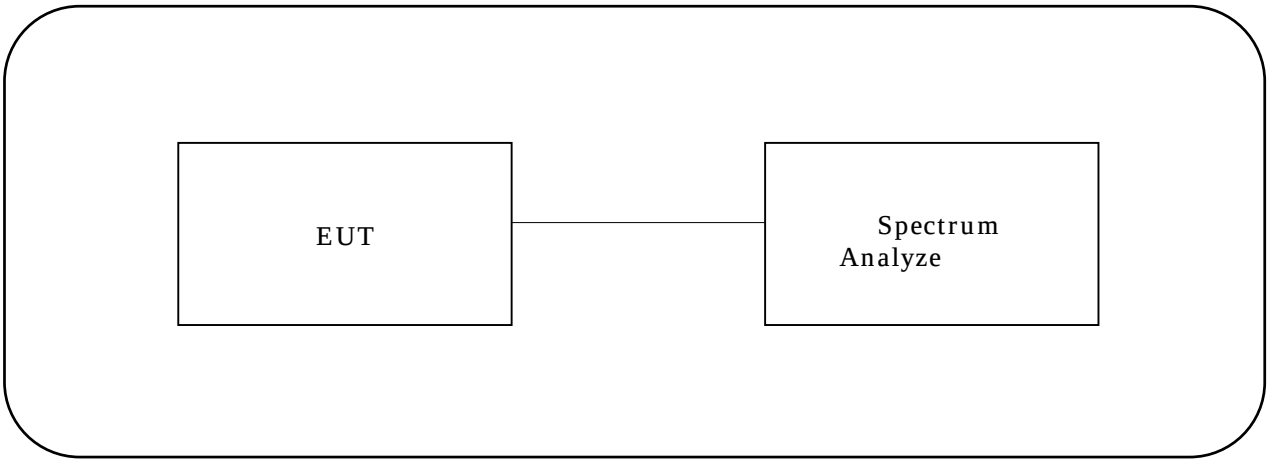
MEASUREMENT PROCEDURE:

1. The EUT was set to operate with following conditions.
   - ch36 / ch48 / ch64
   - Data Transfer Rate (6 Mbps/9 Mbps/12 Mbps/18 Mbps/24 Mbps/36 Mbps/48 Mbps/54 Mbps)
2. The Spectrum Analyzer was connected directly to the transmitter output.
3. The test was carried out in accordance with Public Notice :Guidelines for Assessing U-NII Device - Part15, Subpart E (DA 02-2138, August 30, 2002)
4. The Spectrum Analyzer was set up using RBW = 300kHz, VBW = 1MHz.
5. Following data is the worst case.
6. As for the typical chart of the observed RF profiles, refer to page 55-56.

Test date	:	December 15, 2002
Temperature variation	:	18 °C
Humidity variation	:	41 %

ch	Frequency (GHz)	Data Rate (Mbps)	26dB Emission Bandwidth (MHz)	Chart
36	5.18	6	29.8	-
		9	28.3	-
		12	28.7	-
		18	28.7	-
		24	28.3	Page 55
		36	28.8	-
		48	28.6	-
		54	28.4	-
48	5.24	6	30.1	-
		9	29.9	-
		12	29.4	-
		18	29.8	-
		24	29.2	-
		36	30.8	-
		48	30.8	-
		54	28.9	Page 55
64	5.32	6	27.3	-
		9	28.1	-
		12	27.3	-
		18	27.8	-
		24	27.1	-
		36	27.8	-
		48	27.5	-
		54	26.8	Page 56

TEST INSTRUMENTS CONFIGURATION



TEST INSTRUMENTS

Instrument	Model No.	Serial No.	Manufacturer	Last cal. date	Period
Spectrum analyzer	8564E	3643A00665	HEWLETT PACKARD	Jun. 28, 02	1 Year

Chart of CH36 with 24Mbps

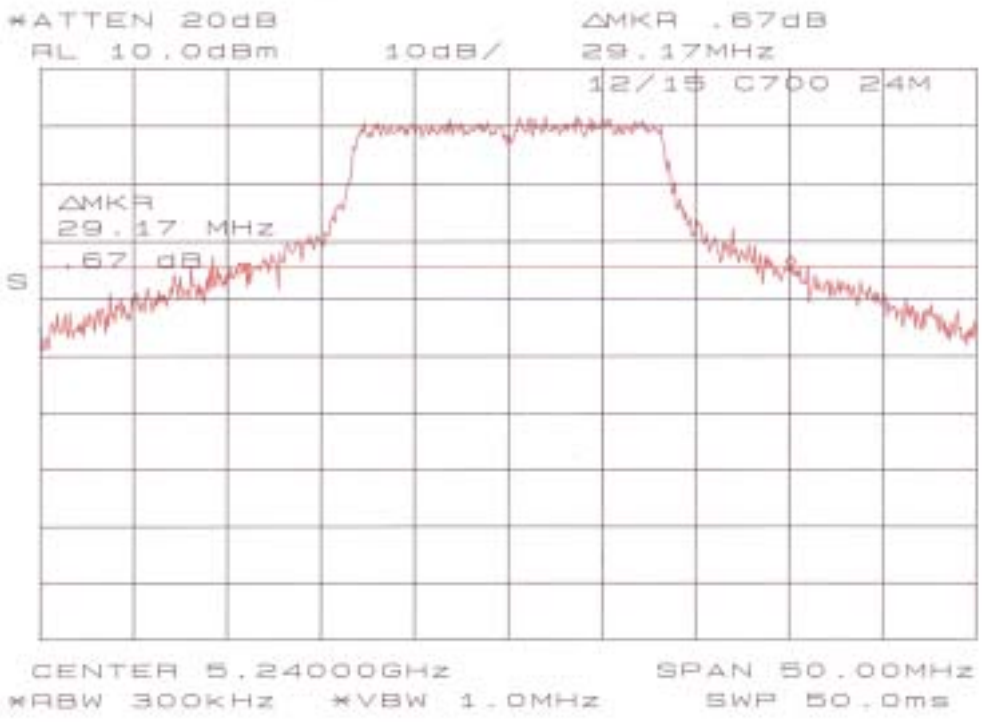


Chart of CH48 with 54Mbps

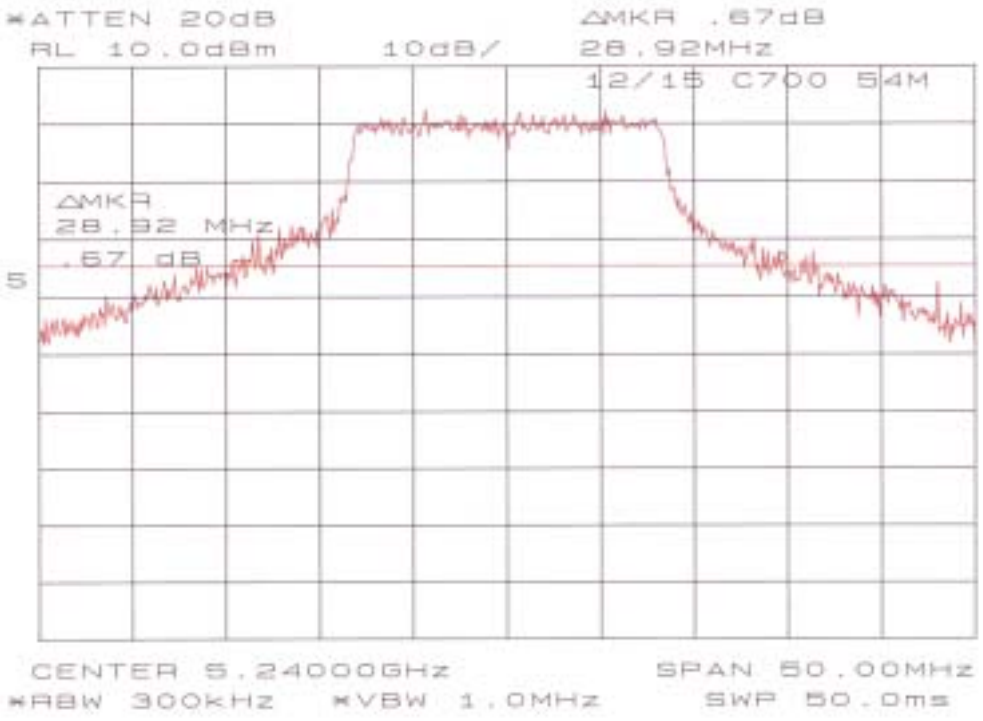
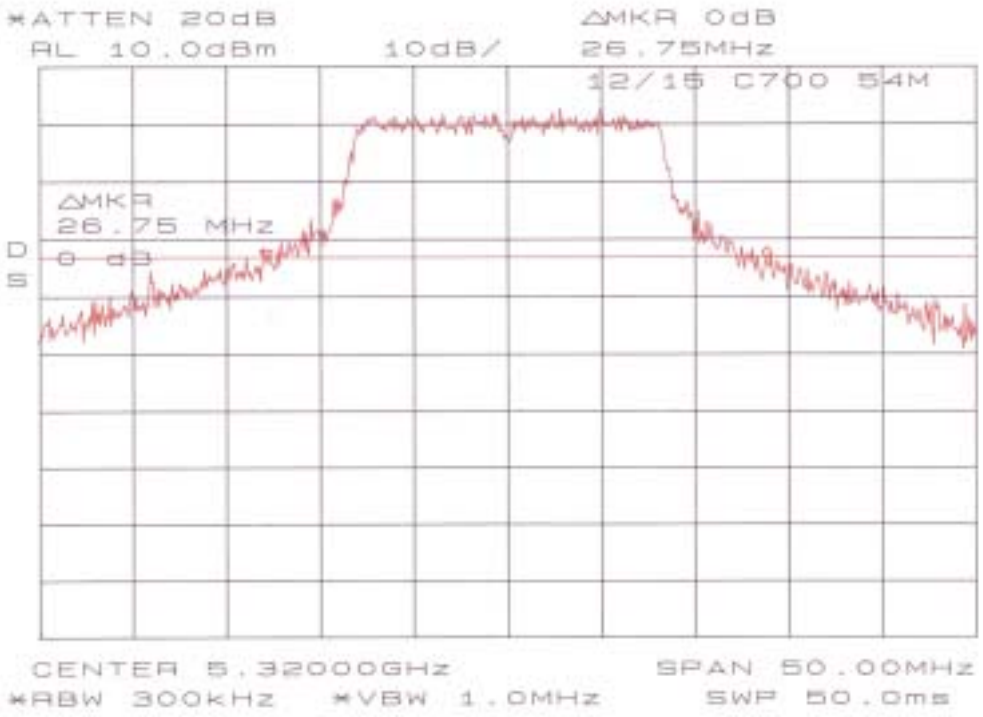


Chart of CH64 with 54Mbps



10.2 Maximum Peak Output Power [15.407(a)(1), 15.407(a)(2)]

MEASUREMENT PROCEDURE:

1. The EUT was set to operate with following conditions.
   - ch36 / ch48 / ch64
   - Data Transfer Rate (6 Mbps/9 Mbps/12 Mbps/18 Mbps/24 Mbps/36 Mbps/48 Mbps/54 Mbps)
2. The Spectrum Analyzer was connected directly to the transmitter output.
3. The test was carried out in accordance with Public Notice :Guidelines for Assessing U-NII Device - Part15, Subpart E (DA 02-2138, August 30, 2002)
4. The Spectrum Analyzer was set up using Method #3.
5. Following limit was applied for the measurement.
   5.15-5.25 GHz : lessor of 17dBm or 4dBm+10logB, where B is the 26dB emission bandwidth
   5.25-5.35 GHz : lessor of 24dBm or 11dBm +10logB, where B is the 26dB emission bandwidth
6. Maximum Antenna Gain : Antenna A = 0.8 dBi
   Antenna B = 4.0 dBi
7. As for the typical chart of the observed RF profiles, refer to page 60-62.

