EMI TEST REPORT

Test Report No. : 24JE0143-HO

Applicant	:	**Panasonic Communications Co.,Ltd.**
Type of Equipment	:	**Network Camera**
Model No.	:	**BL-C30A**
Test standard	:	**FCC Part 15 Subpart C : 2004** **Section 15.207, Section 15.247**
FCC ID	:	**ACJ96NBL-C30A**
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 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: July 6 and 7, 2004

Tested by:

Kenichi Adachi
EMC Service

Naoki Sakamoto
Group Leader of
EMC Service

Approved by :

Hironobu Shimoji
Group Leader of
EMC Service

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SECTION 1: Client information

Company Name	:	Panasonic Communications Co.,Ltd.
Address	:	1-62, 4-chome, Minoshima, Hakata-ku, Fukuoka, Japan, 812-8531
Telephone Number	:	+81-92-477-1405
Facsimile Number	:	+81-92-477-1487
Contact Person	:	Michihito Miyazaki

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

2.1 Identification of E.U.T.

Type of Equipment	:	Network Camera
Model No.	:	BL-C30A
Serial No.	:	ES1
Rating	:	AC 120V
Country of Manufacture	:	Japan
Receipt Date of Sample	:	July 6, 2004
Condition of EUT	:	Production prototype (Not for Sale: This sample is equivalent to mass-produced items.)

2.2 Product Description

Model No: BL-C30A(referred to as the EUT in this report) is the Wireless Network Camera.
Network Camera corresponds to the wireless system based on IEEE 802.11b and 802.11g.

System clock : 32.768kHz(RTC), 16.32MHz(RTC), 25MHz(LAN), 49.0MHz(LAN), 40MHz(RF)

[W-LAN:IEEE802.11b,11g]

Equipment Type	:	Transceiver
Frequency of operation	:	2412-2462MHz
Transmission method	:	DSSS
Type of modulation	:	CCK(11b), OFDM(11g)
Bandwidth & Channel spacing	:	5MHz
Transmit power	:	16dBm (11b), 15dBm (11g)
Power control	:	Non
Mode of operation	:	Simplex
Antenna Gain	:	2.8dBi
Antenna Connector Type	:	Hirose U.FL-R-SMT(10)
Operating voltage (inner)	:	DC 3.3V

FCC 15.31 (e)
This EUT provides stable voltage(DC3.3V) constantly to RF Module regardless of input voltage. Therefore, this EUT complies with the requirement.

FCC Part 15.203 Antenna requirement
It is impossible for end users to replace the antenna, because the antenna is mounted inside of the EUT. Therefore, the equipment complies with the antenna requirement of Section 15.203.

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification : FCC Part15 Subpart C : 2004

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

[DSSS and other forms of modulation]

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst margin	Results
1	Conducted emission	ANSI C63.4:2003 7. AC powerline conducted emission measurements	Section 15.207	-	N/A	*See the worst margins(marked as shading) in the data sheet in APPENDIX 3 . .	Complied
2	6dB Bandwidth	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247(a)(2)	Conducted	N/A		Complied
3	Maximum Peak Output Power	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247(b)(3)	Conducted	N/A		Complied
4	Spurious Emission	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247 (c)	Conducted/ Radiated	N/A		Complied
5	Restricted Band Edges	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247 (c)	Conducted	N/A		Complied
6	Power Density	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247 (d)	Conducted	N/A		Complied

Note: UL Apex's EMI Work Procedures No.QPM05.
Uncertainty:
*In case of the margin below the EMC Head Office's uncertainty.
The data listed in this report meets the limits unless the uncertainty is taken into consideration.
Conducted Emission
The measurement uncertainty (with a 95% confidence level) for this test is ±1.3dB.
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.
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 "Guidance on Measurement for Digital Transmission Systems Section15.247".
*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	RSS210(issue 5): 2001 + Amendment:2002 + Amendment2:2003 + Amendment3:2004	RSS210(issue 5): 2001 + Amendment:2002 + Amendment2:2003 + Amendment3:2004	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

	Listed date (for FCC)	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	February 01, 2002	313583	IC4247	19.2 x 11.2 x 7.7m	7.0 x 6.0m	Preparation room
No.2 semi-anechoic chamber	June 05, 2002	846015	IC4247-2	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

The EUT was operating in a manner similar to typical use during the tests.
The mode is used : [DSSS and other forms of modulation]

Transmitting mode(11b, CCK, 11Mbps, PN9)
Low Channel :2412MHz(Ch1)
Mid Channel :2437MHz(Ch6)
High channel :2462MHz(Ch11)

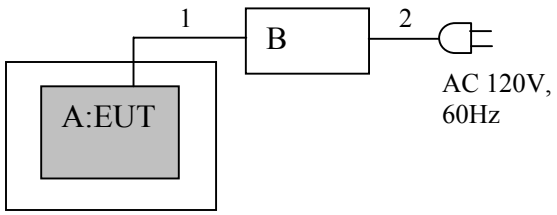
Transmitting mode(11g, OFDM, 54Mbps, PN9)
Low Channel :2412MHz(Ch1)
Mid Channel :2437MHz(Ch6)
High channel :2462MHz(Ch11)

The radio was transmitting at full power on the specified channels with the maximum allowed duty cycle and at a data rate of 11Mbps(11b)/54Mbps(11g).
Packet Type: Maximum, Payload : PN9.

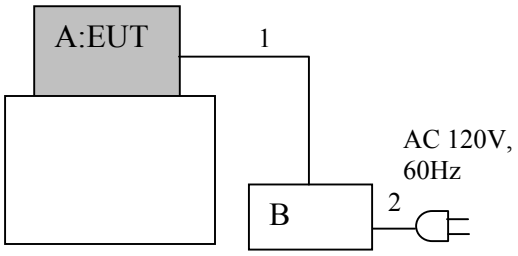
Justification: The system was configured in typical fashion (as a customer would normally use it) for testing.

4.2 Configuration and peripherals

Top view



Front view



* 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
A	Network Camera	BL-C30A	ES1	Panasonic Communications	ACJ96NBL-C30A
B	AC Adaptor	PQLV202Y-LJ	-	Panasonic Communications	-

List of cables used

No.	Name	Length (m)	Shield	Backshell Material
1	DC Cable	3	N	Polyvinyl chloride
2	AC Cable	1.8	N	Polyvinyl chloride

SECTION 5: Conducted Emission, Section 15.207

Test Procedure

EUT was placed on a platform of nominal size, 1m by 1.5m, 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 .

1) 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.
The measurements have been performed with a CISPR quasi-peak detector (IF BW 9 kHz).
Measurement range: 0.15-30MHz

Test data : APPENDIX 3
Test result : Pass

SECTION 6: Spurious Emission 15.247(c)

[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 the size, 0.5m by 0.5m, 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 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.

When not satisfying the requirement of § 15.209, 20dBc was applied except 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 (or, noise levels) was (or were) measured at each position of all three axes X, Y and Z, and the position that has the maximum noise was determined.
With the position, the noise levels of all the frequencies was measured.

SECTION 7: 6dB Bandwidth, Section 15.247(a)(2)

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, Section 15.247(b)(3)

Test Procedure

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: Peak Power Density, Section 15.247 (d)

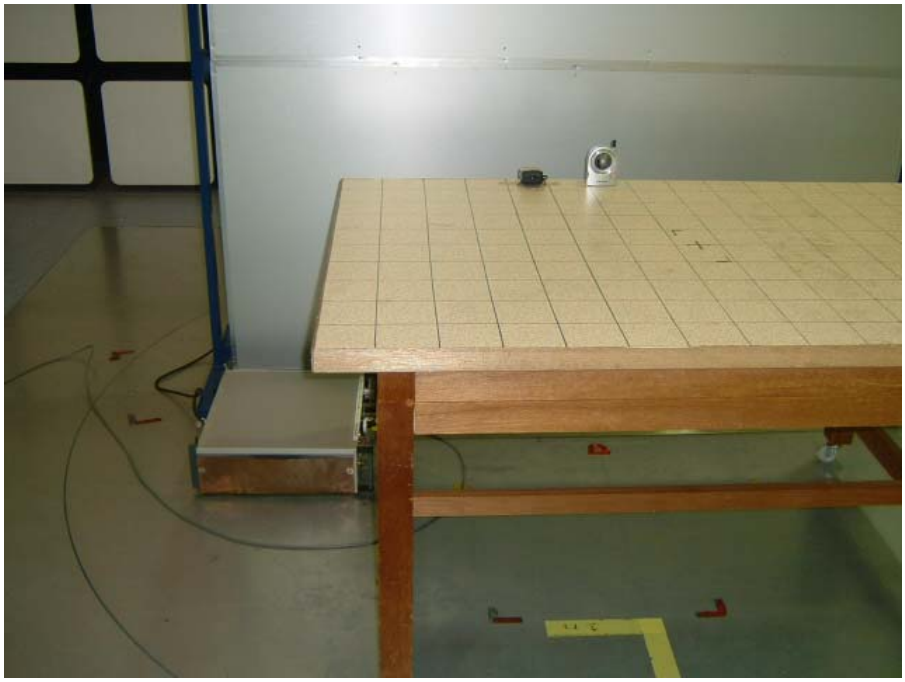
[Conducted]
Test Procedure
The Peak Power Density was measured with a spectrum analyzer connected to the antenna port.

Test data : APPENDIX 3
Test result : Pass

APPENDIX 1: Photographs of test setup

Conducted Emission

Front

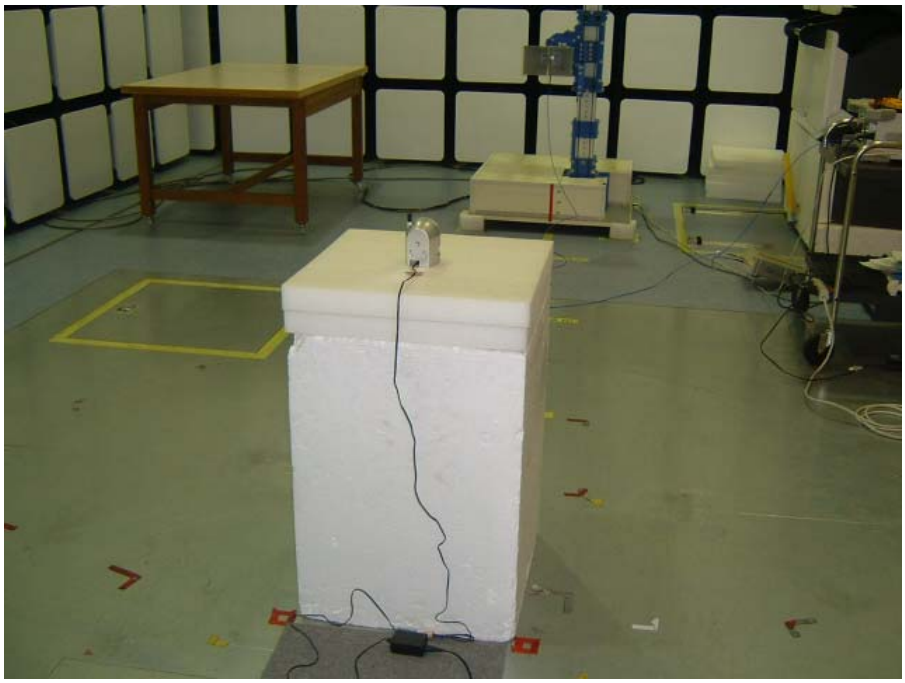


Rear

Spurious Emission (Radiated)

Front

Rear



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	1,2,3,4,5,6,7,8	2004/04/12 * 12
MTR-02	Test Receiver	Rohde & Schwarz	ESCS30	1,5	2004/02/03 * 12
MRENT-09	Spectrum Analyzer	Advantest	R3273	1,2,3,4,5,6,7,8	2004/02/18 * 12
MCC-12	Coaxial Cable	Fujikura/Agilent	-	5	2004/02/24 * 12
MAT-07	Attenuator(6dB)	Weinschel Corp	2	5	2003/12/16 * 12
MBA-02	Biconical Antenna	Schwarzbeck	BBA9106	5	2003/10/15 * 12
MLA-02	Logperiodic Antenna	Schwarzbeck	USLP9143	5	2003/10/15 * 12
MPA-02	Pre Amplifier	Agilent	87405A	5	2004/04/16 * 12
MCC-04	Microwave Cable	Storm	421-011	4	2004/01/06 * 12
MPA-01	Pre Amplifier	Agilent	8449B	4	2004/02/06 * 12
MAT-22	Attenuator (10dB)	Orient Microwave	BX10-0476-00	2,3,4,6,7,8	2004/03/30 * 12
MHF-02	High Pass Filter	Tokimec	TF323DCA	4	2003/09/19 * 12
MCC-24	Microwave Cable	Storm	-	4	2004/05/01 * 12
MHA-06	Horn Antenna	Schwarzbeck	BBHA9120D	4	2004/01/10 * 12
MHA-02	Horn Antenna	EMCO	3160-09	4	2004/01/10 * 12
MAT-23	Attenuator (10dB)	Orient Microwave	BX10-0476-00	2,3,6,7,8	2004/03/30 * 12
MCC-13	Coaxial Cable	Fujikura/Agilent	-	1	2004/02/24 * 12
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	1	2004/02/17 * 12