Test date	:	December 15, 2002
Temperature variation	:	18 °C
Humidity variation	:	41 %

[Pulse duration]

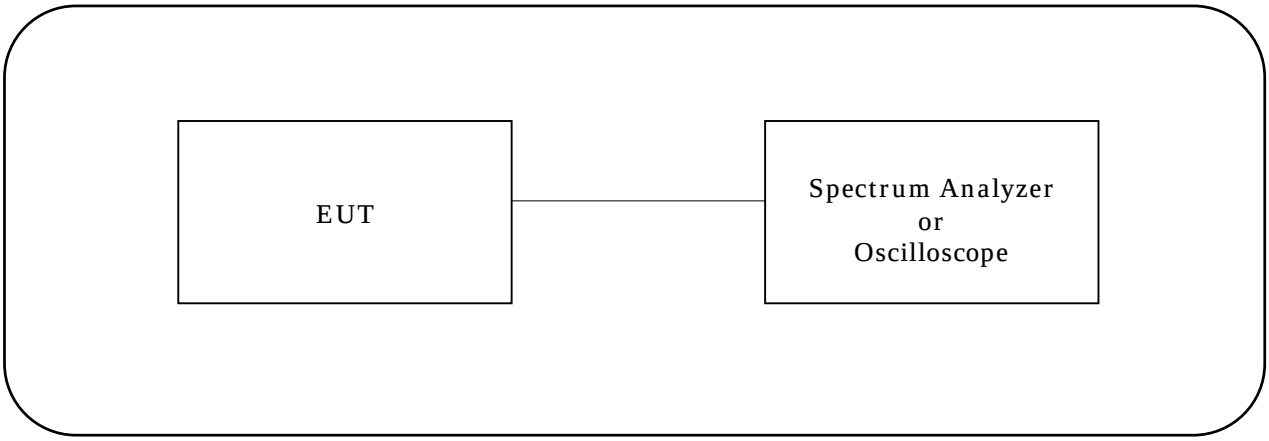
ch	Freq. (GHz)	Data Rate (Mbps)	Pulse duration T (ms)	1/T (kHz)	Chart
48	5.24	6	3.15	0.32	Page 60
		9	2.11	0.47	-
		12	1.60	0.63	-
		18	1.07	0.93	-
		24	0.82	1.22	-
		36	0.55	1.82	-
		48	0.42	2.38	-
		54	0.38	2.63	Page 60

[Maximum Peak Output Power]

ch	Freq. (GHz)	Data Rate (Mbps)	Reading (dBm)	Cable Loss (dB)	Maximum Peak Output Power (dBm)	FCC Limit (dBm)	Chart
36	5.18	6	10.6	1.4	12.0	17	-
		9	10.6	1.4	12.0	17	-
		12	10.6	1.4	12.0	17	-
		18	10.5	1.4	11.9	17	-
		24	10.9	1.4	12.3	17	Page 61
		36	10.8	1.4	12.2	17	-
		48	10.7	1.4	12.1	17	-
		54	10.8	1.4	12.2	17	-
48	5.24	6	10.7	1.4	12.1	17	-
		9	10.7	1.4	12.1	17	-
		12	10.6	1.4	12.0	17	-
		18	10.6	1.4	12.0	17	-
		24	11.4	1.4	12.8	17	-
		36	11.4	1.4	12.8	17	-
		48	11.3	1.4	12.7	17	-
		54	11.5	1.4	12.9	17	Page 61
64	5.32	6	11.3	1.4	12.7	24	-
		9	11.2	1.4	12.6	24	-
		12	11.1	1.4	12.5	24	-
		18	11.2	1.4	12.6	24	-
		24	11.5	1.4	12.9	24	-
		36	11.4	1.4	12.8	24	-
		48	11.5	1.4	12.9	24	-
		54	11.6	1.4	13.0	24	Page 62

Note : Maximum peak output power was detected at ch64 with 54Mbps in Antenna B.
= 13.0dBm (= 20.0mW)
Therefore, the Maximum EIRP = 13.0dBm + 4.0dBi = 17.0dBm (= 50.1 mW)

TEST INSTRUMENTS CONFIGURATION



TEST INSTRUMENTS

Instrument	Model No.	Serial No.	Manufacturer	Last cal. date	Period
Spectrum analyzer	8564E	3643A00665	HEWLETT PACKARD	Jun. 28, 02	1 Year
Spectrum analyzer	R3182	111100429	ADVANTEST	Apr. 02, 02	1 Year

Chart of CH48 with 6Mbps

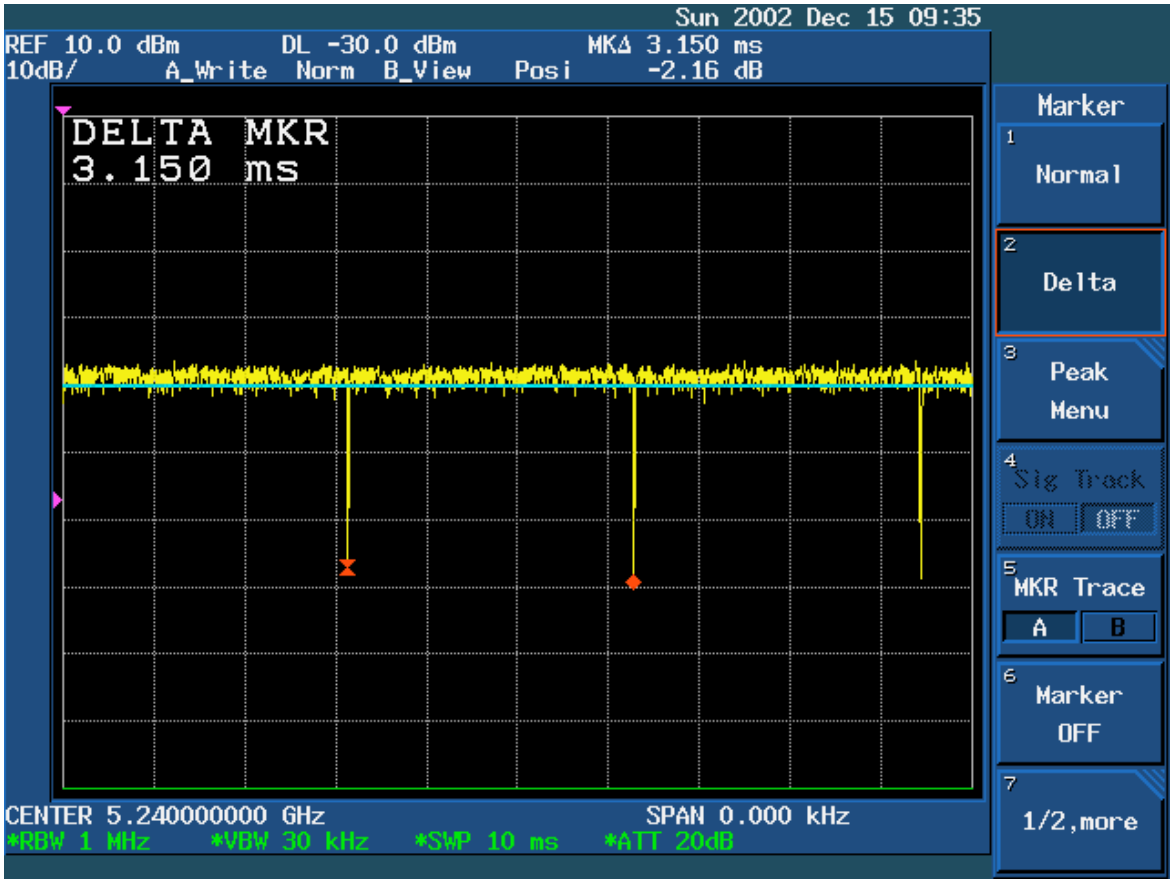


Chart of CH48 with 54Mbps

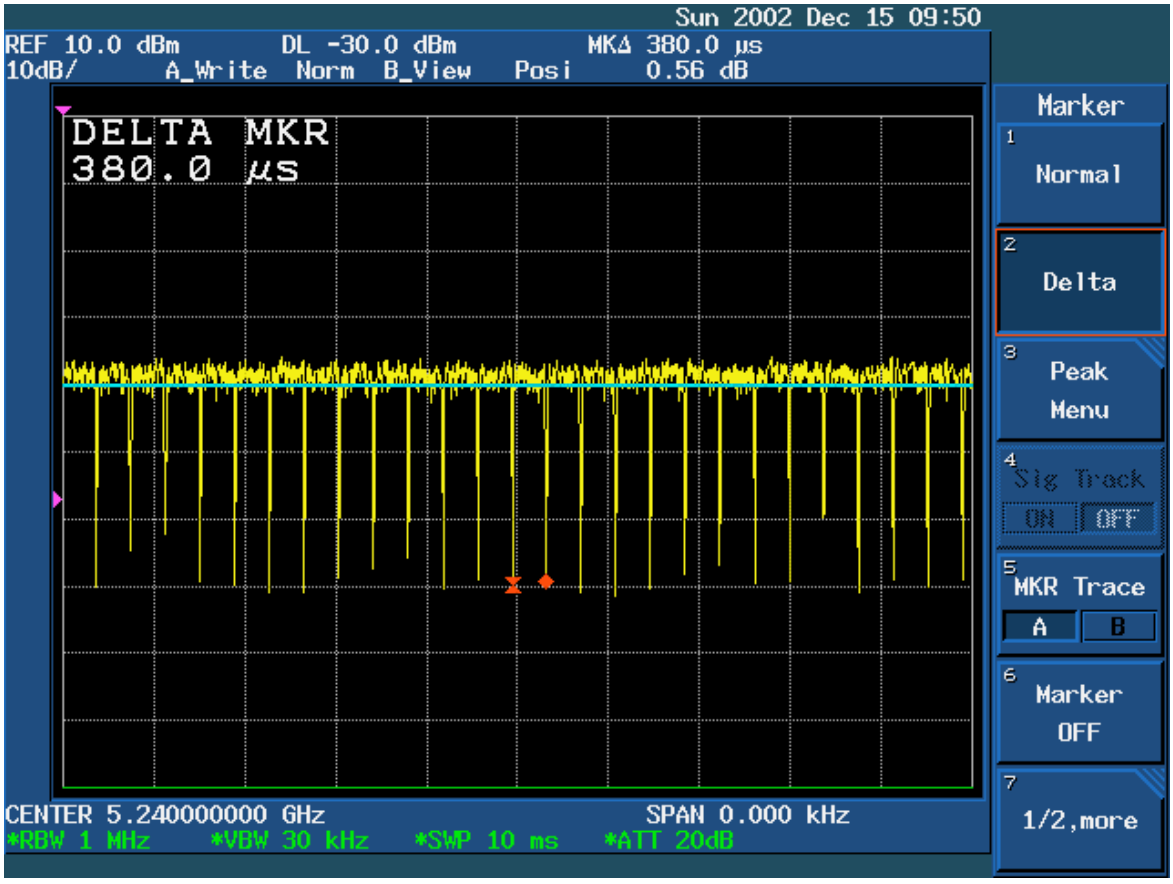


Chart of CH36 with 24Mbps

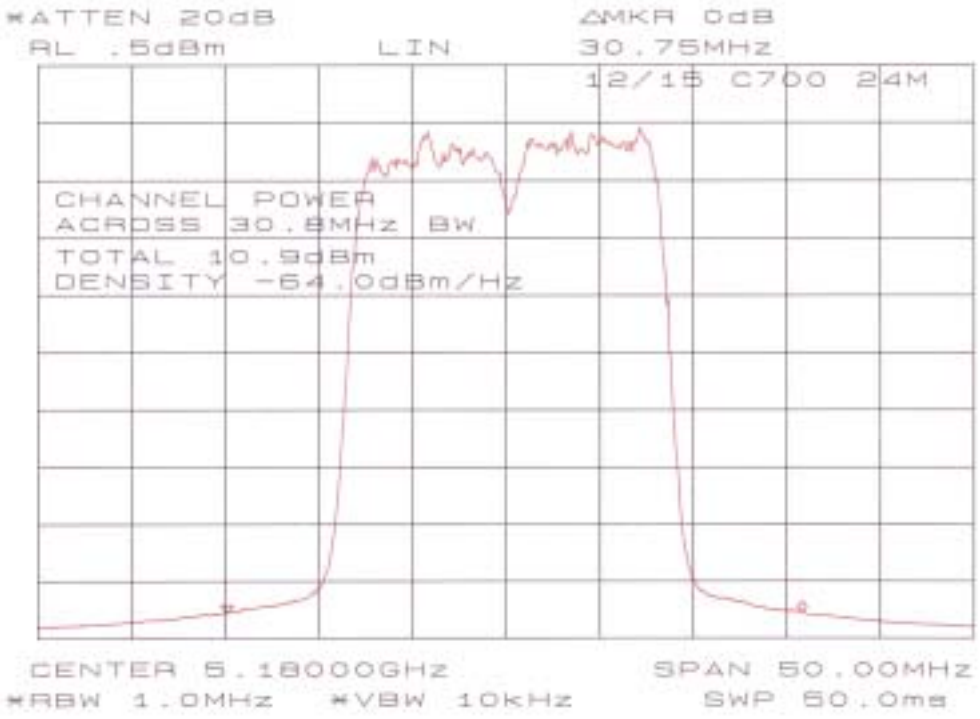


Chart of CH48 with 54Mbps

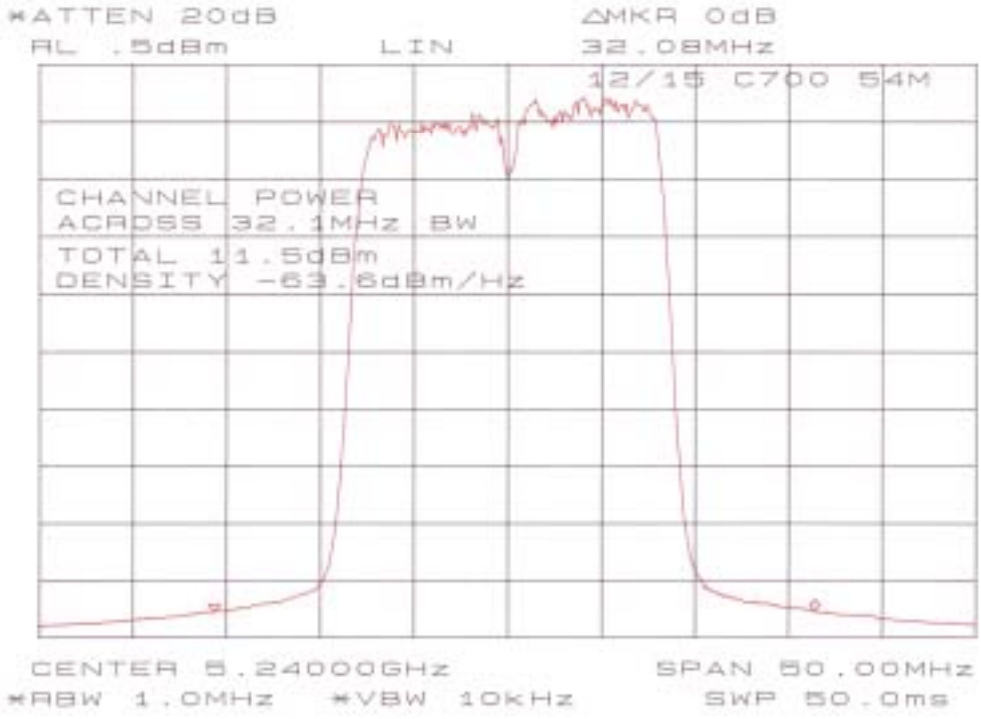
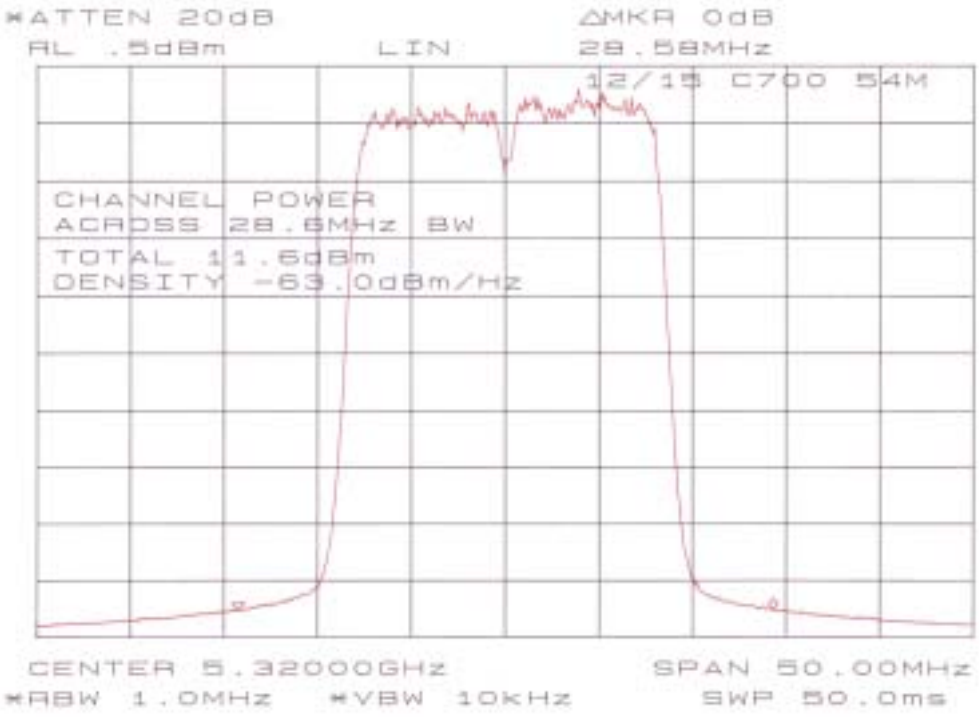


Chart of CH64 with 54Mbps



10.3 Peak Power Spectral Density [15.407(a)(1), 15.407(a)(2)]

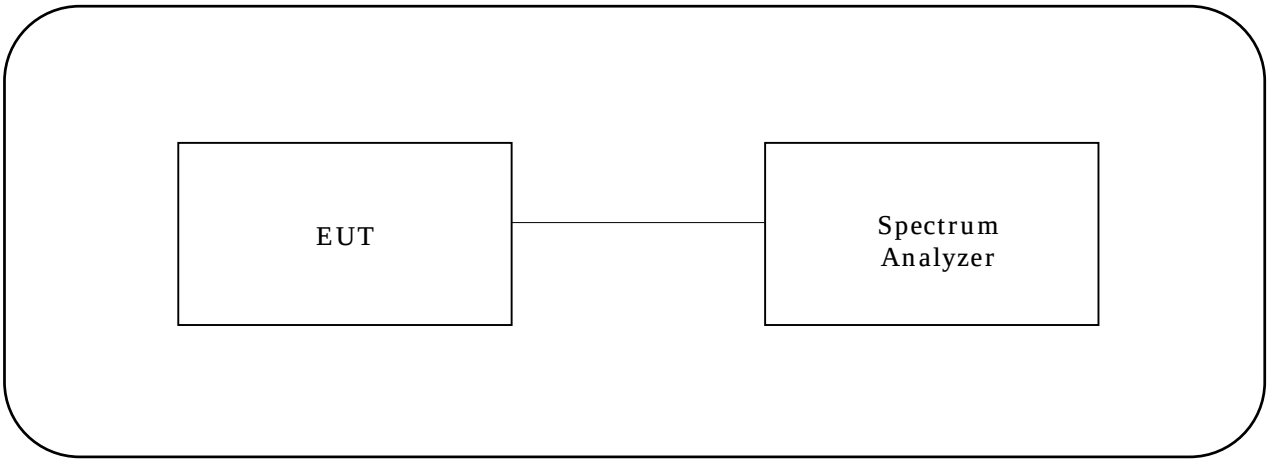
MEASUREMENT PROCEDURE:

1. The EUT was set to operate with following conditions.
   - ch36 / ch48 / ch64
   - Data Transfer Rate (6 Mbps/9 Mbps/12 Mbps/18 Mbps/24 Mbps/36 Mbps/48 Mbps/54 Mbps)
2. Spectrum Analyzer was connected directly to the transmitter output.
3. The test was carried out in accordance with Public Notice :Guidelines for Assessing U-NII Device - Part15, Subpart E (DA 02-2138, August 30, 2002)
4. The Spectrum Analyzer was set up using Method 2.
5. Maximum Antenna Gain : Antenna A = 0.8 dBi
   Antenna B = 4.0 dBi
6. As for the typical chart of the observed RF profiles, refer to page 27-28.

Test date : December 15, 2002
Temperature variation : 18 °C
Humidity variation : 41 %

ch	Frequency (GHz)	Data Rate (Mbps)	Reading (dBm)	Cable Loss (dB)	Peak Power Spectral Density (dBm)	FCC Limit (dBm)	Chart
36	5.18	6	-2.0	1.4	-0.6	4	-
		9	-2.0	1.4	-0.6	4	-
		12	-2.2	1.4	-0.8	4	-
		18	-1.5	1.4	-0.1	4	-
		24	-2.0	1.4	-0.6	4	-
		36	-2.3	1.4	-0.9	4	-
		48	-2.0	1.4	-0.6	4	Page 65
		54	-2.5	1.4	-1.1	4	-
48	5.24	6	-1.2	1.4	0.2	4	-
		9	-1.2	1.4	0.2	4	-
		12	-1.2	1.4	0.2	4	-
		18	-1.2	1.4	0.2	4	-
		24	-1.5	1.4	-0.1	4	-
		36	-1.0	1.4	0.4	4	Page 65
		48	-1.2	1.4	0.2	4	-
		54	-1.2	1.4	0.2	4	-
64	5.32	6	-1.3	1.4	0.1	11	-
		9	-1.3	1.4	0.1	11	-
		12	-1.3	1.4	0.1	11	-
		18	-1.5	1.4	-0.1	11	-
		24	-1.5	1.4	-0.1	11	-
		36	-1.3	1.4	0.1	11	-
		48	-1.3	1.4	0.1	11	Page 66
		54	-1.5	1.4	-0.1	11	-

TEST INSTRUMENTS CONFIGURATION



TEST INSTRUMENTS

Instrument	Model No.	Serial No.	Manufacturer	Last cal. date	Period
Spectrum analyzer	8564E	3643A00665	HEWLETT PACKARD	Jun. 28, 02	1 Year

Chart of ch 36 with 48 Mbps

Chart of ch 48 with 36 Mbps

Chart of ch 64 with 48 Mbps

10.4 Peak Excursion Ratio [15.407(a)(6)]

MEASUREMENT PROCEDURE:

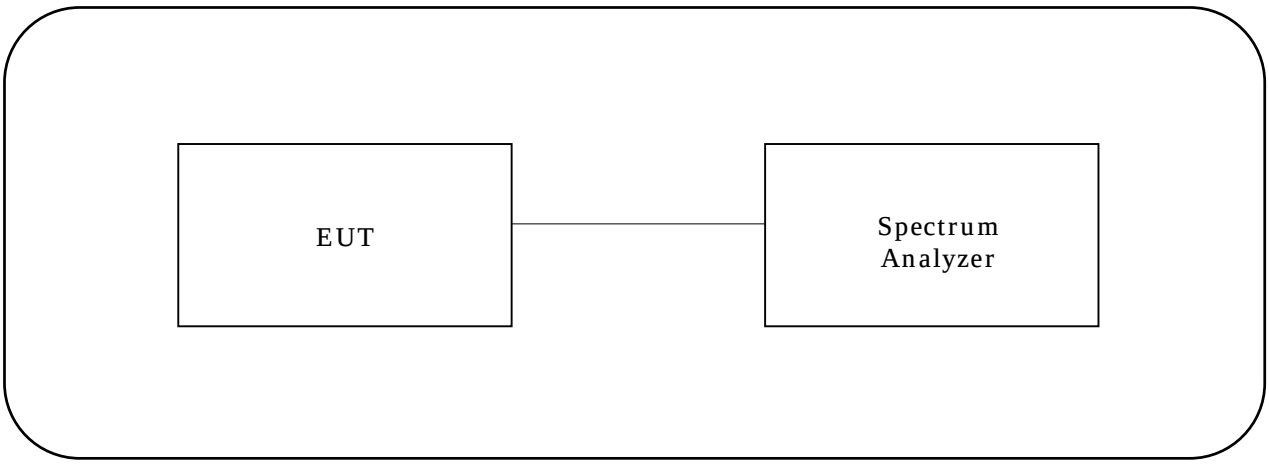
1. The EUT was set to operate with following conditions.
   - ch6 / ch12 / ch20
   - Data Transfer Rate (6 Mbps/9 Mbps/12 Mbps/18 Mbps/24 Mbps/36 Mbps/48 Mbps/54 Mbps)
2. Spectrum Analyzer was connected directly to the transmitter output.
3. The test was carried out in accordance with Public Notice :Guidelines for Assessing U-NII Device - Part15, Subpart E (DA 02-2138, August 30, 2002)
4. The Spectrum Analyzer was set up using
   1st Trace : RBW = 1MHz, VBW = 3MHz
   2nd Trace : RBW = 1MHz, VBW = 10kHz
5. As for the typical chart of the observed RF profiles, refer to page 31-32.

Test date : December 15, 2002
Temperature variation : 18 °C
Humidity variation : 41 %

ch	Frequency (GHz)	Data Rate (Mbps)	Peak Excusion (dB)	FCC Limit (dB)	Chart
6	5.18	6	10.4	13	-
		9	10.0	13	-
		12	10.9	13	-
		18	10.8	13	-
		24	11.1	13	Page 69
		36	10.5	13	-
		48	10.4	13	-
		54	10.4	13	-
12	5.24	6	10.7	13	-
		9	9.9	13	-
		12	11.1	13	Page 69
		18	10.7	13	-
		24	11.0	13	-
		36	10.4	13	-
		48	10.4	13	-
		54	10.4	13	-
20	5.32	6	10.3	13	-
		9	10.7	13	-
		12	11.3	13	-
		18	11.3	13	Page 70
		24	11.3	13	-
		36	11.0	13	-
		48	10.3	13	-
		54	10.4	13	-

Note : Peak Excursion Ratio is the largest difference between two traces.