All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

Test Item:

1: AC Main Conducted Emission
2: 6dB Bandwidth [DSSS]
3: Maximum Peak Output Power
4: Radiated Spurious Emission(above 1GHz)
5: Radiated Spurious Emission(below 1GHz)
6: Antenna Terminal Conducted Spurious Emission
7: Peak Output Power Density [DSSS]
8: 99% Occupied Bandwidth [DSSS]

APPENDIX 3: Data of EMI test

Conducted Emission (11b)

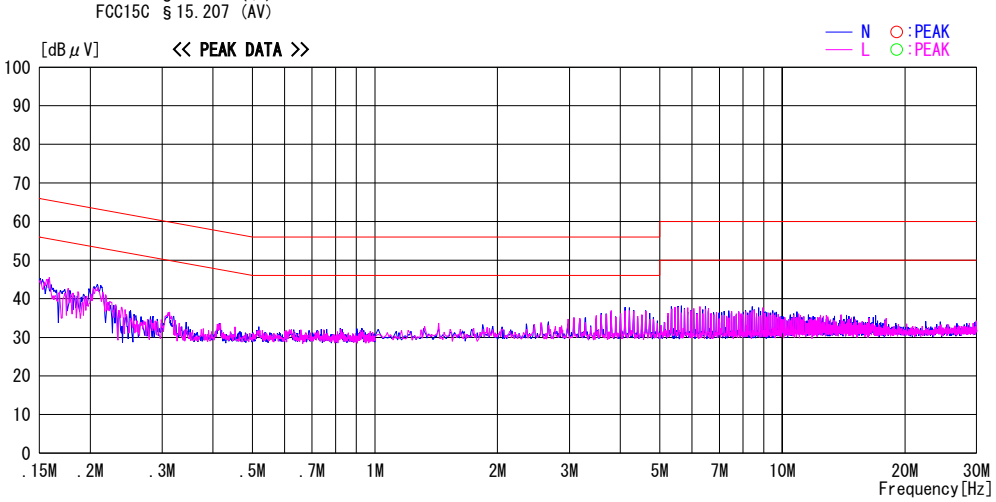
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/07 12:01:55

Applicant	: Panasonic Communications Co.,Ltd.	Report No.	: 24JE0143-HO
Kind of EUT	: Network Camera	Power	: AC120V / 60Hz
Model No.	: BL-C30A	Temp./Humi.	: 24deg.C / 60%
Serial No.	: ES1	Operator	: Kenichi Aadchi

Mode / Remarks : Transmitting 11b, 11Mbps, ch01(2412MHz)

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



NO	FREQ [MHz]	READING PEAK [dBμV]	C.F [dB]	RESULT [dBμV]	LIMIT QP [dBμV]	LIMIT AV [dBμV]	MARGIN QP [dB]	MARGIN AV [dB]	PHASE

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.

Conducted Emission (11b)

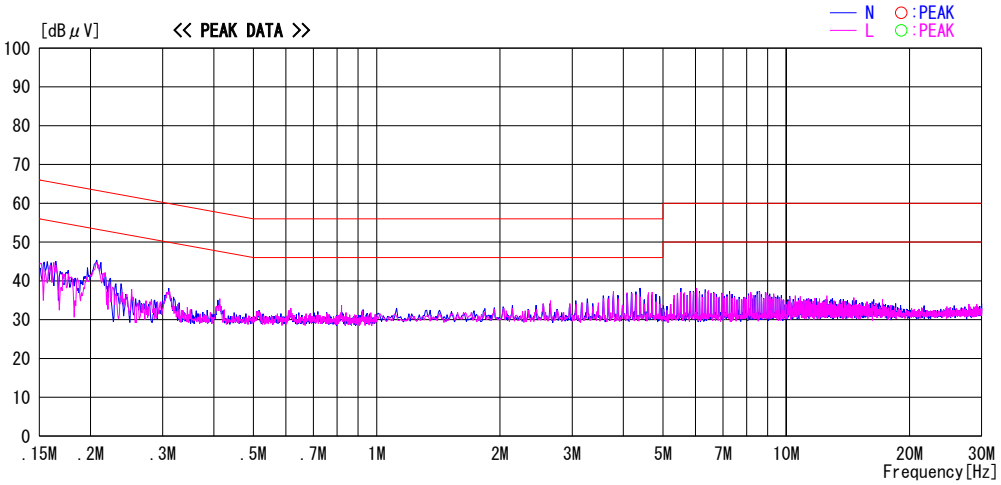
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/07 13:01:36

Applicant	: Panasonic Communications Co.,Ltd.	Report No.	: 24JE0143-HO
Kind of EUT	: Network Camera	Power	: AC120V / 60Hz
Model No.	: BL-C30A	Temp./Humi.	: 24deg.C / 60%
Serial No.	: ES1	Operator	: Kenichi Aadchi

Mode / Remarks : Transmitting 11b, 11Mbps, ch06(2437MHz)

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



NO	FREQ [MHz]	READING PEAK [dBμV]	C.F [dB]	RESULT [dBμV]	LIMIT QP [dBμV]	LIMIT AV [dBμV]	MARGIN QP [dB]	MARGIN AV [dB]	PHASE

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.

Conducted Emission (11b)

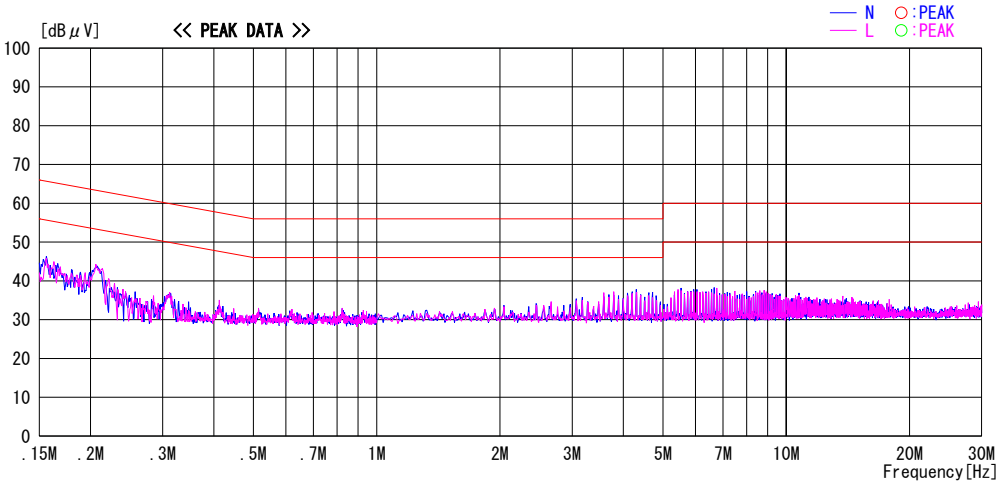
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/07 13:05:40

Applicant	: Panasonic Communications Co.,Ltd.	Report No.	: 24JE0143-HO
Kind of EUT	: Network Camera	Power	: AC120V / 60Hz
Model No.	: BL-C30A	Temp./Humi.	: 24deg.C / 60%
Serial No.	: ES1	Operator	: Kenichi Aadchi

Mode / Remarks : Transmitting 11b, 11Mbps, ch11(2462MHz)

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



NO	FREQ [MHz]	READING PEAK [dBμV]	C.F [dB]	RESULT [dBμV]	LIMIT QP [dBμV]	LIMIT AV [dBμV]	MARGIN QP [dB]	MARGIN AV [dB]	PHASE

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.

Conducted Emission (11g)

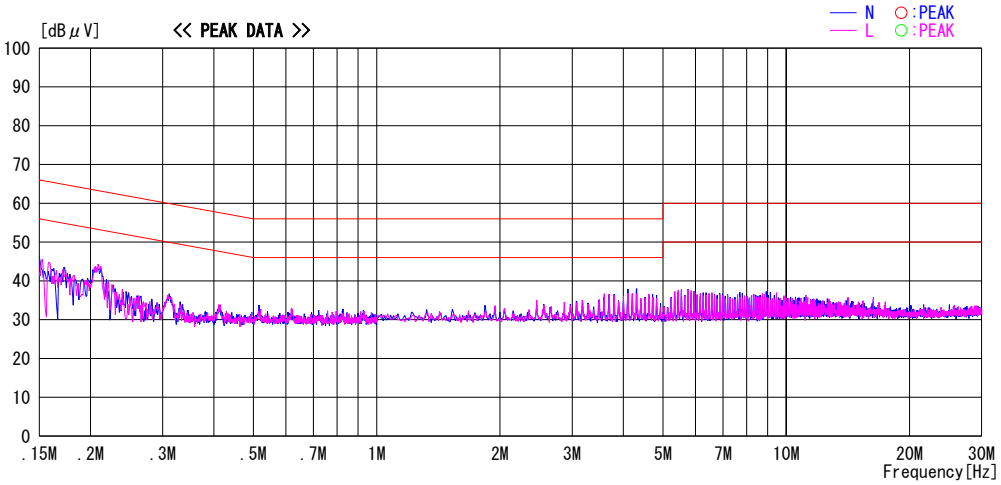
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/07 13:09:54

Applicant	: Panasonic Communications Co.,Ltd.	Report No.	: 24JE0143-HO
Kind of EUT	: Network Camera	Power	: AC120V / 60Hz
Model No.	: BL-C30A	Temp./Humi.	: 24deg.C / 60%
Serial No.	: ES1	Operator	: Kenichi Aadchi

Mode / Remarks : Transmitting 11g, 54Mbps, ch01(2412MHz)

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



NO	FREQ [MHz]	READING PEAK [dBμV]	C.F [dB]	RESULT [dBμV]	LIMIT QP [dBμV]	LIMIT AV [dBμV]	MARGIN QP [dB]	MARGIN AV [dB]	PHASE

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.

Conducted Emission (11g)

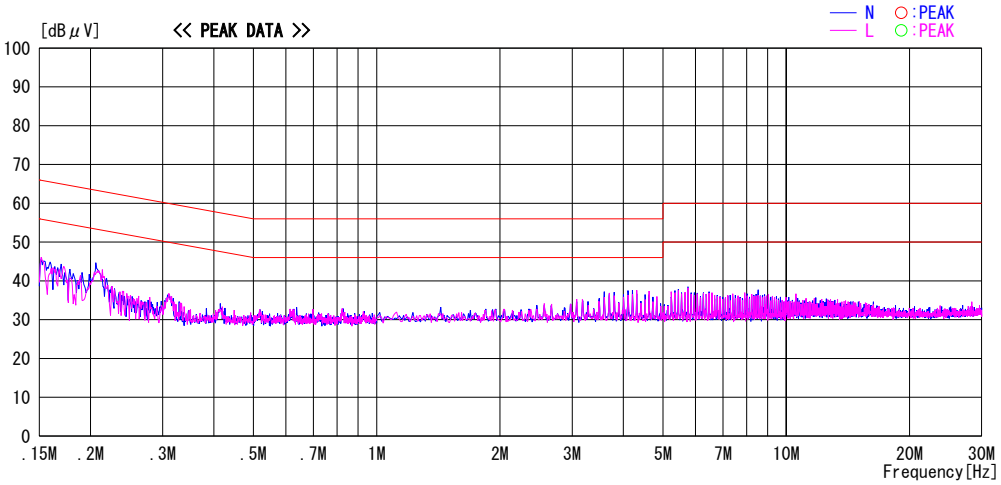
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/07 13:13:49

Applicant	: Panasonic Communications Co.,Ltd.	Report No.	: 24JE0143-HO
Kind of EUT	: Network Camera	Power	: AC120V / 60Hz
Model No.	: BL-C30A	Temp./Humi.	: 24deg.C / 60%
Serial No.	: ES1	Operator	: Kenichi Aadchi

Mode / Remarks : Transmitting 11g, 54Mbps, ch06(2437MHz)

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



NO	FREQ [MHz]	READING PEAK [dBμV]	C.F [dB]	RESULT [dBμV]	LIMIT QP [dBμV]	LIMIT AV [dBμV]	MARGIN QP [dB]	MARGIN AV [dB]	PHASE

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.