TEST INSTRUMENTS CONFIGURATION



TEST INSTRUMENTS

Instrument	Model No.	Serial No.	Manufacturer	Last cal. date	Period
Spectrum analyzer	8564E	3643A00665	HEWLETT PACKARD	Jun 28, 02	1 Year

Chart of CH36 with 24Mbps

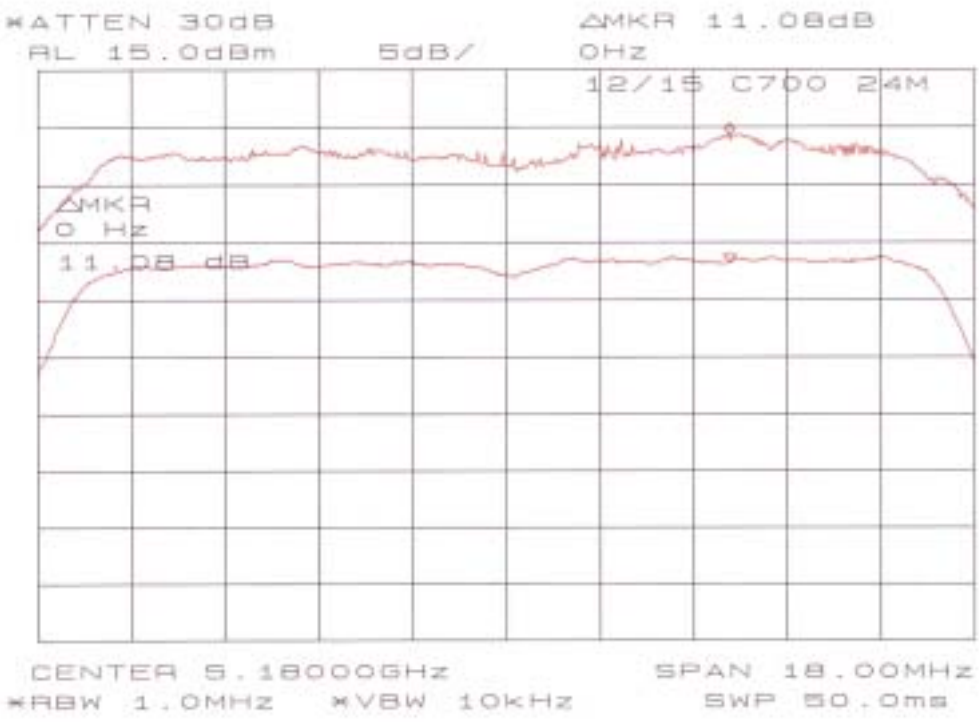


Chart of CH48 with 12Mbps

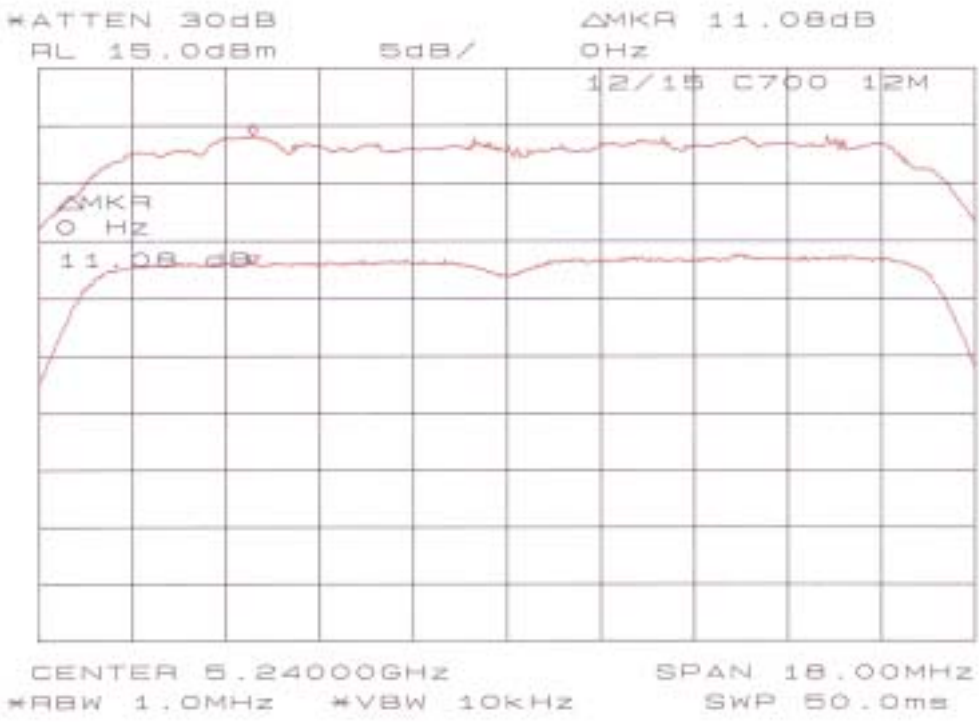
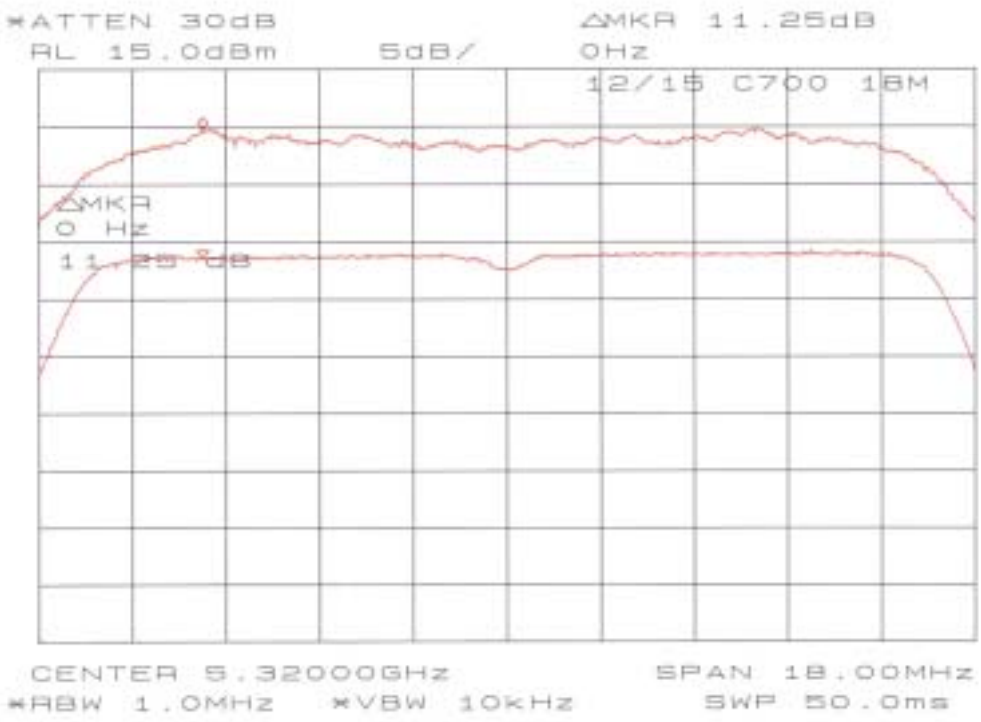


Chart of CH64 with 18Mbps



10.5 Spurious Emissions – RF Antenna Conducted [15.407(b)(1), 15.407(b)(2)]

MEASUREMENT PROCEDURE:

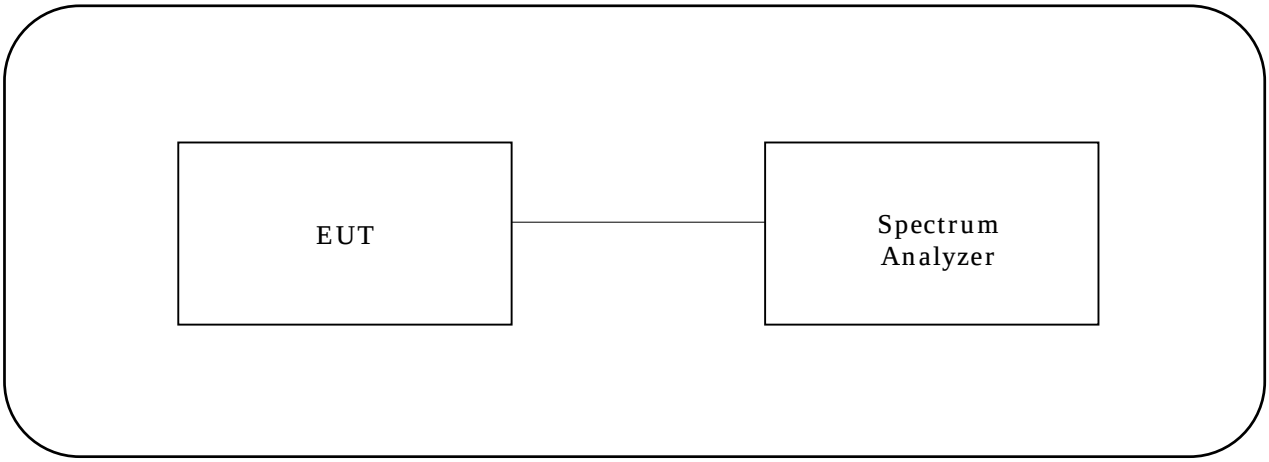
1. The EUT was set to operate with following conditions.
   - ch36 / ch48 / ch64
   - Data Transfer Rate (6 Mbps/9 Mbps/12 Mbps/18 Mbps/24 Mbps/36 Mbps/48 Mbps/54 Mbps)
2. The Spectrum Analyzer was connected directly to the transmitter output.
3. The Spectrum Analyzer was set up using RBW = 1MHz, VBW = 1MHz.
4. As for the typical chart of the observed RF profiles, refer to Annex B.

Test date : December 18, 2002 to December 19, 2002
Temperature variation : 19 °C to 20 °C
Humidity variation : 40 % to 41 %

ch	Frequency (MHz)	Chart
6	5.18	Annex B page 2-3
12	5.24	Annex B page 4-5
20	5.32	Annex B page 6-7

Note:
1. All out-of-band conducted emissions were more than -27dB/MHz .

TEST INSTRUMENTS CONFIGURATION



TEST INSTRUMENTS

Instrument	Model No.	Serial No.	Manufacturer	Last cal. date	Period
Spectrum analyzer	8564E	3643A00665	HEWLETT PACKARD	July 9, 01	1 Year

10.6 Spurious Emissions – Radiated Emissions (below 1GHz) [15.407(b)(5), 15.209]

MEASUREMENT PROCEDURE:

1. The EUT was set to operate with following conditions.
   - Antenna A / Antenna B
   - ch36 / ch48 / ch64
   - Data Transfer Rate (6 Mbps/9 Mbps/12 Mbps/18 Mbps/24 Mbps/36 Mbps/48 Mbps/54 Mbps)
2. The Test Receiver is complied with the specification of the CISPR publication 16.
3. Measurement distance was 3 meters.
4. Following data is the worst case.

Data of CH36 with 54Mbps in Antenna B

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.407(b)(5), 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4-1992
SERIAL NO.	: 0000041	DISTANCE	: 3.0 [m]
TEST MODE	: Tx mode CH36(5.18GHz) 54Mbps Ant.B	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 42.0 [%]
DATE TESTED	: Dec 16 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	ANT.	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	54.50	BBA	-	33.0	-5.8	-5.8	-	27.2	40.0	-	12.8
2	97.50	BBA	-	35.5	-8.9	-8.9	-	26.6	43.5	-	16.9
3	133.29	BBA	-	34.5	-7.9	-7.9	-	26.6	43.5	-	16.9
4	199.98	BBA	46.0	-	-8.0	-8.0	38.0	-	43.5	5.5	-
5	240.02	BBA	44.0	-	-5.6	-5.6	38.4	-	46.0	7.6	-
6	266.53	BBA	45.0	-	-5.3	-5.3	39.7	-	46.0	6.3	-
7	300.01	BBA	42.1	-	-4.1	-4.1	38.0	-	46.0	8.0	-
8	380.91	BBA	36.0	-	-1.0	-1.0	35.0	-	46.0	11.0	-
9	480.00	BBA	35.0	-	0.6	0.6	35.6	-	46.0	10.4	-
10	577.51	BBA	-	31.0	3.3	3.3	-	34.3	46.0	-	11.7
11	599.70	BBA	-	29.8	2.7	2.7	-	32.5	46.0	-	13.5
12	832.02	BBA	29.2	26.0	7.4	7.4	36.6	33.4	46.0	9.4	12.6
13	896.00	BBA	29.3	26.0	8.1	8.1	37.4	34.1	46.0	8.6	11.9
14	926.32	BBA	33.0	-	8.8	8.8	41.8	-	46.0	4.2	-

Other frequencies : Below the FCC 15.407(b)(5), 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

ANT. : Used antenna(BBA = Broadband antenna, DIP = Dipole antenna)