Conducted Emission (11g)

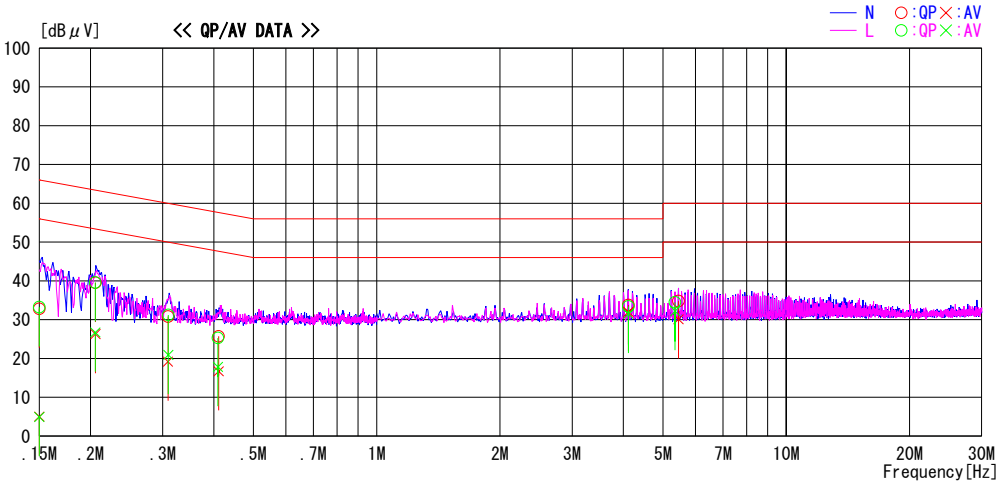
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/07 13:17:45

Applicant	: Panasonic Communications Co.,Ltd.	Report No.	: 24JE0143-HO
Kind of EUT	: Network Camera	Power	: AC120V / 60Hz
Model No.	: BL-C30A	Temp./Humi.	: 24deg.C / 60%
Serial No.	: ES1	Operator	: Kenichi Aadchi

Mode / Remarks : Transmitting 11g, 54Mbps, ch11(2462MHz)

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



NO	FREQ [MHz]	READING QP [dBμV]	READING AV [dBμV]	C.F [dB]	RESULT QP [dBμV]	RESULT AV [dBμV]	LIMIT QP [dBμV]	LIMIT AV [dBμV]	MARGIN QP [dB]	MARGIN AV [dB]	PHASE
1	0.1500	32.7	4.9	0.1	32.8	5.0	66.0	56.0	33.2	51.0	N
2	0.2056	39.4	26.2	0.1	39.5	26.3	63.4	53.4	23.9	27.1	N
3	0.3092	30.7	19.1	0.1	30.8	19.2	60.0	50.0	29.2	30.8	N
4	0.4111	25.6	16.6	0.1	25.7	16.7	57.6	47.6	31.9	30.9	N
5	4.1188	33.3	31.5	0.5	33.8	32.0	56.0	46.0	22.2	14.0	N
6	5.4561	34.2	29.5	0.6	34.8	30.1	60.0	50.0	25.2	19.9	N
7	0.1500	33.1	4.8	0.1	33.2	4.9	66.0	56.0	32.8	51.1	L
8	0.2054	39.5	26.6	0.1	39.6	26.7	63.4	53.4	23.8	26.7	L
9	0.3099	31.1	20.8	0.1	31.2	20.9	60.0	50.0	28.8	29.1	L
10	0.4095	25.2	17.7	0.1	25.3	17.8	57.7	47.7	32.4	29.9	L
11	4.1167	32.9	31.0	0.5	33.4	31.5	56.0	46.0	22.6	14.5	L
12	5.3533	33.9	31.6	0.6	34.5	32.2	60.0	50.0	25.5	17.8	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.

6dB Bandwidth(DSSS and other forms of modulation)

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

Company	: Panasonic Communications Co,. Ltd.	REPORT NO	: 24JE0143-HO
Equipment	: Network Camera	REGULATION	: Fcc Part15 Subpart C 15.247(a)(2)
Model	: BL-C30A	TEST DISTANCE	: -
Sample No.	: ES1	DATE	: 07/07/2004
Power	: AC120V/60Hz	TEMPERATURE	: 23℃
Mode	: Tx (ch1,6,11)	HUMIDITY	: 60%
FCC ID	: ACJ96NBL-C30A	ENGINEER	: Kenichi Adachi
IC No.	: -		

11b

Ch	Freq. [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
Low	2412.0	**12.160**	500.0
Mid	2437.0	12.460	500.0
High	2462.0	12.460	500.0

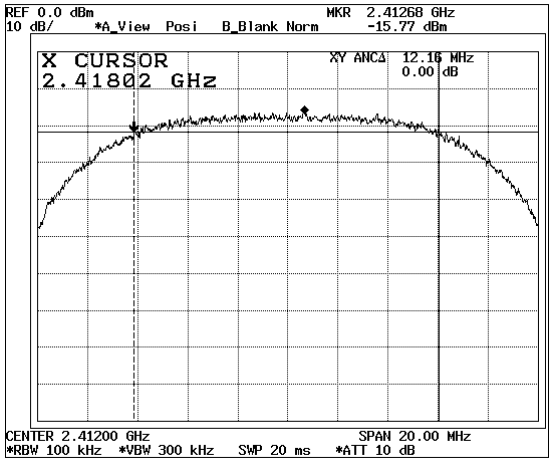
11g

Ch	Freq. [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
Low	2412.0	16.580	500.0
Mid	2437.0	16.580	500.0
High	2462.0	16.580	500.0

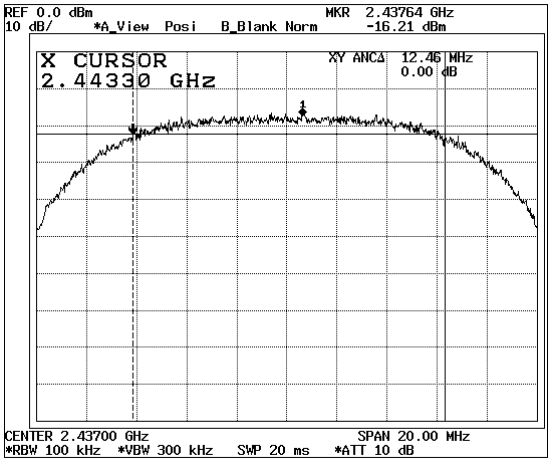
6dB Bandwidth(DSSS and other forms of modulation)

11b

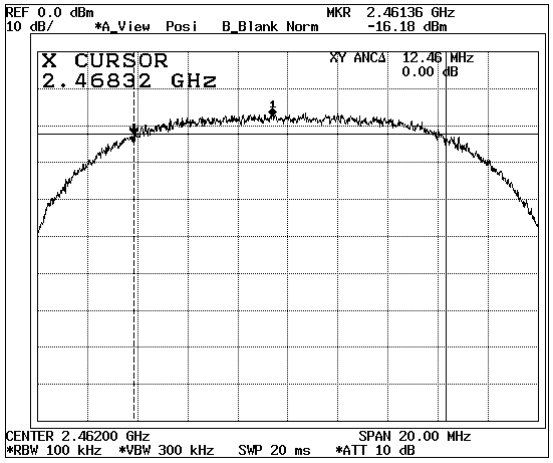
Ch:Low



Ch:Mid

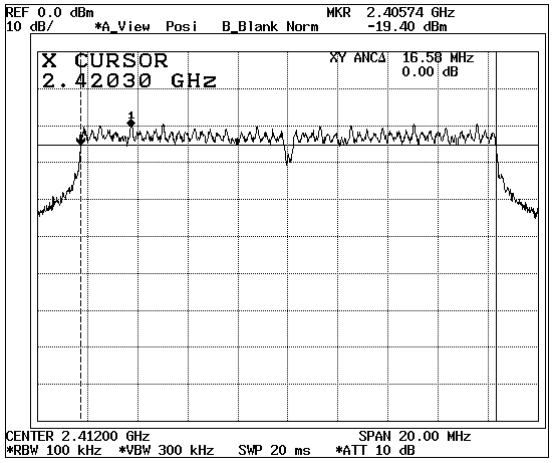
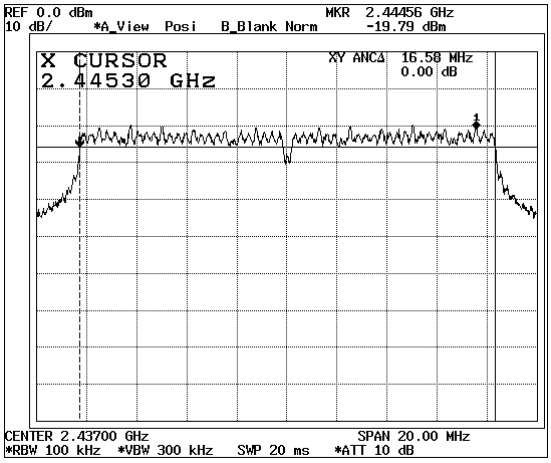
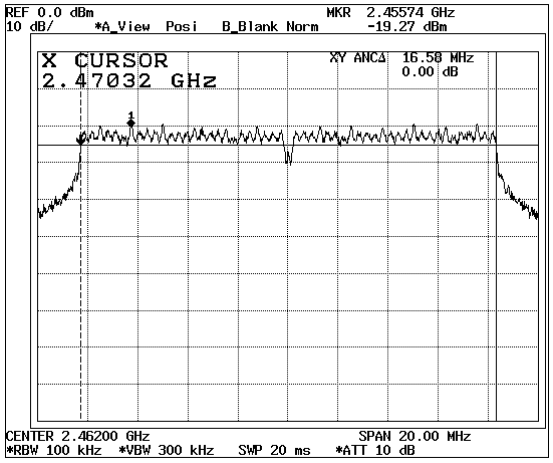


Ch:High



6dB Bandwidth(DSSS and other forms of modulation)

11g

Ch:Low	Ch:Mid
	
Ch:High	
	

Maximum Peak Output Power (DSSS and other forms of modulation)

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

Company	: Panasonic Communications Co,. Ltd.	REPORT NO	: 24JE0143-HO
Equipment	: Network Camera	REGULATION	: Fcc Part15 Subpart C 15.247(b)(3)
Model	: BL-C30A	TEST DISTANCE	: -
Sample No.	: ES1	DATE	: 07/07/2004
Power	: AC120V/60Hz	TEMPERATURE	: 23℃
Mode	: Tx (ch1,6,11)	HUMIDITY	: 60%
FCC ID	: ACJ96NBL-C30A	ENGINEER	: Kenichi Adachi
IC No.	: -		

11b

Ch	Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit (1W) [dBm]	Margin [dB]
Low	2412.0	-1.15	1.97	20.00	20.82	30.00	9.18
Mid	2437.0	-1.05	1.98	20.00	20.93	30.00	9.07
High	2462.0	-1.22	1.98	20.00	20.76	30.00	9.24

11g

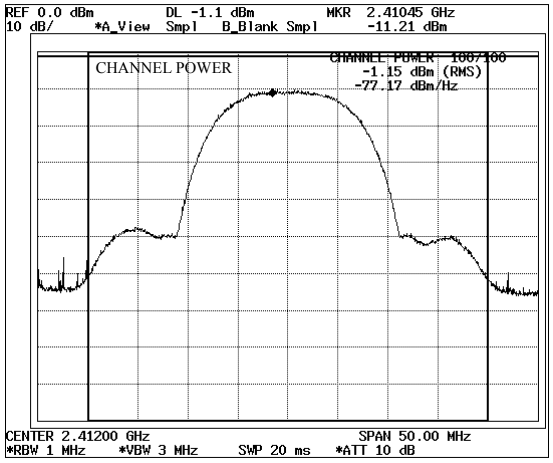
Ch	Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit (1W) [dBm]	Margin [dB]
Low	2412.0	-1.05	1.97	20.00	20.92	30.00	9.08
Mid	2437.0	-0.98	1.98	20.00	21.00	30.00	9.00
High	2462.0	**-0.49**	1.98	20.00	**21.49**	30.00	**8.51**

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

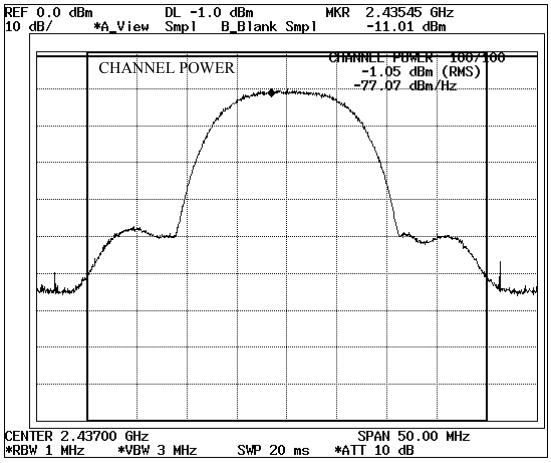
Maximum Peak Output Power (DSSS and other forms of modulation)