Data of CH48 with 54Mbps in Antenna B

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.407(b)(5), 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4-1992
SERIAL NO.	: 0000041	DISTANCE	: 3.0 [m]
TEST MODE	: Tx mode CH48(5.24GHz) 54Mbps Ant.B	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 42.0 [%]
DATE TESTED	: Dec 16 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	ANT.	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	59.50	BBA	-	31.0	-7.5	-7.5	-	23.5	40.0	-	16.5
2	97.50	BBA	-	45.0	-8.9	-8.9	-	36.1	43.5	-	7.4
3	133.29	BBA	-	35.0	-7.9	-7.9	-	27.1	43.5	-	16.4
4	199.98	BBA	47.2	-	-8.0	-8.0	39.2	-	43.5	4.3	-
5	240.02	BBA	44.0	-	-5.6	-5.6	38.4	-	46.0	7.6	-
6	266.53	BBA	45.0	-	-5.3	-5.3	39.7	-	46.0	6.3	-
7	300.01	BBA	43.0	-	-4.1	-4.1	38.9	-	46.0	7.1	-
8	380.91	BBA	37.0	-	-1.0	-1.0	36.0	-	46.0	10.0	-
9	480.00	BBA	32.5	-	0.6	0.6	33.1	-	46.0	12.9	-
10	577.51	BBA	-	32.0	3.3	3.3	-	35.3	46.0	-	10.7
11	599.70	BBA	-	31.0	2.7	2.7	-	33.7	46.0	-	12.3
12	631.78	BBA	36.6	-	3.9	3.9	40.5	-	46.0	5.5	-
13	832.02	BBA	29.5	28.0	7.4	7.4	36.9	35.4	46.0	9.1	10.6
14	896.00	BBA	29.0	27.0	8.1	8.1	37.1	35.1	46.0	8.9	10.9
15	926.32	BBA	30.0	-	8.8	8.8	38.8	-	46.0	7.2	-

Other frequencies : Below the FCC 15.407(b)(5), 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

ANT. : Used antenna(BBA = Broadband antenna, DIP = Dipole antenna)

Data of CH64 with 54Mbps in Antenna B

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.407(b)(5), 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4-1992
SERIAL NO.	: 0000041	DISTANCE	: 3.0 [m]
TEST MODE	: Tx mode CH64(5.32GHz) 54Mbps Ant.B	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 42.0 [%]
DATE TESTED	: Dec 16 2002		

ENGINEER : Kazuhiro Ando

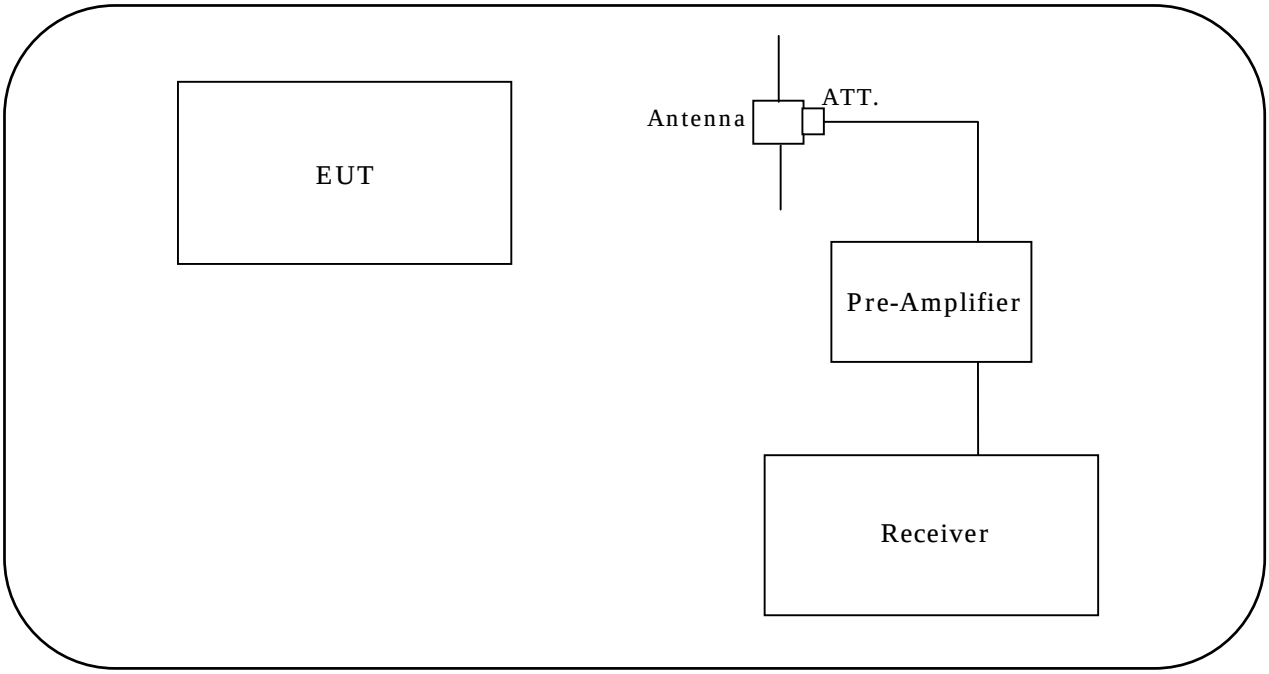
No	FREQUENCY [MHz]	ANT.	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	54.50	BBA	-	32.0	-5.8	-5.8	-	26.2	40.0	-	13.8
2	97.50	BBA	-	35.0	-8.9	-8.9	-	26.1	43.5	-	17.4
3	133.29	BBA	-	35.1	-7.9	-7.9	-	27.2	43.5	-	16.3
4	199.98	BBA	46.0	-	-8.0	-8.0	38.0	-	43.5	5.5	-
5	240.02	BBA	43.4	-	-5.6	-5.6	37.8	-	46.0	8.2	-
6	266.53	BBA	45.1	-	-5.3	-5.3	39.8	-	46.0	6.2	-
7	300.01	BBA	42.5	-	-4.1	-4.1	38.4	-	46.0	7.6	-
8	380.91	BBA	34.0	-	-1.0	-1.0	33.0	-	46.0	13.0	-
9	480.00	BBA	34.0	-	0.6	0.6	34.6	-	46.0	11.4	-
10	577.51	BBA	-	31.2	3.3	3.3	-	34.5	46.0	-	11.5
11	599.70	BBA	-	29.8	2.7	2.7	-	32.5	46.0	-	13.5
12	832.02	BBA	29.0	27.1	7.4	7.4	36.4	34.5	46.0	9.6	11.5
13	896.00	BBA	30.0	26.5	8.1	8.1	38.1	34.6	46.0	7.9	11.4
14	926.32	BBA	31.2	-	8.8	8.8	40.0	-	46.0	6.0	-

Other frequencies : Below the FCC 15.407(b)(5), 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

ANT. : Used antenna(BBA = Broadband antenna, DIP = Dipole antenna)

TEST INSTRUMENTS CONFIGURATION



TEST INSTRUMENTS

Instrument	Model No.	Serial No.	Manufacturer	Last cal. date	Period
Test Receiver	ESV	893271/018	ROHDE & SCHWARZ	Aug. 06, 02	1 Year
Pre-Amplifier	8447D	1937A03130	HEWLETT PACKARD	Oct. 4, 02	1 Year
6dB Attenuator	MP721B	M57593	ANRITSU	Oct. 4, 02	1 Year
Bi-Cog Antenna	LPB-2513-A	1103	ARA	May 29, 02	1 Year

10.7 Spurious Emissions – Radiated Emissions (above 1 GHz) [15.407(b)(6), 15.205]

MEASUREMENT PROCEDURE:

1. The EUT was set to operate with following conditions.
   - Antenna A / Antenna B
   - ch6 / ch12 / ch20
   - Data Transfer Rate (6 Mbps/9 Mbps/12 Mbps/18 Mbps/24 Mbps/36 Mbps/48 Mbps/54 Mbps)
2. For the measurements in restricted bands, the Spectrum Analyzer was set up using
   Peak mode: RBW = 1MHz, VBW = 1MHz
   Average mode: RBW = 1MHz, VBW = 10Hz
   And for the measurements out of restricted bands, the Spectrum Analyzer was set up using
   RBW = 1MHz, VBW = 30kHz.
3. Limit for emissions outside of restrited bands : EIRP < -27dBm/MHz
   In case of 3 meter measurement distance, the limit was calculated as follows:

   $P = (E * d)^2 / 30G$

   $E = \frac{\sqrt{30xPxG}}{d}$

   $= 2.58 \times 10^{-3}$ V/m

   Limit : $20\log(2.58 \times 10^3) = 68.2$dBuV/m

   WHERE
   P is the power, in Watts
   E is the measured peak field strength, in Volts/meter
   d is the distance at which the measurement was made, in meters
   G is the numeric gain of the radiating element

4. Following data is the worst case.

Data of CH36 with 54Mbps in Antenna A

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.407(b)(6), 15.205, 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 1.0 [m]
TEST MODE	: Tx mode CH36(5.18GHz) 54Mbps Ant.A	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 42.0 [%]
DATE TESTED	: Dec 21 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	6215.95		53.5	44.5	4.0	4.0	57.5	48.5	68.3	10.8	19.8
2	8288.00	PEK	37.5	39.4	9.7	9.7	47.2	49.1	74.0	26.8	24.9
3	8288.00	AVG	24.5	30.7	9.7	9.7	34.2	40.4	54.0	19.8	13.6
4	10360.00		35.1	36.8	13.4	13.4	48.5	50.2	68.3	19.8	18.1

Other frequencies : Below the FCC 15.407(b)(6), 15.205, 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

Data of CH36 with 54Mbps in Antenna B

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.407(b)(6), 15.205, 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 1.0 [m]
TEST MODE	: Tx mode CH36(5.18GHz) 54Mbps Ant.B	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 42.0 [%]
DATE TESTED	: Dec 21 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	6215.95		49.3	46.0	4.0	4.0	53.3	50.0	68.3	15.0	18.3
2	8288.00	PEK	38.8	39.2	9.7	9.7	48.5	48.9	74.0	25.5	25.1
3	8288.00	AVG	25.2	30.4	9.7	9.7	34.9	40.1	54.0	19.1	13.9
4	10360.00		42.3	44.9	13.4	13.4	55.7	58.3	68.3	12.6	10.0

Other frequencies : Below the FCC 15.407(b)(6), 15.205, 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

ANT. : Used antenna(BBA = Broadband antenna, DIP = Dipole antenna)

Data of CH48 with 54Mbps in Antenna A

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.407(b)(6), 15.205, 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 1.0 [m]
TEST MODE	: Tx mode CH48(5.24GHz) 54Mbps Ant.A	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 42.0 [%]
DATE TESTED	: Dec 21 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	6288.09		53.0	41.9	4.2	4.2	57.2	46.1	68.3	11.1	22.2
2	8384.00	PEK	37.8	40.0	10.4	10.4	48.2	50.4	74.0	25.8	23.6
3	8384.00	AVG	24.9	31.7	10.4	10.4	35.3	42.1	54.0	18.7	11.9
4	10481.17		37.9	40.0	13.6	13.6	51.5	53.6	68.3	16.8	14.7

Other frequencies : Below the FCC 15.407(b)(6), 15.205, 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

Data of CH48 with 54Mbps in Antenna B

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.407(b)(6), 15.205, 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 1.0 [m]
TEST MODE	: Tx mode CH48(5.24GHz) 54Mbps Ant.B	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 42.0 [%]
DATE TESTED	: Dec 21 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	6288.09		48.6	45.9	4.2	4.2	52.8	50.1	68.3	15.5	18.2
2	8384.00	PEK	38.2	40.0	10.4	10.4	48.6	50.4	74.0	25.4	23.6
3	8384.00	AVG	25.1	30.2	10.4	10.4	35.5	40.6	54.0	18.5	13.4
4	10481.17		43.9	45.9	13.6	13.6	57.5	59.5	68.3	10.8	8.8

Other frequencies : Below the FCC 15.407(b)(6), 15.205, 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

Data of CH64 with 54Mbps in Antenna A

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.407(b)(6), 15.205, 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 1.0 [m]
TEST MODE	: Tx mode CH64(5.32GHz) 54Mbps Ant.A	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 42.0 [%]
DATE TESTED	: Dec 21 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	6383.96		43.7	35.7	4.4	4.4	48.1	40.1	68.3	20.2	28.2
2	8512.01		32.8	36.2	11.4	11.4	44.2	47.6	68.3	24.1	20.7
3	10642.00	PEK	47.5	47.0	13.6	13.6	61.1	60.6	74.0	12.9	13.4
4	10642.00	AVG	33.4	33.0	13.6	13.6	47.0	46.6	54.0	7.0	7.4

Other frequencies : Below the FCC 15.407(b)(6), 15.205, 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