11b

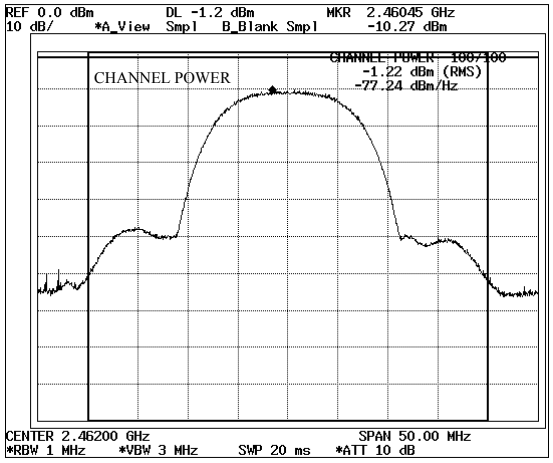
Ch:Low



Ch:Mid



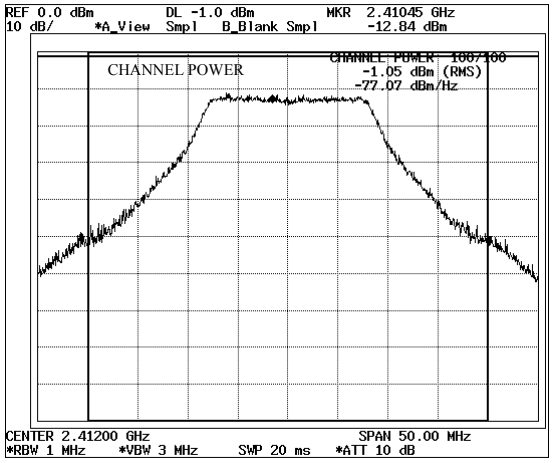
Ch:High



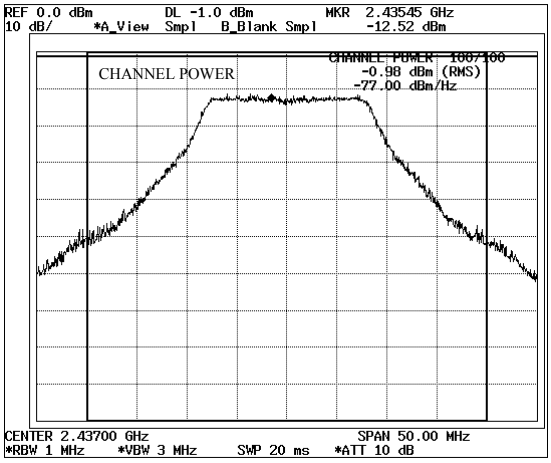
Maximum Peak Output Power (DSSS and other forms of modulation)

11g

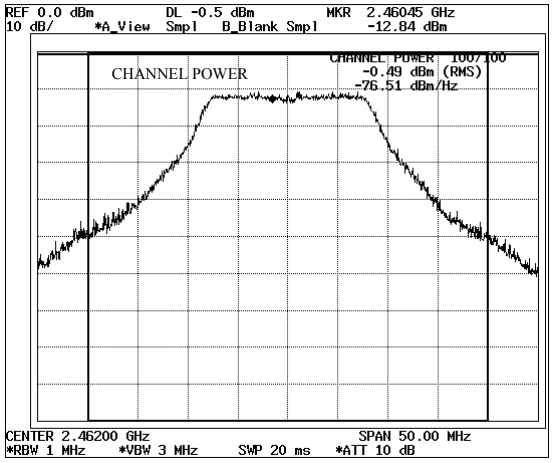
Ch:Low



Ch:Mid



Ch:High



Radiated Spurious Emission(DSSS and other forms of modulation)(11b)

DATA OF RADIATED EMISSION TEST

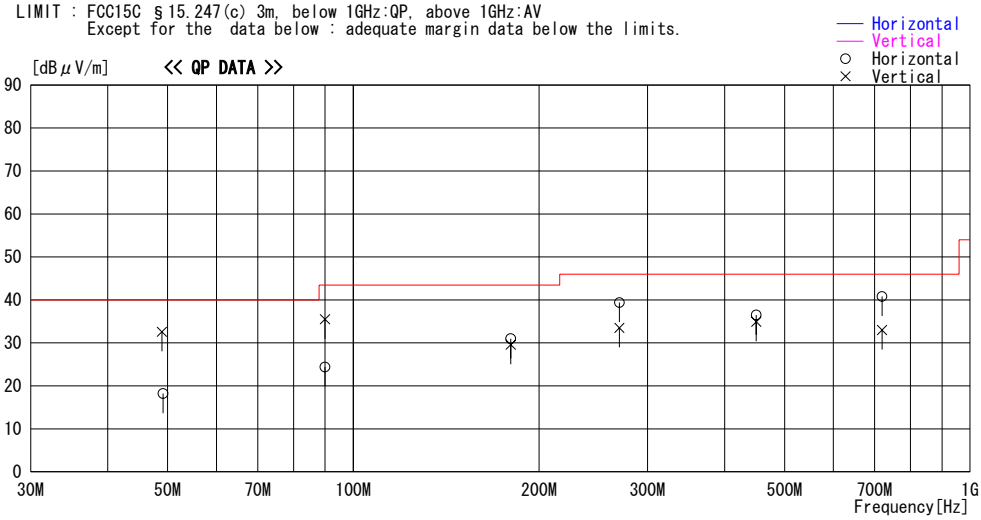
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/06 20:01:03

Applicant : Panasonic Communicatons Co.,Ltd.
Kind of EUT : Network Camera
Model No. : BL-C30A
Serial No. : ES1

Report No. : 24JE0143-HO
Power : AC 120V / 60Hz
Temp./ Humi. : 27 deg.C. / 60 %
Operator : Naoki Sakamoto

Mode / Remarks : Transmitting IEEE801.11b, 11Mbps, ch01(2412MHz), Max-axis (H:Y-Axis,V:X-axis)

LIMIT : FCC15C §15.247(c) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dBμV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dBμV/m]	LIMIT [dBμV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	49.153	24.2	10.5	6.7	23.2	18.2	40.0	21.8	100	0
2	90.001	32.3	7.8	7.2	22.9	24.4	43.5	19.1	322	239
3	180.001	30.2	16.2	7.7	23.1	31.0	43.5	12.5	180	235
4	270.002	35.4	18.6	8.3	22.9	39.4	46.0	6.6	121	237
5	450.004	31.8	18.3	9.2	22.8	36.5	46.0	9.5	100	200
6	720.007	32.8	20.4	10.3	22.7	40.8	46.0	5.2	134	122
----- Vertical ------										
7	48.948	38.5	10.6	6.7	23.2	32.6	40.0	7.4	100	0
8	90.002	43.4	7.8	7.2	22.9	35.5	43.5	8.0	100	221
9	180.001	28.8	16.2	7.7	23.1	29.6	43.5	13.9	100	-1
10	270.002	29.5	18.6	8.3	22.9	33.5	46.0	12.5	100	327
11	450.003	30.2	18.3	9.2	22.8	34.9	46.0	11.1	100	184
12	720.006	25.0	20.4	10.3	22.7	33.0	46.0	13.0	100	345

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)

*1: Except for the above table : All other spurious emissions were less than 20dB for the limit.

Radiated Spurious Emission(DSSS and other forms of modulation)(11b)
DATA OF SPURIOUS EMISSIONS(1GHz to 26.5GHz)

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

Company : Panasonic Communications Co.,Ltd.
Equipment : Network Camera
Model : BL-C30A
Sample No. : ES1
Power : AC120V / 60Hz
Mode : 11b, 11Mbps, PN9, Tx 2412MHz

REPORT NO : 24JE0143-HO
REGULATION : Fcc Part15 Subpart C 15.247(b)(3)
TEST DISTANCE : 3/1m
DATE : 07/06/2004
TEMPERATURE : 27deg.C
HUMIDITY : 60%
ENGINEER : Kenichi Adachi

PK DETECT (RBW: 1MHz , VBW:1MHz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATT or Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit PK [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass													
1	2015.8	48.7	48.8	30.2	36.4	5.9	9.9	58.3	58.4	-	-	-	MAT-22
2	2386.6	47.8	47.7	30.8	36.3	6.4	9.9	58.6	58.5	74.0	15.4	15.5	MAT-22
3	2400.0	60.1	61.0	30.8	36.3	6.4	9.9	70.9	71.8	-	-	-	MAT-22
4	4822.6	53.6	52.8	35.4	36.1	9.3	1.0	63.2	62.4	74.0	10.8	11.6	MHF-02
5	7237.3	43.2	42.8	38.0	35.6	11.8	0.5	57.9	57.5	74.0	16.1	16.5	MHF-02
6	9648.0	44.8	42.7	37.5	36.3	13.9	0.5	60.4	58.3	74.0	13.6	15.7	MHF-02
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac													
7	12060.0	43.0	42.3	41.1	35.7	15.5	0.6	55.0	54.3	74.0	19.0	19.7	MHF-02
8	14472.0	40.2	40.3	41.0	34.6	16.6	0.6	54.4	54.5	74.0	19.7	19.6	MHF-02
9	16884.0	42.6	42.5	46.1	35.5	18.7	0.5	62.8	62.7	74.0	11.2	11.3	MHF-02
10	19296.0	42.4	42.7	39.5	34.9	20.4	0.9	58.8	59.1	74.0	15.2	14.9	MHF-02
11	21708.0	42.3	42.8	40.7	35.3	22.1	0.6	61.0	61.5	74.0	13.0	12.5	MHF-02
12	24120.0	42.5	42.7	39.9	36.0	22.6	1.6	61.2	61.4	74.0	12.8	12.6	MHF-02

AV DETECT (RBW: 1MHz , VBW:10Hz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit AV [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass													
1	2015.8	41.6	43.9	30.2	36.4	5.9	9.9	51.2	53.5	-	-	-	MAT-22
2	2386.6	37.2	36.1	30.8	36.3	6.4	9.9	48.0	46.9	54.0	6.0	7.1	MAT-22
3	2400.0	53.1	52.3	30.8	36.3	6.4	9.9	63.9	63.1	-	-	-	MAT-22
4	4822.6	39.2	38.7	35.4	36.1	9.3	1.0	48.8	48.3	54.0	5.2	5.7	MHF-02
5	7237.3	30.9	30.9	38.0	35.6	11.8	0.5	45.6	45.6	54.0	8.4	8.4	MHF-02
6	9648.0	34.0	31.3	37.5	36.3	13.9	0.5	49.6	46.9	54.0	4.4	7.1	MHF-02
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac													
7	12060.0	29.8	30.3	41.1	35.7	15.5	0.6	41.8	42.3	54.0	12.2	11.7	MHF-02
8	14472.0	28.3	28.3	41.0	34.6	16.6	0.6	42.5	42.5	54.0	11.6	11.6	MHF-02
9	16884.0	30.4	30.5	46.1	35.5	18.7	0.5	50.6	50.7	54.0	3.4	3.3	MHF-02
10	19296.0	30.3	30.0	39.5	34.9	20.4	0.9	46.7	46.4	54.0	7.3	7.6	MHF-02
11	21708.0	30.9	30.8	40.7	35.3	22.1	0.6	49.6	49.5	54.0	4.4	4.5	MHF-02
12	24120.0	31.0	31.2	39.9	36.0	22.6	1.6	49.7	49.9	54.0	4.3	4.1	MHF-02

20dBc(Fundamental 2412MHz) (RBW: 100kHz , VBW:100kHz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit 20dBc [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass													
1	2410.6	93.4	94.6	30.8	36.3	6.4	9.9	104.3	105.5	-	-	-	MAT-22
2	2015.8	43.8	45.9	30.2	36.4	5.9	9.9	53.4	55.5	Funda-20dB	30.9	30.0	MAT-22
3	2400.0	53.9	53.2	30.8	36.3	6.4	9.9	64.7	64.0	Funda-20dB	19.5	21.4	MAT-22

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.5dB
* Except for the above table : All other spurious emissions were less than 20dB for the limit.
* In the frequency over the fifth harmonic, the noise from the EUT was not seen.The data above is its base noise.
* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
* The result is rouded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

Radiated Spurious Emission(DSSS and other forms of modulation)(11b)

DATA OF RADIATED EMISSION TEST

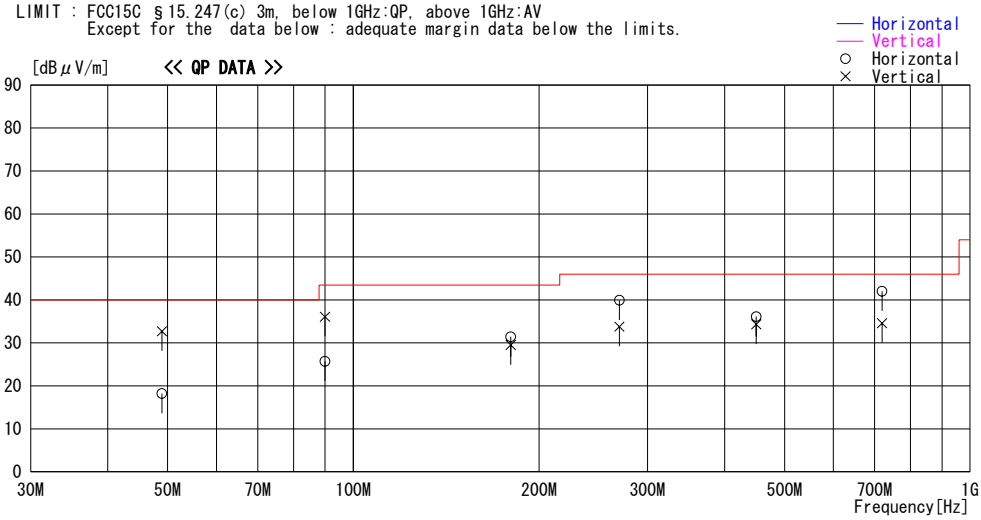
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/06 20:42:52

Applicant : Panasonic Communicatons Co.,Ltd.
Kind of EUT : Network Camera
Model No. : BL-C30A
Serial No. : ES1

Report No. : 24JE0143-HO
Power : AC 120V / 60Hz
Temp./ Humi. : 27 deg.C. / 60 %
Operator : Naoki Sakamoto

Mode / Remarks : Transmitting IEEE801.11b, 11Mbps, ch06(2437MHz), Max-axis (H:Y-Axis,V:X-axis)

LIMIT : FCC15C §15.247(c) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dBμV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dBμV/m]	LIMIT [dBμV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	48.952	24.1	10.6	6.7	23.2	18.2	40.0	21.8	227	261
2	90.001	33.6	7.8	7.2	22.9	25.7	43.5	17.8	242	256
3	180.002	30.6	16.2	7.7	23.1	31.4	43.5	12.1	172	246
4	270.002	35.9	18.6	8.3	22.9	39.9	46.0	6.1	126	238
5	450.004	31.4	18.3	9.2	22.8	36.1	46.0	9.9	100	218
6	720.004	34.0	20.4	10.3	22.7	42.0	46.0	4.0	118	119
----- Vertical ------										
7	48.964	38.6	10.6	6.7	23.2	32.7	40.0	7.3	100	360
8	90.002	44.0	7.8	7.2	22.9	36.1	43.5	7.4	100	184
9	180.001	28.7	16.2	7.7	23.1	29.5	43.5	14.0	100	0
10	270.003	29.8	18.6	8.3	22.9	33.8	46.0	12.2	100	293
11	450.003	29.6	18.3	9.2	22.8	34.3	46.0	11.7	100	191
12	720.005	26.6	20.4	10.3	22.7	34.6	46.0	11.4	100	280

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)

*1: Except for the above table : All other spurious emissions were less than 20dB for the limit.

Radiated Spurious Emission(DSSS and other forms of modulation)(11b)
DATA OF SPURIOUS EMISSIONS(1GHz to 26.5GHz)

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

Company : Panasonic Communications Co.,Ltd.
Equipment : Network Camera
Model : BL-C30A
Sample No. : ES1
Power : AC120V / 60Hz
Mode : 11b, 11Mbps, PN9, Tx 2437MHz

REPORT NO : 24JE0143-HO
REGULATION : Fcc Part15 Subpart C 15.247(b)(3)
TEST DISTANCE : 3/1m
DATE : 07/06/2004
TEMPERATURE : 27deg.C
HUMIDITY : 60%
ENGINEER : Kenichi Adachi

PK DETECT (RBW: 1MHz , VBW:1MHz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit PK [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass													
1	2016.2	48.1	49.8	30.2	36.4	5.9	9.9	57.7	59.4	-	-	-	MAT-22
2	4874.2	52.5	54.7	35.6	36.1	9.4	1.0	62.5	64.7	74.0	11.5	9.3	MHF-02
3	7310.8	43.4	43.4	38.2	35.7	11.9	0.5	58.4	58.4	74.0	15.7	15.7	MHF-02
4	9747.8	44.7	44.1	37.3	36.3	14.0	0.5	60.1	59.5	74.0	13.9	14.5	MHF-02
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac													
5	12185.0	42.9	42.2	41.4	35.6	15.6	0.5	55.3	54.6	74.0	18.8	19.5	MHF-02
6	14622.0	40.7	40.2	41.5	34.8	16.8	0.6	55.3	54.8	74.0	18.7	19.2	MHF-02
7	17059.0	42.7	42.7	46.4	35.4	18.8	0.4	63.4	63.4	74.0	10.6	10.6	MHF-02
8	19496.0	42.6	42.0	39.2	35.0	20.6	1.0	58.9	58.3	74.0	15.1	15.7	MHF-02
9	21933.0	41.8	42.0	40.5	35.0	22.3	0.9	61.0	61.2	74.0	13.0	12.8	MHF-02
10	24370.0	43.3	43.4	40.1	36.6	22.7	2.2	62.3	62.4	74.0	11.7	11.6	MHF-02

AV DETECT (RBW: 1MHz , VBW:10Hz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit AV [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass													
1	2016.2	43.1	44.1	30.2	36.4	5.9	9.9	52.7	53.7	-	-	-	MAT-22
2	4874.2	38.3	39.3	35.6	36.1	9.4	1.0	48.3	49.3	54.0	5.7	4.7	MHF-02
3	7310.8	31.3	31.0	38.2	35.7	11.9	0.5	46.3	46.0	54.0	7.8	8.1	MHF-02
4	9747.8	34.3	31.7	37.3	36.3	14.0	0.5	49.7	47.1	54.0	4.3	6.9	MHF-02
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac													
5	12185.0	29.7	29.6	41.4	35.6	15.6	0.5	42.1	42.0	54.0	12.0	12.1	MHF-02
6	14622.0	28.2	28.1	41.5	34.8	16.8	0.6	42.8	42.7	54.0	11.2	11.3	MHF-02
7	17059.0	30.3	30.3	46.4	35.4	18.8	0.4	51.0	51.0	54.0	3.0	3.0	MHF-02
8	19496.0	31.0	31.4	39.2	35.0	20.6	1.0	47.3	47.7	54.0	6.7	6.3	MHF-02
9	21933.0	30.8	31.0	40.5	35.0	22.3	0.9	50.0	50.2	54.0	4.0	3.8	MHF-02
10	24370.0	31.4	31.4	40.1	36.6	22.7	2.2	50.4	50.4	54.0	3.6	3.6	MHF-02

20dBc(Fundamental 2437MHz) (RBW: 100kHz , VBW:100kHz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit 20dBc [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass													
1	2437.9	94.8	95.1	30.9	36.3	6.5	9.9	105.8	106.1	-	-	-	MAT-22
2	2016.2	44.6	45.7	30.2	36.4	5.9	9.9	54.2	55.3	Funda-20dB	31.6	30.8	MAT-22

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.5dB
* Except for the above table : All other spurious emissions were less than 20dB for the limit.
* In the frequency over the fifth harmonic, the noise from the EUT was not seen.The data above is its base noise.
* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
* The result is rouded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

Radiated Spurious Emission(DSSS and other forms of modulation)(11b)

DATA OF RADIATED EMISSION TEST

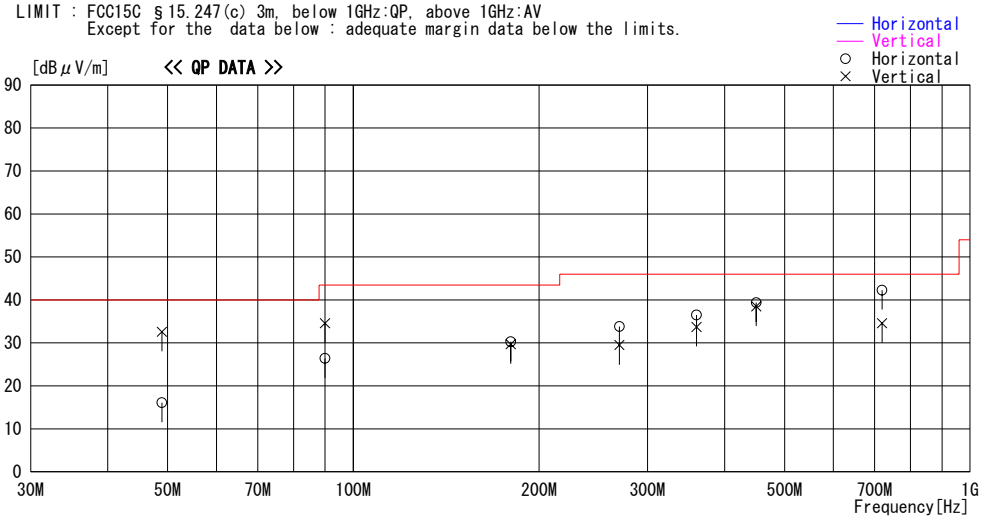
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/06 21:31:20

Applicant : Panasonic Communicatons Co.,Ltd.
Kind of EUT : Network Camera
Model No. : BL-C30A
Serial No. : ES1

Report No. : 24JE0143-HO
Power : AC 120V / 60Hz
Temp./ Humi. : 27 deg.C. / 60 %
Operator : Naoki Sakamoto

Mode / Remarks : Transmitting IEEE801.11b, 11Mbps, ch11(2462MHz), Max-axis (H:Y-Axis,V:X-axis)

LIMIT : FCC15C §15.247(c) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dBμV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dBμV/m]	LIMIT [dBμV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	48.952	22.0	10.6	6.7	23.2	16.1	40.0	23.9	388	96
2	90.001	34.3	7.8	7.2	22.9	26.4	43.5	17.1	236	264
3	180.001	29.5	16.2	7.7	23.1	30.3	43.5	13.2	188	248
4	270.001	29.8	18.6	8.3	22.9	33.8	46.0	12.2	126	240
5	360.002	34.0	16.6	8.6	22.7	36.5	46.0	9.5	100	236
6	450.001	34.7	18.3	9.2	22.8	39.4	46.0	6.6	100	228
7	720.003	34.3	20.4	10.3	22.7	42.3	46.0	3.7	115	235
----- Vertical ------										
8	48.960	38.5	10.6	6.7	23.2	32.6	40.0	7.4	100	360
9	90.002	42.5	7.8	7.2	22.9	34.6	43.5	8.9	100	199
10	180.002	28.9	16.2	7.7	23.1	29.7	43.5	13.8	100	185
11	270.004	25.5	18.6	8.3	22.9	29.5	46.0	16.5	100	296
12	360.002	31.2	16.6	8.6	22.7	33.7	46.0	12.3	121	186
13	450.002	33.8	18.3	9.2	22.8	38.5	46.0	7.5	100	187
14	720.004	26.6	20.4	10.3	22.7	34.6	46.0	11.4	100	335

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)

*1: Except for the above table : All other spurious emissions were less than 20dB for the limit.

Radiated Spurious Emission(DSSS and other forms of modulation)(11b)
DATA OF SPURIOUS EMISSIONS(1GHz to 26.5GHz)

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

Company : Panasonic Communications Co.,Ltd.
Equipment : Network Camera
Model : BL-C30A
Sample No. : ES1
Power : AC120V / 60Hz
Mode : 11b, 11Mbps, PN9, Tx 2462MHz

REPORT NO : 24JE0143-HO
REGULATION : Fcc Part15 Subpart C 15.247(b)(3)
TEST DISTANCE : 3/1m
DATE : 07/06/2004
TEMPERATURE : 27deg.C
HUMIDITY : 60%
ENGINEER : Kenichi Adachi

PK DETECT (RBW: 1MHz , VBW:1MHz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit PK [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass													
1	2016.1	47.4	49.3	30.2	36.4	5.9	9.9	57.0	58.9	-	-	-	MAT-22
2	2483.5	45.9	46.2	30.9	36.2	6.5	9.9	57.0	57.3	74.0	17.1	16.8	MAT-22
3	4924.0	53.3	53.3	35.9	36.1	9.5	1.0	63.6	63.6	74.0	10.4	10.4	MHF-02
4	7386.8	42.4	43.4	38.3	35.7	12.0	0.5	57.6	58.6	74.0	16.4	15.4	MHF-02
5	9848.0	45.0	43.8	37.1	36.4	14.1	0.5	60.3	59.1	74.0	13.7	14.9	MHF-02
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac													
6	12310.0	42.1	42.8	41.7	35.6	15.6	0.5	54.8	55.5	74.0	19.2	18.5	MHF-02
7	14772.0	41.8	41.1	42.1	34.9	16.9	0.6	57.1	56.4	74.0	16.9	17.6	MHF-02
8	17234.0	43.4	42.5	46.7	35.3	18.9	0.3	64.5	63.6	74.0	9.5	10.4	MHF-02
9	19696.0	42.9	42.1	39.6	35.2	20.7	1.0	59.6	58.8	74.0	14.4	15.2	MHF-02
10	22158.0	43.4	43.3	40.6	35.0	22.3	1.4	63.2	63.1	74.0	10.8	10.9	MHF-02
11	24620.0	44.4	43.9	40.2	36.8	22.9	2.6	63.8	63.3	74.0	10.2	10.7	MHF-02