Data of CH64 with 54Mbps in Antenna B

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.407(b)(6), 15.205, 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 1.0 [m]
TEST MODE	: Tx mode CH64(5.32GHz) 54Mbps Ant.B	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 42.0 [%]
DATE TESTED	: Dec 21 2002		

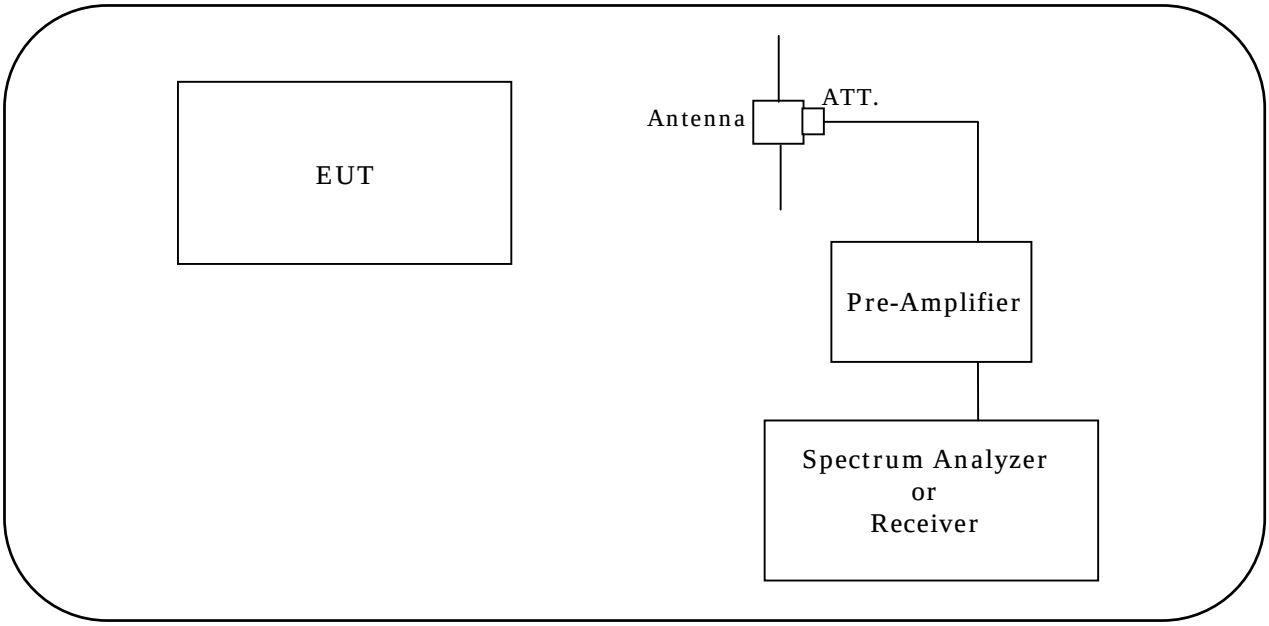
ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	6383.96		41.4	37.8	4.4	4.4	45.8	42.2	68.3	22.5	26.1
2	8512.01		33.3	35.7	11.4	11.4	44.7	47.1	68.3	23.6	21.2
3	10642.00	PEK	52.1	54.2	13.6	13.6	65.7	67.8	74.0	8.3	6.2
4	10642.00	AVG	35.4	38.2	13.6	13.6	49.0	51.8	54.0	5.0	2.2

Other frequencies : Below the FCC 15.407(b)(6), 15.205, 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

TEST INSTRUMENTS CONFIGURATION



TEST INSTRUMENTS

Instrument	Model No.	Serial No.	Manufacturer	Last cal. date	Period
Spectrum Analyzer	8564E	3643A00665	HEWLETT PACKARD	Jun. 28, 02	1 Year
Pre-Amplifier	83051A	3332A00329	HEWLETT PACKARD	Jun. 02, 02	1 Year
3dB Attenuator	6803.17.B	None	SUHNER	Jun. 02, 02	1 Year
Double Ridged Antenna	3115	5044	EMCO	Jul. 09, 02	1 Year
	3116	9612-2320	EMCO	Jul. 12, 02	1 Year
Standard Gain Horn Antenna	3160-04	1080	EMCO	Jan. 10, 02	1 Year
	3160-05	1114	EMCO	Jan. 10, 02	1 Year
	3160-06	1075	EMCO	Jan. 10, 02	1 Year
	3160-07	1160	EMCO	Jan. 10, 02	1 Year
	3160-08	1144	EMCO	Jan. 10, 02	1 Year
	3160-09	1262	EMCO	Jan. 10, 02	1 Year
	3160-10	1103	EMCO	Jan. 10, 02	1 Year

10.8 Spurious Emissions – Radiated Emissions (Band Edge) [15.407(b)(6), 15.205]

MEASUREMENT PROCEDURE:

1. The EUT was set to operate with following conditions.
   - Antenna A / Antenna B
   - CH36 / CH64
   - Data Transfer Rate (6 Mbps/9 Mbps/12 Mbps/18 Mbps/24 Mbps/36 Mbps/48 Mbps/54 Mbps)
2. The Spectrum Analyzer was setup using
   Peak mode: RBW = 1MHz, VBW = 1MHz
   Average mode: RBW = 1MHz, VBW = 10Hz
3. Following data is the worst case.
4. As for the typical chart of the observed RF profiles, refer to page 90-93.

Data of CH36 with 54Mbps in Antenna A

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions - Band Edge

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.407(b)(6), 15.205, 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 3.0 [m]
TEST MODE	: Tx mode CH36(5.18GHz) 54Mbps Ant.A	TEMPERATURE	: 20.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 38.0 [%]
DATE TESTED	: Dec 24 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	5150.00	PEK	53.0	47.3	15.9	15.9	68.9	63.2	74.0	5.1	10.8
2	5150.00	AVG	28.2	30.2	15.9	15.9	44.1	46.1	54.0	9.9	7.9

Other frequencies : Below the FCC 15.407(b)(6), 15.205, 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

Data of CH64 with 54Mbps in Antenna A

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions - Band Edge

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.407(b)(6), 15.205, 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 3.0 [m]
TEST MODE	: Tx mode CH64(5.32GHz) 54Mbps Ant.A	TEMPERATURE	: 20.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 38.0 [%]
DATE TESTED	: Dec 24 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	5350.00	PEK	49.7	46.5	16.8	16.8	66.5	63.3	74.0	7.5	10.7
2	5350.00	AVG	31.5	29.2	16.8	16.8	48.3	46.0	54.0	5.7	8.0

Other frequencies : Below the FCC 15.407(b)(6), 15.205, 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

Data of CH36 with 54Mbps in Antenna B

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions - Band Edge

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.407(b)(6), 15.205, 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 3.0 [m]
TEST MODE	: Tx mode CH36(5.18GHz) 54Mbps Ant.B	TEMPERATURE	: 20.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 38.0 [%]
DATE TESTED	: Dec 24 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV] Hori	READING [dBuV] Vert	FACTOR [dB/m] Hori	FACTOR [dB/m] Vert	EMISSION [dBuV/m] Hori	EMISSION [dBuV/m] Vert	LIMIT [dBuV/m]	MARGIN [dB] Hori	MARGIN [dB] Vert
1	5150.00	PEK	49.2	46.3	15.9	15.9	65.1	62.2	74.0	8.9	11.8
2	5150.00	AVG	30.9	28.8	15.9	15.9	46.8	44.7	54.0	7.2	9.3

Other frequencies : Below the FCC 15.407(b)(6), 15.205, 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

Data of CH64 with 54Mbps in Antenna B

Akzo Nobel K. K.

Kashima No.1 Test Site

Spurious Emissions - Band Edge

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.407(b)(6), 15.205, 15.209
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4:1992
SERIAL NO.	: 0000041	DISTANCE	: 3.0 [m]
TEST MODE	: Tx mode CH64(5.32GHz) 54Mbps Ant.B	TEMPERATURE	: 20.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 38.0 [%]
DATE TESTED	: Dec 24 2002		

ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	5350.00	PEK	48.2	45.7	16.8	16.8	65.0	62.5	74.0	9.0	11.5
2	5350.00	AVG	30.3	27.2	16.8	16.8	47.1	44.0	54.0	6.9	10.0