AV DETECT (RBW: 1MHz , VBW:10Hz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit AV [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass													
1	2016.1	41.4	44.7	30.2	36.4	5.9	9.9	51.0	54.3	-	-	-	MAT-22
2	2483.5	35.9	34.5	30.9	36.2	6.5	9.9	47.0	45.6	54.0	7.1	8.5	MAT-22
3	4924.0	38.8	39.0	35.9	36.1	9.5	0.5	48.7	48.9	54.0	5.4	5.1	MHF-02
4	7386.8	31.4	31.0	38.3	35.7	12.0	0.5	46.5	46.1	54.0	7.5	7.9	MHF-02
5	9848.0	34.9	31.3	37.1	36.4	14.1	0.0	49.7	46.1	54.0	4.3	7.9	MHF-02
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac													
6	12310.0	29.8	29.8	41.7	35.6	15.6	0.5	42.5	42.5	54.0	11.5	11.5	MHF-02
7	14772.0	29.0	28.9	42.1	34.9	16.9	0.6	44.3	44.2	54.0	9.7	9.8	MHF-02
8	17234.0	30.5	30.5	46.7	35.3	18.9	0.3	51.6	51.6	54.0	2.4	2.4	MHF-02
9	19696.0	30.5	30.5	39.6	35.2	20.7	1.0	47.2	47.2	54.0	6.8	6.8	MHF-02
10	22158.0	30.8	30.9	40.6	35.0	22.3	1.4	50.6	50.7	54.0	3.4	3.3	MHF-02
11	24620.0	31.7	31.6	40.2	36.8	22.9	2.6	51.1	51.0	54.0	2.9	3.0	MHF-02

20dBc(Fundamental 2462MHz) (RBW: 100kHz , VBW:100kHz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit 20dBc [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass													
1	2461.9	94.7	94.7	30.9	36.2	6.5	9.9	105.8	105.8	-	-	-	MAT-22
2	2016.1	43.6	46.8	30.2	36.4	5.9	9.9	53.2	56.4	Funda-20dB	32.6	29.4	MAT-22

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.5dB
* Except for the above table : All other spurious emissions were less than 20dB for the limit.
* In the frequency over the fifth harmonic, the noise from the EUT was not seen.The data above is its base noise.
* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
* The result is rouded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

Radiated Spurious Emission(DSSS and other forms of modulation)(11g)

DATA OF RADIATED EMISSION TEST

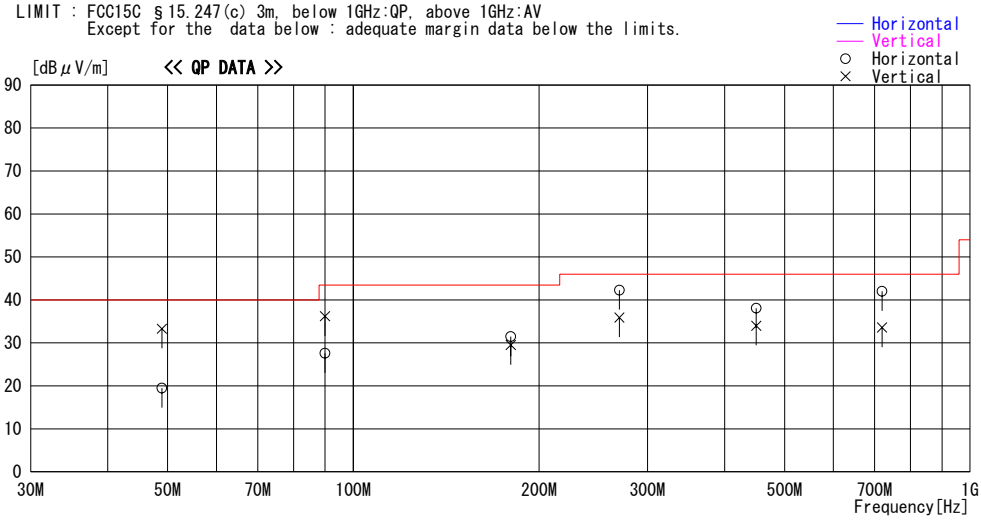
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/06 22:18:26

Applicant : Panasonic Communicatons Co.,Ltd.
Kind of EUT : Network Camera
Model No. : BL-C30A
Serial No. : ES1

Report No. : 24JE0143-HO
Power : AC 120V / 60Hz
Temp./ Humi. : 27 deg.C. / 60 %
Operator : Naoki Sakamoto

Mode / Remarks : Transmitting IEEE801.11g, 54Mbps, ch1(2412MHz), Max-axis (H:Y-Axis,V:X-axis)

LIMIT : FCC15C §15.247(c) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dBμV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dBμV/m]	LIMIT [dBμV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	48.961	25.4	10.6	6.7	23.2	19.5	40.0	20.5	374	273
2	90.002	35.5	7.8	7.2	22.9	27.6	43.5	15.9	243	248
3	180.002	30.7	16.2	7.7	23.1	31.5	43.5	12.0	100	258
4	270.002	38.3	18.6	8.3	22.9	42.3	46.0	3.7	124	256
5	450.002	33.4	18.3	9.2	22.8	38.1	46.0	7.9	100	216
6	720.003	34.0	20.4	10.3	22.7	42.0	46.0	4.0	119	88
----- Vertical ------										
7	48.960	39.2	10.6	6.7	23.2	33.3	40.0	6.7	100	360
8	90.001	44.1	7.8	7.2	22.9	36.2	43.5	7.3	100	200
9	180.002	28.7	16.2	7.7	23.1	29.5	43.5	14.0	100	0
10	270.002	31.9	18.6	8.3	22.9	35.9	46.0	10.1	100	299
11	450.003	29.3	18.3	9.2	22.8	34.0	46.0	12.0	100	180
12	720.004	25.6	20.4	10.3	22.7	33.6	46.0	12.4	160	360

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)

*1: Except for the above table : All other spurious emissions were less than 20dB for the limit.

Radiated Spurious Emission(DSSS and other forms of modulation)(11g)
DATA OF SPURIOUS EMISSIONS(1GHz to 26.5GHz)

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

Company : Panasonic Communications Co.,Ltd.
Equipment : Network Camera
Model : BL-C30A
Sample No. : ES1
Power : AC120V / 60Hz
Mode : 11g, 54Mbps, PN9, Tx 2412MHz

REPORT NO : 24JE0143-HO
REGULATION : Fcc Part15 Subpart C 15.247(b)(3)
TEST DISTANCE : 3/1m
DATE : 07/06/2004
TEMPERATURE : 27deg.C
HUMIDITY : 60%
ENGINEER : Kenichi Adachi

PK DETECT (RBW: 1MHz , VBW:1MHz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATT or Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit PK [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass													
1	2016.0	52.2	53.5	30.2	36.4	5.9	9.9	61.8	63.1	-	-	-	MAT-22
2	2390.0	57.1	57.5	30.8	36.3	6.4	9.9	67.9	68.3	74.0	6.1	5.7	MAT-22
4	2400.0	75.0	67.2	30.8	36.3	6.4	9.9	85.8	78.0	-	-	-	MAT-22
6	4825.2	50.3	48.9	35.4	36.1	9.3	1.0	59.9	58.5	74.0	14.1	15.5	MHF-02
7	7236.0	42.8	41.3	38.0	35.6	11.8	0.5	57.5	56.0	74.0	16.5	18.0	MHF-02
8	9648.0	43.7	42.6	37.5	36.3	13.9	0.5	59.3	58.2	74.0	14.7	15.8	MHF-02
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac													
9	12060.0	43.0	42.7	41.1	35.7	15.5	0.6	55.0	54.7	74.0	19.0	19.3	MHF-02
10	14472.0	40.2	41.0	41.0	34.6	16.6	0.6	54.4	55.2	74.0	19.7	18.9	MHF-02
11	16884.0	42.6	41.1	46.1	35.5	18.7	0.5	62.8	61.3	74.0	11.2	12.7	MHF-02
12	19296.0	42.6	42.3	39.5	34.9	20.4	0.9	59.0	58.7	74.0	15.0	15.3	MHF-02
13	21708.0	43.0	42.5	40.7	35.3	22.1	0.6	61.7	61.2	74.0	12.3	12.8	MHF-02
14	24120.0	42.8	43.5	39.9	36.0	22.6	1.6	61.5	62.2	74.0	12.5	11.8	MHF-02

AV DETECT (RBW: 1MHz , VBW:10Hz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit AV [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass													
1	2016.0	48.5	50.5	30.2	36.4	5.9	9.9	58.1	60.1	-	-	-	MAT-22
2	2390.0	40.6	41.0	30.8	36.3	6.4	9.9	51.4	51.8	54.0	2.6	2.2	MAT-22
3	2400.0	54.1	56.2	30.8	36.3	6.4	9.9	64.9	67.0	-	-	-	MAT-22
6	4825.2	37.2	37.3	35.4	36.1	9.3	1.0	46.8	46.9	54.0	7.2	7.1	MHF-02
7	7236.0	30.8	31.2	38.0	35.6	11.8	0.5	45.5	45.9	54.0	8.5	8.1	MHF-02
8	9648.0	31.3	31.4	37.5	36.3	13.9	0.5	46.9	47.0	54.0	7.1	7.0	MHF-02
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac													
9	12060.0	29.7	29.8	41.1	35.7	15.5	0.6	41.7	41.8	54.0	12.3	12.2	MHF-02
10	14472.0	28.4	28.2	41.0	34.6	16.6	0.6	42.6	42.4	54.0	11.5	11.7	MHF-02
11	16884.0	30.6	30.4	46.1	35.5	18.7	0.5	50.8	50.6	54.0	3.2	3.4	MHF-02
12	19296.0	30.3	30.1	39.5	34.9	20.4	0.9	46.7	46.5	54.0	7.3	7.5	MHF-02
13	21708.0	31.3	30.8	40.7	35.3	22.1	0.6	50.0	49.5	54.0	4.0	4.5	MHF-02
14	24120.0	30.8	31.4	39.9	36.0	22.6	1.6	49.5	50.1	54.0	4.5	3.9	MHF-02

20dBc(Fundamental 2412MHz) (RBW: 100kHz , VBW:100kHz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit 20dBc [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass													
1	2416.0	90.6	93.4	30.8	36.3	6.4	9.9	101.5	104.3	-	-	-	MAT-22
2	2016.0	49.8	44.6	30.2	36.4	5.9	9.9	59.4	54.2	Funda-20dB	22.1	30.1	MAT-22
3	2400.0	57.6	51.6	30.8	36.3	6.4	9.9	68.4	62.4	Funda-20dB	13.0	21.8	MAT-22

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.5dB
* Except for the above table : All other spurious emissions were less than 20dB for the limit.
* In the frequency over the fifth harmonic, the noise from the EUT was not seen.The data above is its base noise.
* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
* The result is rouded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

Radiated Spurious Emission(DSSS and other forms of modulation)(11g)

DATA OF RADIATED EMISSION TEST

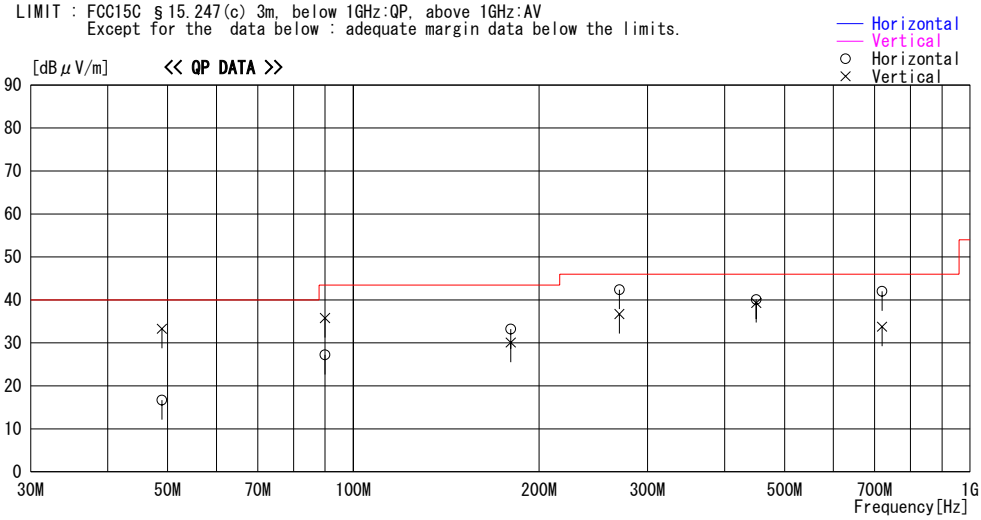
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/06 22:57:46

Applicant : Panasonic Communicatons Co.,Ltd.
Kind of EUT : Network Camera
Model No. : BL-C30A
Serial No. : ES1

Report No. : 24JE0143-HO
Power : AC 120V / 60Hz
Temp./ Humi. : 27 deg.C. / 60 %
Operator : Naoki Sakamoto

Mode / Remarks : Transmitting IEEE801.11g, 54Mbps, ch6(2437MHz), Max-axis (H:Y-Axis,V:X-axis)

LIMIT : FCC15C §15.247(c) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dBμV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dBμV/m]	LIMIT [dBμV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	48.962	22.6	10.6	6.7	23.2	16.7	40.0	23.3	400	113
2	90.001	35.1	7.8	7.2	22.9	27.2	43.5	16.3	240	262
3	180.001	32.4	16.2	7.7	23.1	33.2	43.5	10.3	100	260
4	270.002	38.4	18.6	8.3	22.9	42.4	46.0	3.6	124	260
5	450.002	35.4	18.3	9.2	22.8	40.1	46.0	5.9	100	213
6	720.004	34.0	20.4	10.3	22.7	42.0	46.0	4.0	123	235
----- Vertical ------										
7	48.955	39.2	10.6	6.7	23.2	33.3	40.0	6.7	100	-1
8	90.001	43.7	7.8	7.2	22.9	35.8	43.5	7.7	112	204
9	180.002	29.3	16.2	7.7	23.1	30.1	43.5	13.4	100	0
10	270.002	32.7	18.6	8.3	22.9	36.7	46.0	9.3	100	297
11	450.003	34.6	18.3	9.2	22.8	39.3	46.0	6.7	100	195
12	720.005	25.8	20.4	10.3	22.7	33.8	46.0	12.2	150	349

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)

*1: Except for the above table : All other spurious emissions were less than 20dB for the limit.

Radiated Spurious Emission(DSSS and other forms of modulation)(11g)
DATA OF SPURIOUS EMISSIONS(1GHz to 26.5GHz)

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

Company : Panasonic Communications Co.,Ltd.
Equipment : Network Camera
Model : BL-C30A
Sample No. : ES1
Power : AC120V / 60Hz
Mode : 11g, 54Mbps, PN9, Tx 2437MHz

REPORT NO : 24JE0143-HO
REGULATION : Fcc Part15 Subpart C 15.247(b)(3)
TEST DISTANCE : 3/1m
DATE : 07/06/2004
TEMPERATURE : 27deg.C
HUMIDITY : 60%
ENGINEER : Kenichi Adachi

PK DETECT (RBW: 1MHz , VBW:1MHz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit PK [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass													
1	2016.0	52.3	53.7	30.2	36.4	5.9	9.9	61.9	63.3	-	-	-	MAT-22
2	4874.4	50.8	51.5	35.6	36.1	9.4	1.0	60.8	61.5	74.0	13.2	12.5	MHF-02
3	7311.4	43.6	44.6	38.2	35.7	11.9	0.5	58.6	59.6	74.0	15.5	14.5	MHF-02
4	9747.8	43.9	44.4	37.3	36.3	14.0	0.5	59.3	59.8	74.0	14.7	14.2	MHF-02
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac													
5	12185.0	43.3	42.6	41.4	35.6	15.6	0.5	55.7	55.0	74.0	18.4	19.1	MHF-02
6	14622.0	40.5	40.5	41.5	34.8	16.8	0.6	55.1	55.1	74.0	18.9	18.9	MHF-02
7	17059.0	42.5	42.6	46.4	35.4	18.8	0.4	63.2	63.3	74.0	10.8	10.7	MHF-02
8	19496.0	42.2	42.5	39.2	35.0	20.6	1.0	58.5	58.8	74.0	15.5	15.2	MHF-02
9	21933.0	43.5	43.3	40.5	35.0	22.3	0.9	62.7	62.5	74.0	11.3	11.5	MHF-02
10	24370.0	43.6	43.6	40.1	36.6	22.7	2.2	62.6	62.6	74.0	11.4	11.4	MHF-02

AV DETECT (RBW: 1MHz , VBW:10Hz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit AV [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass													
1	2016.0	48.8	51.0	30.2	36.4	5.9	9.9	58.4	60.6	-	-	-	MAT-22
2	4874.4	32.5	37.9	35.6	36.1	9.4	1.0	42.5	47.9	54.0	11.5	6.1	MHF-02
3	7311.4	30.7	31.4	38.2	35.7	11.9	0.5	45.7	46.4	54.0	8.3	7.6	MHF-02
4	9747.8	31.3	31.2	37.3	36.3	14.0	0.5	46.7	46.6	54.0	7.3	7.4	MHF-02
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac													
5	12185.0	29.8	29.7	41.4	35.6	15.6	0.5	42.2	42.1	54.0	11.9	12.0	MHF-02
6	14622.0	28.3	28.3	41.5	34.8	16.8	0.6	42.9	42.9	54.0	11.1	11.1	MHF-02
7	17059.0	30.6	31.0	46.4	35.4	18.8	0.4	51.3	51.7	54.0	2.7	2.3	MHF-02
8	19496.0	30.0	30.0	39.2	35.0	20.6	1.0	46.3	46.3	54.0	7.7	7.7	MHF-02
9	21933.0	30.9	30.9	40.5	35.0	22.3	0.9	50.1	50.1	54.0	3.9	3.9	MHF-02
10	24370.0	31.3	31.5	40.1	36.6	22.7	2.2	50.3	50.5	54.0	3.7	3.5	MHF-02

20dBc(Fundamental 2437MHz) (RBW: 100kHz , VBW:100kHz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit 20dBc [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass													
1	2435.9	91.7	93.7	30.9	36.3	6.5	9.9	102.7	104.7	-	-	-	MAT-22
2	2016.0	50.0	51.8	30.2	36.4	5.9	9.9	59.6	61.4	Funda-20dB	23.1	23.3	MAT-22

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.5dB
* Except for the above table : All other spurious emissions were less than 20dB for the limit.
* In the frequency over the fifth harmonic, the noise from the EUT was not seen.The data above is its base noise.
* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
* The result is rouded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

Radiated Spurious Emission(DSSS and other forms of modulation)(11g)

DATA OF RADIATED EMISSION TEST

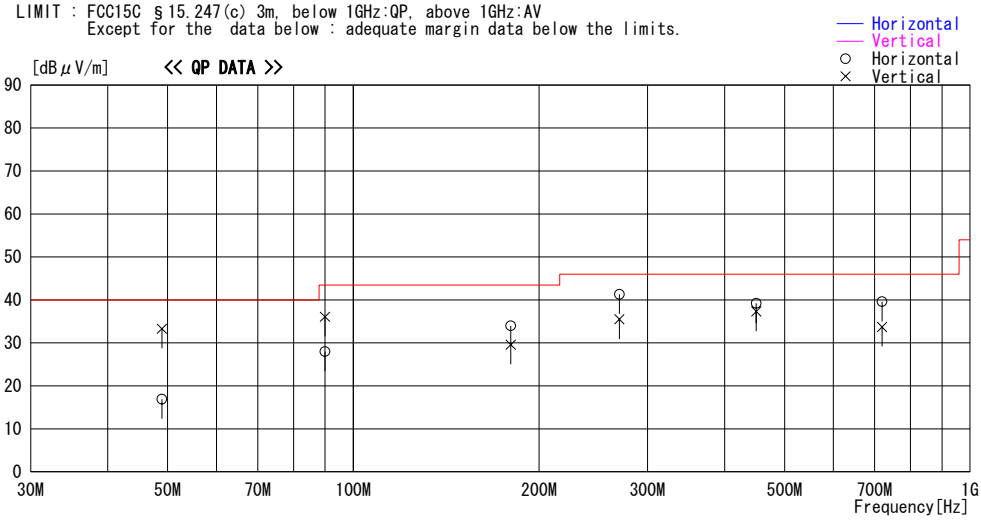
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/06 23:35:32

Applicant : Panasonic Communicatons Co.,Ltd.
Kind of EUT : Network Camera
Model No. : BL-C30A
Serial No. : ES1

Report No. : 24JE0143-HO
Power : AC 120V / 60Hz
Temp./ Humi. : 27 deg.C. / 60 %
Operator : Naoki Sakamoto

Mode / Remarks : Transmitting IEEE801.11g, 54Mbps, ch11(2462MHz), Max-axis (H:Y-Axis,V:X-axis)

LIMIT : FCC15C §15.247(c) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dBμV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dBμV/m]	LIMIT [dBμV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	48.950	22.8	10.6	6.7	23.2	16.9	40.0	23.1	400	98
2	90.001	35.9	7.8	7.2	22.9	28.0	43.5	15.5	248	250
3	180.002	33.2	16.2	7.7	23.1	34.0	43.5	9.5	181	238
4	270.003	37.3	18.6	8.3	22.9	41.3	46.0	4.7	122	257
5	450.003	34.5	18.3	9.2	22.8	39.2	46.0	6.8	100	197
6	720.005	31.6	20.4	10.3	22.7	39.6	46.0	6.4	100	228
----- Vertical ------										
7	48.952	39.2	10.6	6.7	23.2	33.3	40.0	6.7	100	360
8	90.001	44.0	7.8	7.2	22.9	36.1	43.5	7.4	100	194
9	180.001	28.8	16.2	7.7	23.1	29.6	43.5	13.9	100	0
10	270.002	31.5	18.6	8.3	22.9	35.5	46.0	10.5	100	360
11	450.002	32.6	18.3	9.2	22.8	37.3	46.0	8.7	100	182
12	720.003	25.7	20.4	10.3	22.7	33.7	46.0	12.3	100	337

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)

*1: Except for the above table : All other spurious emissions were less than 20dB for the limit.

Radiated Spurious Emission(DSSS and other forms of modulation)(11g)

Head Office EMC Lab. No.2 Semi Anechoic Chamber

Company : Panasonic Communications Co.,Ltd.
Equipment : Network Camera
Model : BL-C30A
Sample No. : ES1
Power : AC120V / 60Hz
Mode : 11g, 54Mbps, PN9, Tx 2462MHz

REPORT NO : 24JE0143-HO
REGULATION : Fcc Part15 Subpart C 15.247(b)(3)
TEST DISTANCE : 3/1m
DATE : 07/06/2004
TEMPERATURE : 27deg.C
HUMIDITY : 60%
ENGINEER : Kenichi Adachi

PK DETECT (RBW: 1MHz , VBW:1MHz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit PK [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass													
1	2016.1	52.3	53.8	30.2	36.4	5.9	9.9	61.9	63.4	74.0	12.1	10.6	MAT-22
2	2483.5	56.1	60.4	30.9	36.2	6.5	9.9	67.2	71.5	74.0	6.8	2.6	MAT-22
3	4923.2	51.1	52.1	35.9	36.1	9.5	1.0	61.4	62.4	74.0	12.6	11.6	MHF-02
4	7386.2	44.0	44.6	38.3	35.7	12.0	0.5	59.2	59.8	74.0	14.8	14.2	MHF-02
5	9848.3	44.0	44.0	37.1	36.4	14.1	0.5	59.3	59.3	74.0	14.7	14.7	MHF-02
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac													
6	12310.0	42.5	42.8	41.7	35.6	15.6	0.5	55.2	55.5	74.0	18.8	18.5	MHF-02
7	14772.0	40.9	41.3	42.1	34.9	16.9	0.6	56.2	56.6	74.0	17.8	17.4	MHF-02
8	17234.0	42.6	42.3	46.7	35.3	18.9	0.3	63.7	63.4	74.0	10.3	10.6	MHF-02
9	19696.0	42.6	42.3	39.6	35.2	20.7	1.0	59.3	59.0	74.0	14.7	15.0	MHF-02
10	22158.0	42.8	43.0	40.6	35.0	22.3	1.4	62.6	62.8	74.0	11.4	11.2	MHF-02
11	24620.0	43.7	43.4	40.2	36.8	22.9	2.6	63.1	62.8	74.0	10.9	11.2	MHF-02

AV DETECT (RBW: 1MHz , VBW:10Hz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit AV [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass													
1	2016.1	48.3	49.9	30.2	36.4	5.9	9.9	57.9	59.5	-	-	-	MAT-22
2	2483.5	38.7	40.8	30.9	36.2	6.5	9.9	49.8	51.9	54.0	4.3	**2.2**	MAT-22
3	4923.2	37.9	37.8	35.9	36.1	9.5	1.0	48.2	48.1	54.0	5.8	5.9	MHF-02
4	7386.2	31.1	31.3	38.3	35.7	12.0	0.5	46.3	46.5	54.0	7.7	7.5	MHF-02
5	9848.3	31.5	31.4	37.1	36.4	14.1	0.5	46.8	46.7	54.0	7.2	7.3	MHF-02
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass - Dfac													
6	12310.0	29.6	29.7	41.7	35.6	15.6	0.5	42.3	42.4	54.0	11.7	11.6	MHF-02
7	14772.0	29.0	28.3	42.1	34.9	16.9	0.6	44.3	43.6	54.0	9.7	10.4	MHF-02
8	17234.0	30.5	30.2	46.7	35.3	18.9	0.3	51.6	51.3	54.0	2.4	2.7	MHF-02
9	19696.0	30.5	30.0	39.6	35.2	20.7	1.0	47.2	46.7	54.0	6.8	7.3	MHF-02
10	22158.0	31.4	30.6	40.6	35.0	22.3	1.4	51.2	50.4	54.0	2.8	3.6	MHF-02
11	24620.0	31.7	31.6	40.2	36.8	22.9	2.6	51.1	51.0	54.0	2.9	3.0	MHF-02