Other frequencies : Below the FCC 15.407(b)(6), 15.205, 15.209 limit

Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

Chart of CH36 with 54Mbps in Antenna A

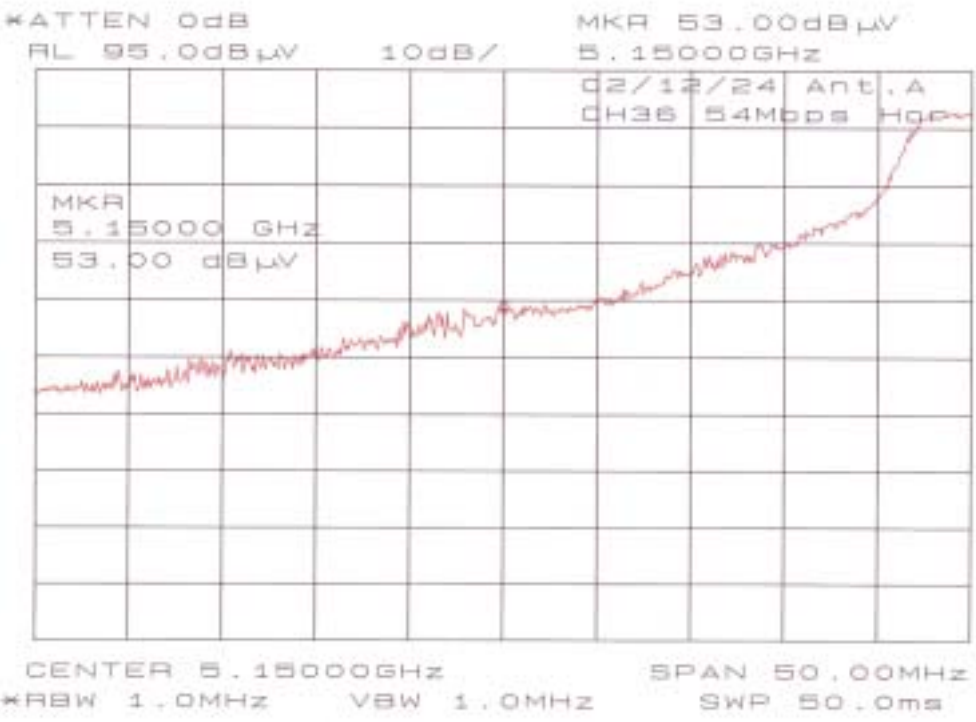


Chart of CH36 with 54Mbps in Antenna A

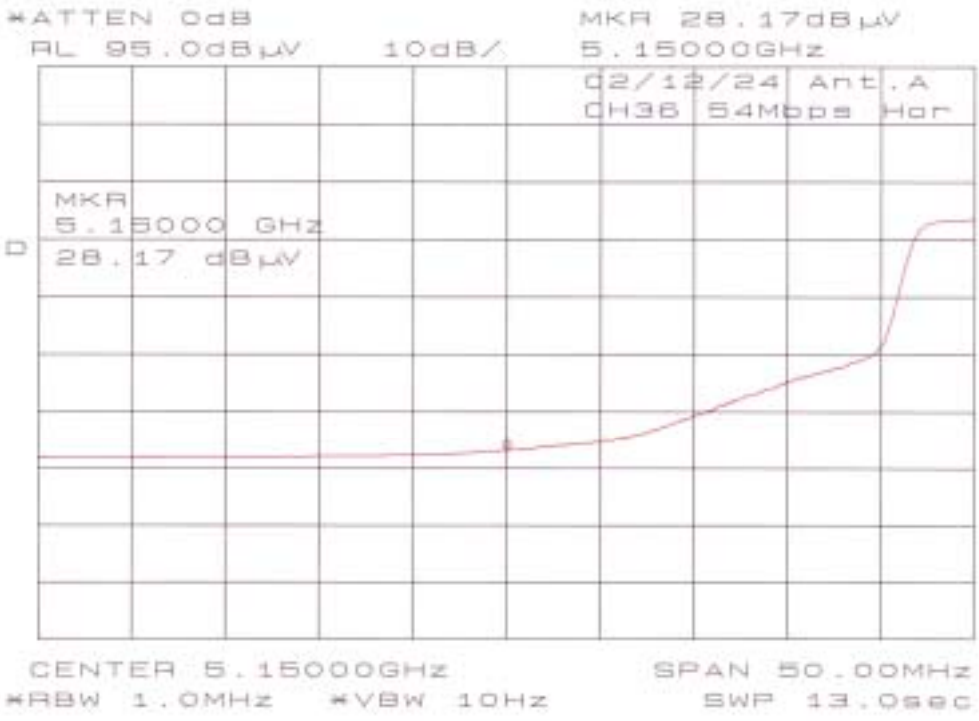


Chart of CH64 with 54Mbps in Antenna A

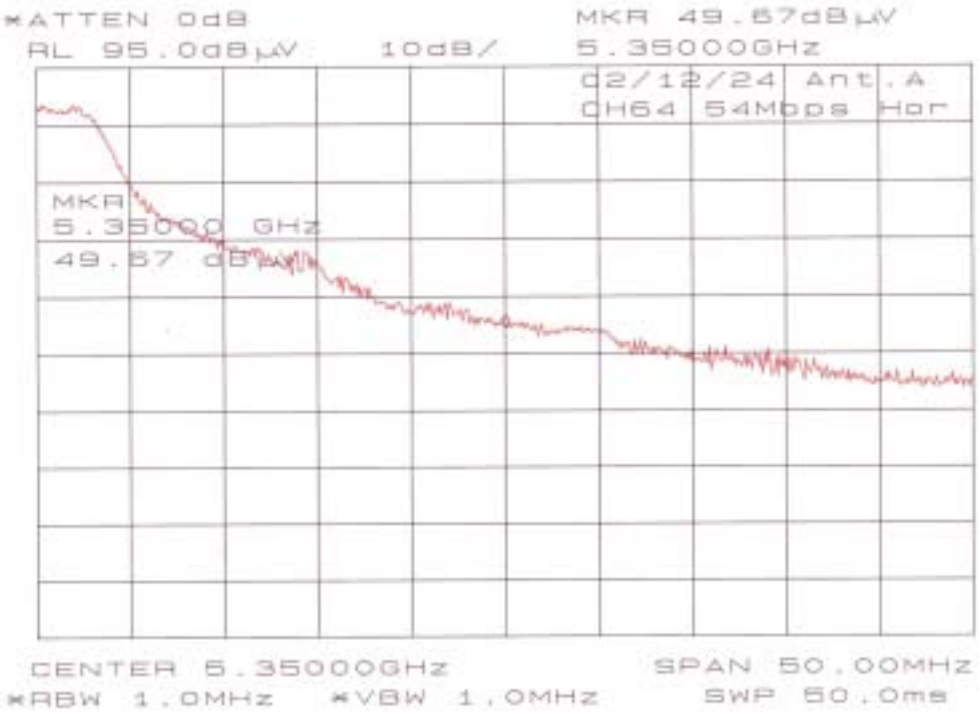


Chart of CH64 with 54Mbps in Antenna A

Chart of CH36 with 54Mbps in Antenna B

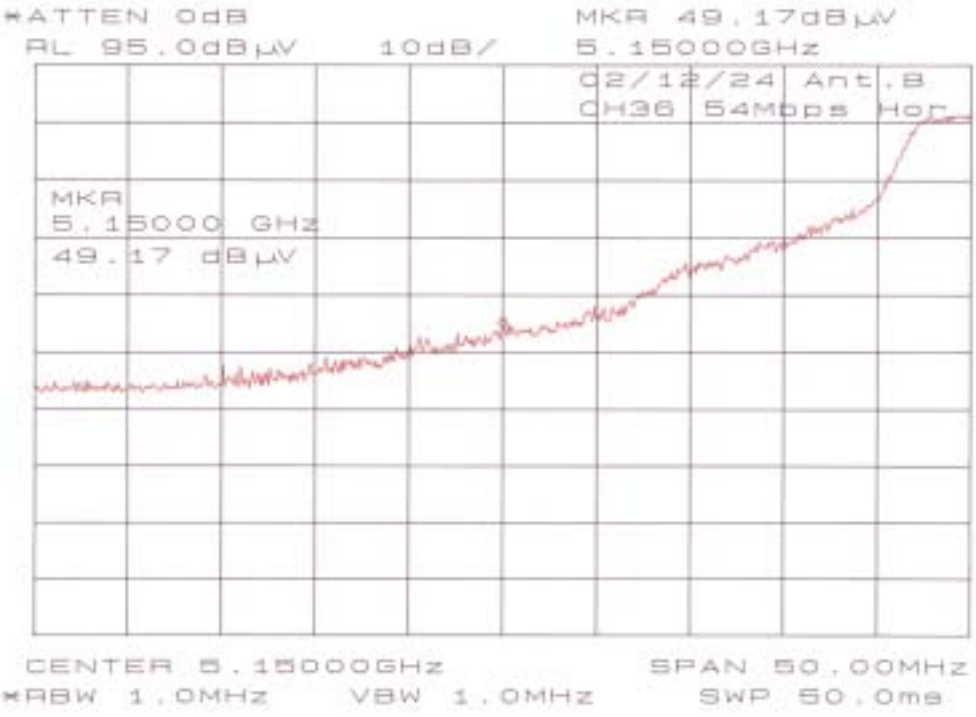


Chart of CH36 with 54Mbps in Antenna B

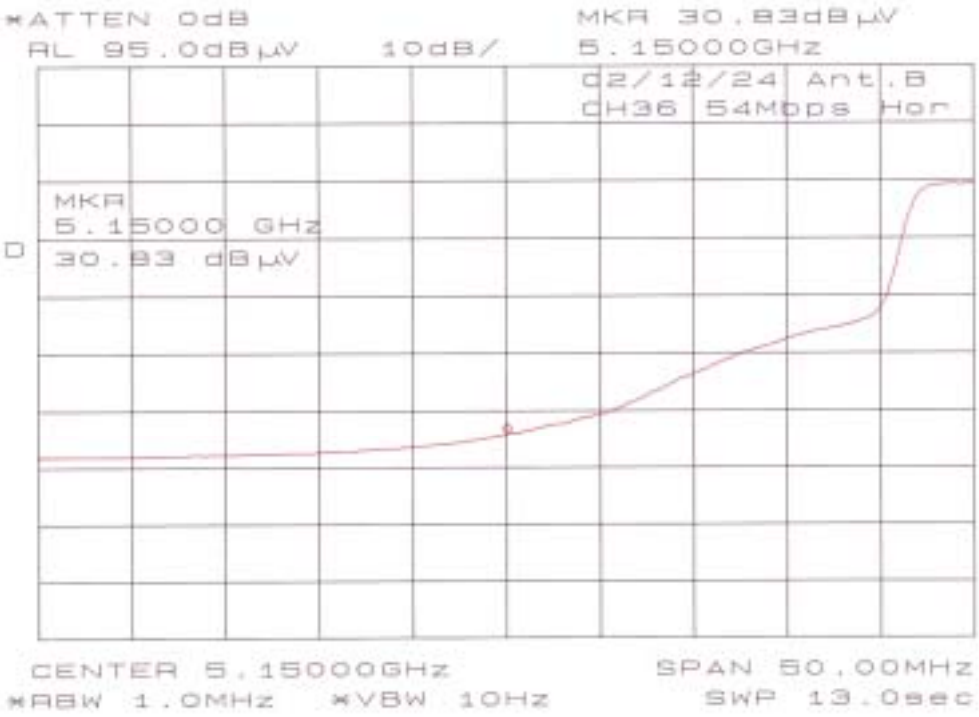


Chart of CH64 with 54Mbps in Antenna B

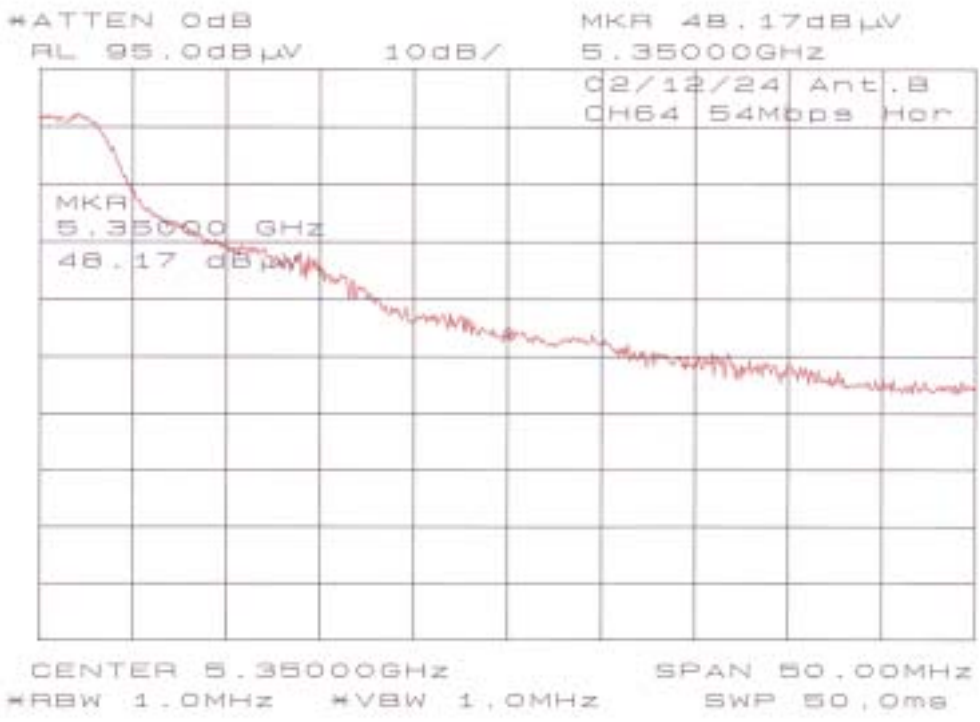
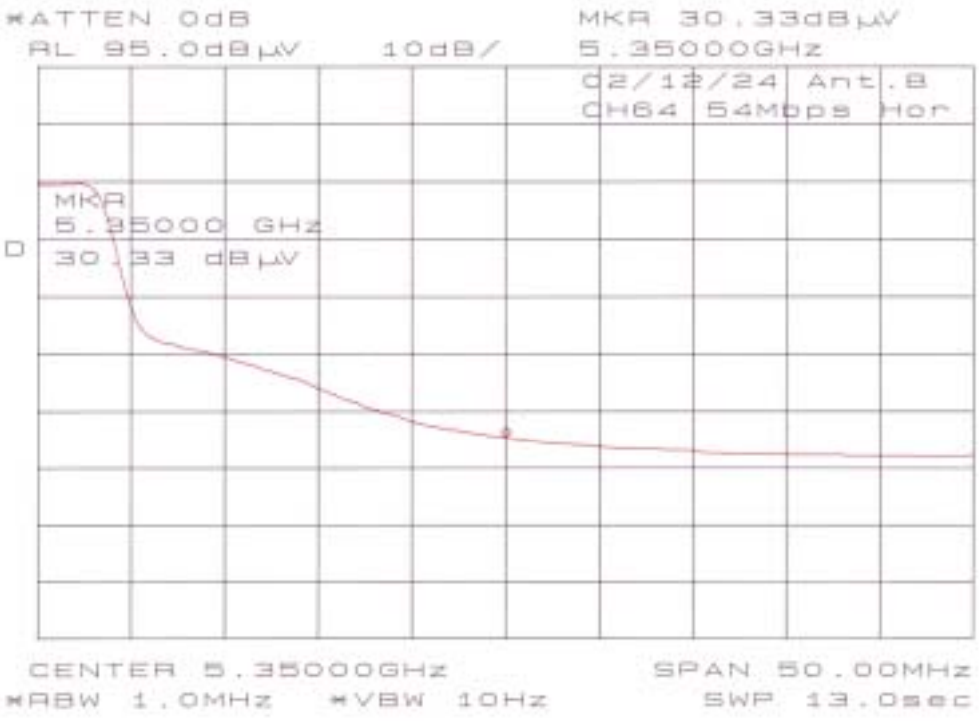
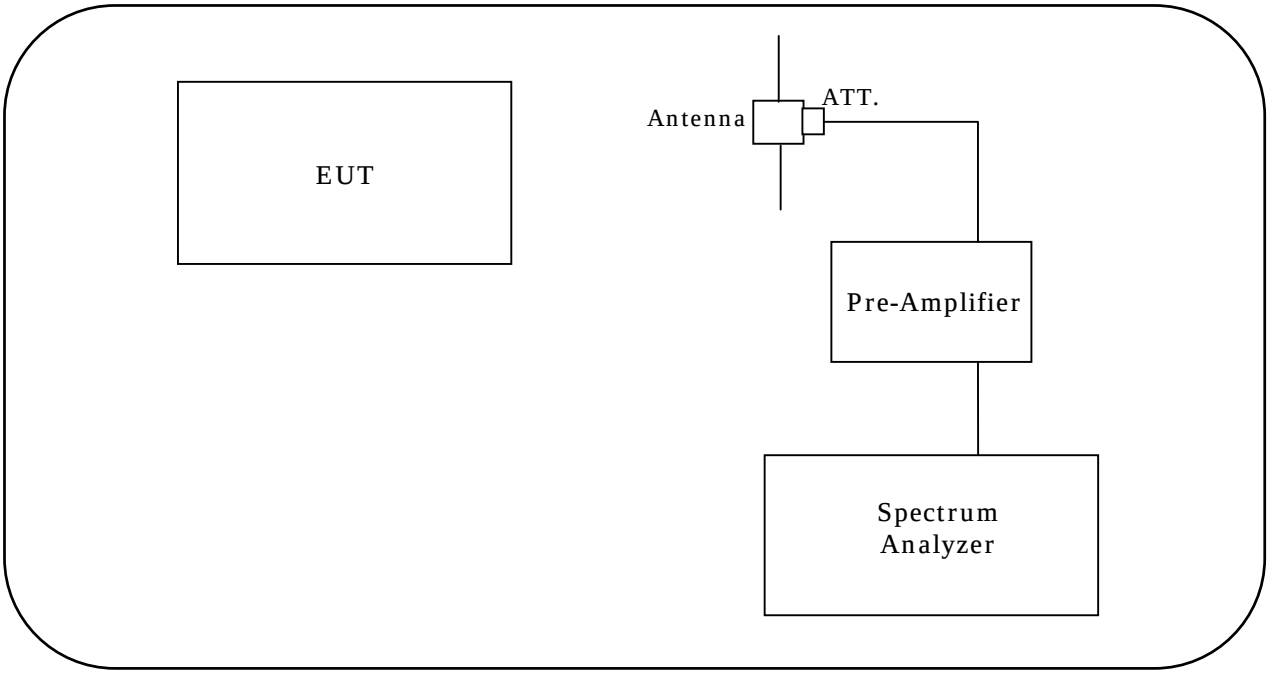


Chart of CH64 with 54Mbps in Antenna B



TEST INSTRUMENTS CONFIGURATION



TEST INSTRUMENTS

Instrument	Model No.	Serial No.	Manufacturer	Last cal. date	Period
Spectrum analyzer	8564E	3643A00665	HEWLETT PACKARD	Jun. 28, 02	1 Year
Pre-Amplifier	83051A	3332A00329	HEWLETT PACKARD	Jun. 02, 02	1 Year
3dB Attenuator	6803.17B	None	SUHNER	Jun. 02, 02	1 Year
Double Ridged Antenna	3115	5044	EMCO	Jul. 09, 02	1 Year

10.9 AC Conducted Emissions [15.407(b)(5),15.207]

MEASUREMENT PROCEDURE:

1. The EUT was set to operate with following conditions.
   - ch36 / ch48 / ch64
   - Data Transfer Rate (6 Mbps/9 Mbps/12 Mbps/18 Mbps/24 Mbps/36 Mbps/48 Mbps/54 Mbps)
2. The Test Receiver is complied with the specification of the CISPR publication 16.
3. Following data is the worst case.

Data of CH48 with 54Mbps in Antenna B

Akzo Nobel K. K.

Kashima No.1 Test Site

Conducted Voltages on Mains Port

APPLICANT	: Sony Corporation	FILE NO.	: ANKK-102298
EUT NAME	: Wireless LAN PC Card	REGULATION	: FCC 15.407(b)(5), 15.207
MODEL NO.	: PCWA-C700	TEST METHOD	: ANSI C63.4-1992
SERIAL NO.	: 0000041		
TEST MODE	: Tx mode CH48(5.24GHz) 54Mbps Ant.B	TEMPERATURE	: 18.0 [degC]
POWER SOURCE	: AC120V/60Hz	HUMIDITY	: 45.0 [%]
DATE TESTED	: Dec 13 2002		

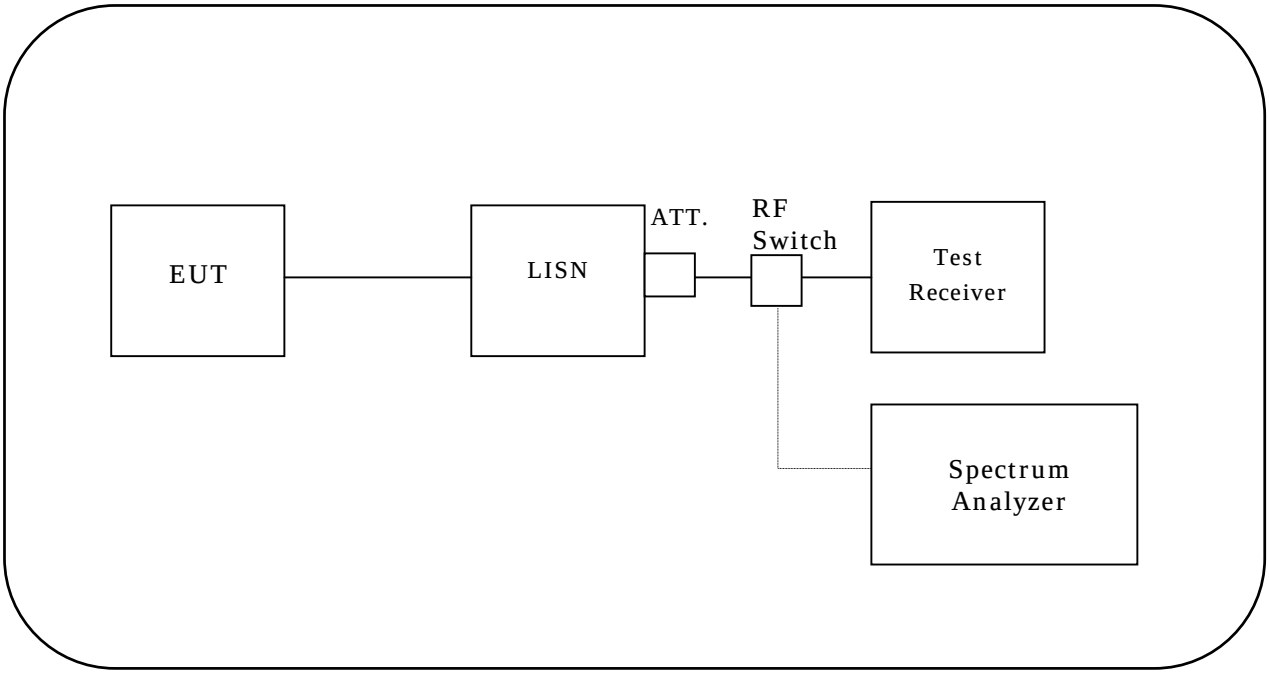
ENGINEER : Kazuhiro Ando

No	FREQUENCY [MHz]	MODE	READING [dBuV]		FACTOR [dB]		EMISSION [dBuV]		LIMIT [dBuV]	MARGIN [dB]	
			Line1	Line2	Line1	Line2	Line1	Line2		Line1	Line2
1	0.1778	QP	43.6	40.8	5.8	5.8	49.4	46.6	64.6	15.2	18.0
2	0.2071	QP	36.0	36.8	5.8	5.8	41.8	42.6	63.3	21.5	20.7
3	0.3535	QP	32.1	23.0	5.8	5.8	37.9	28.8	58.9	21.0	30.1
4	0.4434	QP	31.5	27.2	5.9	5.9	37.4	33.1	57.0	19.6	23.9
5	0.5260	QP	32.0	25.0	5.8	5.8	37.8	30.8	56.0	18.2	25.2
6	9.8632	QP	35.5	35.8	6.3	6.3	41.8	42.1	60.0	18.2	17.9
7	11.7003	QP	38.9	39.0	6.3	6.3	45.2	45.3	60.0	14.8	14.7
8	12.4761	QP	36.8	37.0	6.3	6.4	43.1	43.4	60.0	16.9	16.6
9	13.5397	QP	37.1	36.5	6.4	6.5	43.5	43.0	60.0	16.5	17.0

Other frequencies : Below the FCC 15.407(b)(5), 15.207 limit

Emisson Level = Read + Factor(LISN,Pad,Cable)

TEST INSTRUMENTS CONFIGURATION



TEST INSTRUMENTS

Instrument	Model No.	Serial No.	Manufacturer	Last cal. date	Period
Test receiver	ESH2	891678/010	ROHDE & SCHWARZ	Jul. 26, 02	1 Year
LISN (EUT)	ESH2-Z5	881492/014	ROHDE & SCHWARZ	Sep. 30, 02	1 Year
6dB Attenuator	CFA-01	None	TME	Oct. 04, 02	1 Year
LISN (Peripheral)	KNW-242	8-532-21	KYORITSU	Feb. 25, 02	1 Year
50Ω Termination	CT-01	A010CON50	TME	Feb. 25, 02	1 Year
RF Switch	ACX-150	None	AKZO NOBEL	Oct. 24, 02	1 Year

SECTION 10. MEASUREMENT UNCERTAINTY

10.1 FCC Part 15 Subpart C – Intentional Radiator

The uncertainty of the measurements performed for this report lies:

Minimum 6dB Bandwidth [15.247(a)(2)]
Above 1 GHz ..... +/– 46.7kHz

Maximum Peak Output Power [15.247(b)]
Above 1 GHz ..... +/– 3.9 dB

Spurious Emissions
- RF Antenna Conducted Test [15.247(c)]
Above 1 GHz ..... +/– 2.9 dB

Spurious Emissions
- Radiated Emission Test [15.247(c), 15.205, 15.209]
Above 1 GHz ..... +/– 3.9 dB

Power Spectral Density [15.247(d)]
Above 1 GHz ..... +/– 2.9 dB

AC Conducted Emission [15.207]
9 kHz – 30 MHz ..... +/– 1.8 dB

10.2 FCC Part 15 Subpart E – Intentional Radiator

26dB Emission Bandwidth	[15.407(a)(1),15.407(a)(2)]	
Above 1 GHz		+/– 46.7kHz
Maximum Peak Output Power (Spectrum Analyzer)	[15.407(a)(1),15.407(a)(2)]	
Above 1 GHz		+/– 3.9 dB
Peak Power Spectral Density	[15.407(a)(1),15.407(a)(2)]	
Above 1 GHz		+/– 2.9 dB
SPURIOUS EMISSIONS - RF Antenna Conducted Test	[15.407(b)(1),15.407(b)(2)]	
Above 1 GHz		+/– 2.9 dB
Spurious Emissions - Radiated Emission Test	[15.407(b)(5), 15.209]	
Below 1 GHz		+/– 3.9 dB
Spurious Emissions - Radiated Emission Test	[15.407(b)(6), 15.205]	
Above 1 GHz		+/– 3.9 dB
Spurious Emissions - Radiated Emission Test	[15.407(b)(6), 15.205]	
Band Edge		+/– 3.9 dB
AC Conducted Emission	[15.407(b)(5),15.207]	
9 kHz – 30 MHz		+/– 1.8 dB

Note on Radiated Emission measurement uncertainty

The following items are not included in the calculations in spite of their own uncertainty components because it is impracticable to find the value.
It is our problem awaiting solution in future.

(1)Repeatability of measurement
It is not possible to calculate repeatability since the measurement was carried out only one time.

(2)Antenna factor variation
The definition of measured (radiated electric field strength) is not completed on the referred standard(s).

(3)Loss of EUT radiation propagation
It is certainly one of the uncertainty components, however is not able to calculate.

Please note that these uncertainties are not reflected to the compliance judgement of the test results in this report.

SECTION 11. DESCRIPTION OF TEST LABORATORY

11.1 Outline of Akzo Nobel K. K. (formerly Akzo Kashima Limited), EMC Division

Akzo Nobel K. K., the country organization in Japan for Akzo Nobel NV, was established in 1968. The shares are owned by Akzo Nobel NV (100%). Akzo Nobel NV, headquartered in the Netherlands, is one of the world's leading companies in selected areas of chemicals, coatings, healthcare products and fibers with work force of approximately 70,000 people in over 50 countries.

In 1984, in order to respond to the growing testing demand, in particular, for FCC filing, Akzo Nobel K. K. started EMI testing business, installing the first open air test site in Kashima, Ibaraki prefecture. Further the business has been expanded by installing additional testing facilities not only in Ibaraki but also in other areas such as Shizuoka, Nagano, Kanagawa and Tochigi. As results, Akzo Nobel K. K. has now 16 open air test sites and 4 anechoic chambers for EMI/EMC testing. As the largest EMC testing laboratory in number of testing facilities and staffs, EMC Division has been organized separately in the company and independently operated in conformity with the requirements of ISO/IEC 17025 for its competency as a testing laboratory.

Akzo Nobel K. K. EMC Division is the first foreign private laboratory accredited by NVLAP, National Voluntary Laboratory Accreditation Program-NIST, USA. The division has been certified, authorized and/or filed as a competent testing laboratory by various testing organizations/authorities as described below.

11.2 Filing, certification, authorization and accreditation list

EMI/EMC testing		Telecommunications terminal testing	
FCC	(USA)	FCC	(USA)
NVLAP	(USA)	NVLAP	(USA)
NEMKO	(Norway)	NATA	(Australia)
VCCI	(Japan)	IC	(Canada)
ETL SEMKO	(Sweden)		
TÜV PRODUCT SERVICE	(Germany)		

Note 1 : NVLAP accreditation does not constitute any product endorsement by NVLAP or any agent of the U.S. Government.