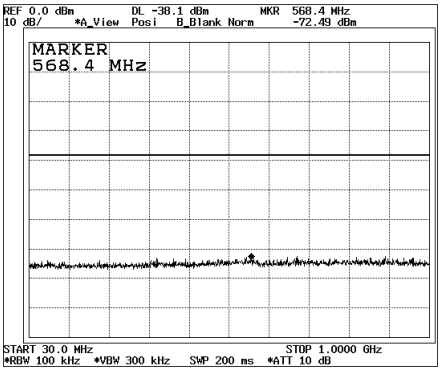
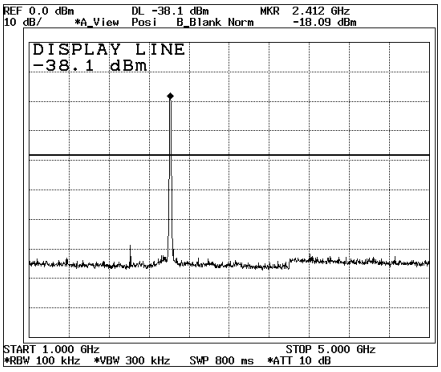
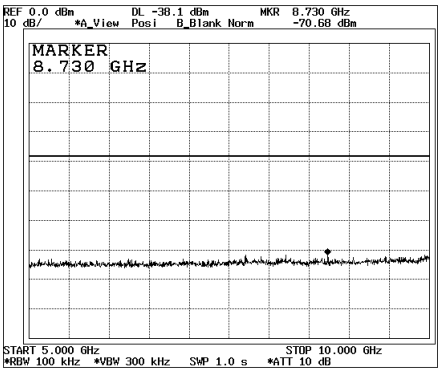
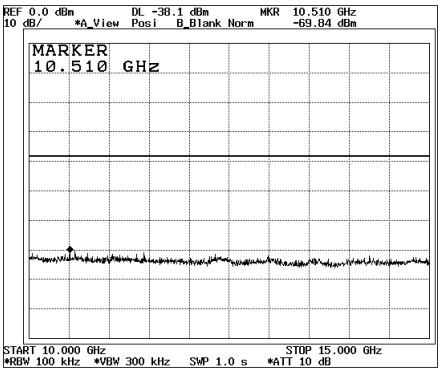
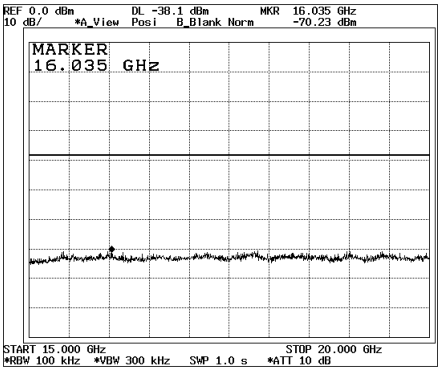
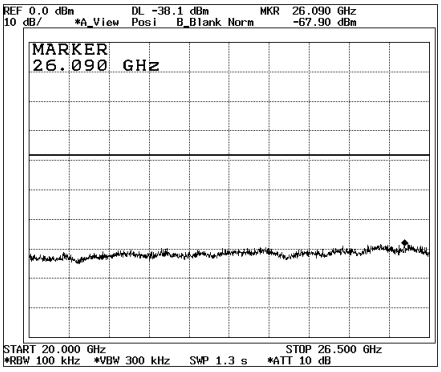
20dBc(Fundamental 2462MHz) (RBW: 100kHz , VBW:100kHz)

No.	FREQ [MHz]	S/A READING HOR [dBuV/m]	S/A READING VER [dBuV/m]	ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter [dB]	RESULT HOR [dBuV/m]	RESULT VER [dBuV/m]	Limit 20dBc [dBuV/m]	MARGIN HOR [dB]	MARGIN VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass													
1	2469.1	93.0	93.8	30.9	36.2	6.5	9.9	104.1	104.9	-	-	-	MAT-22
2	2016.1	49.9	51.0	30.2	36.4	5.9	9.9	59.5	60.6	Funda-20dB	24.6	24.3	MAT-22

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.5dB
* Except for the above table : All other spurious emissions were less than 20dB for the limit.
* In the frequency over the fifth harmonic, the noise from the EUT was not seen.The data above is its base noise.
* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz
* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.
* The result is rouded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

Conducted Spurious Emission(DSSS and other forms of modulation)(11b)

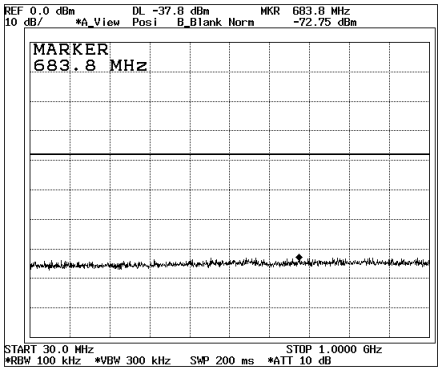
Ch : Low

30MHz-1GHz	1GHz-5GHz
	
5GHz-10GHz	**10GHz-15GHz**
	
15GHz-20GHz	**20GHz-26.5GHz**
	

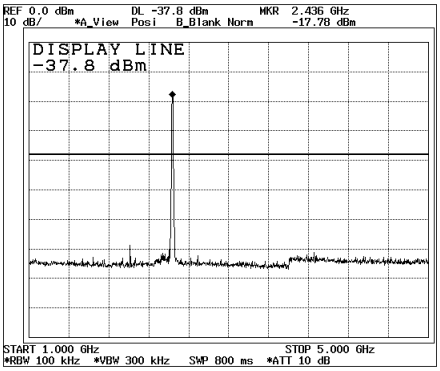
Conducted Spurious Emission(DSSS and other forms of modulation)(11b)

Ch : Mid

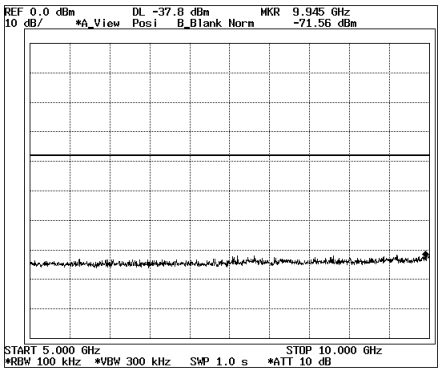
30MHz-1GHz



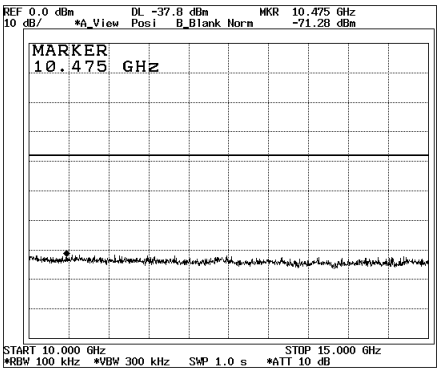
1GHz-5GHz



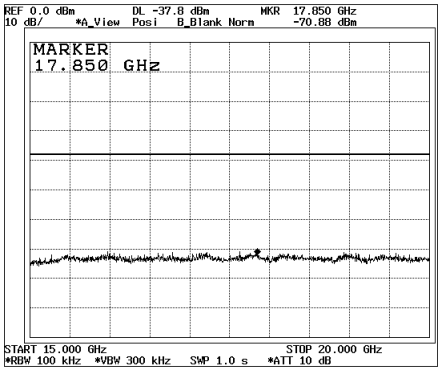
5GHz-10GHz



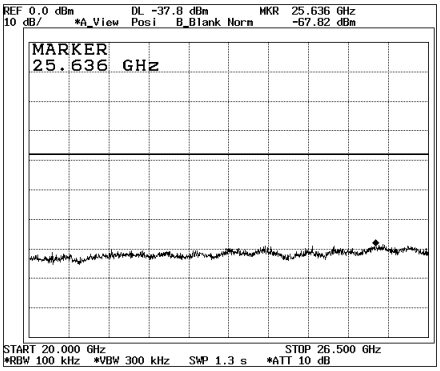
10GHz-15GHz



15GHz-20GHz

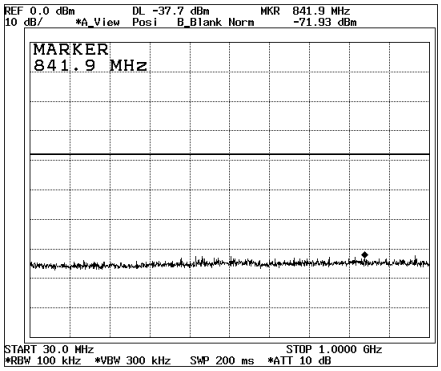
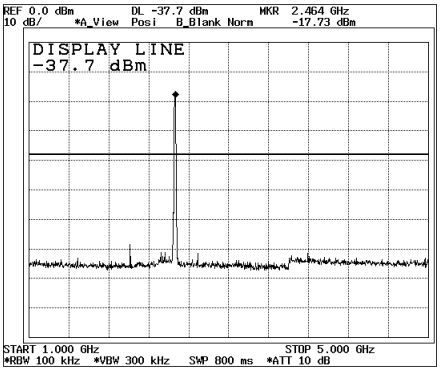
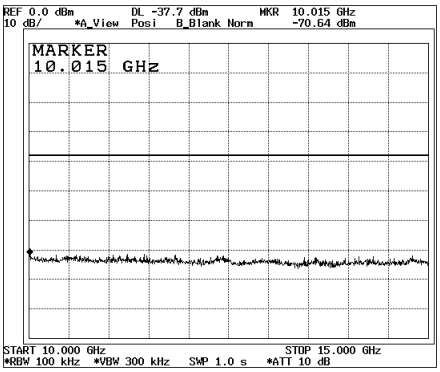
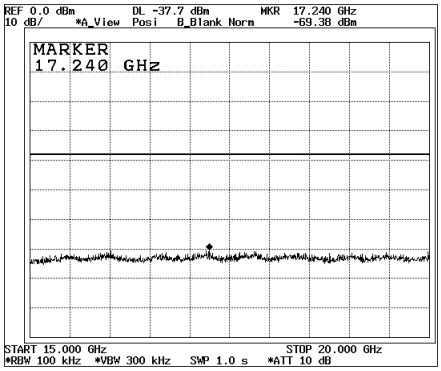
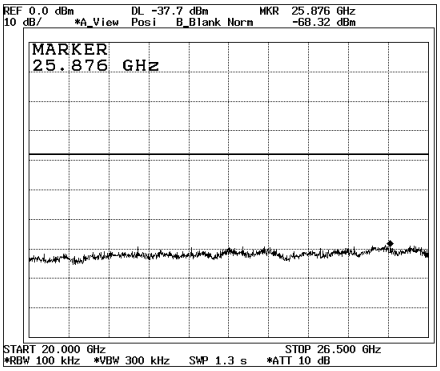


20GHz-26.5GHz



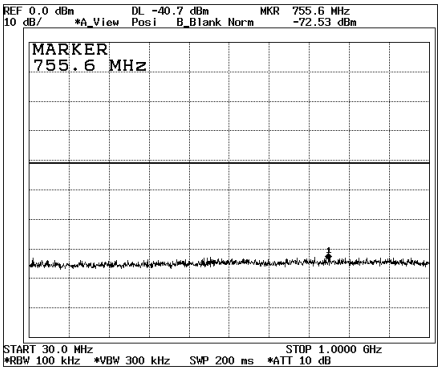
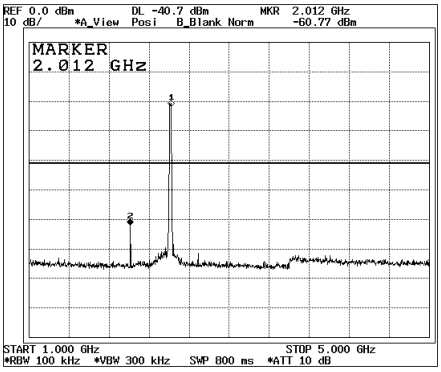
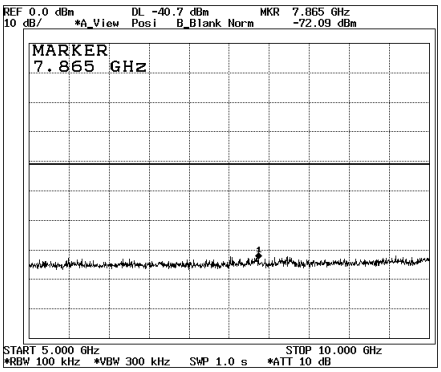
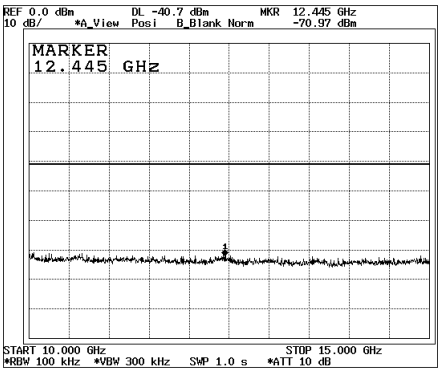
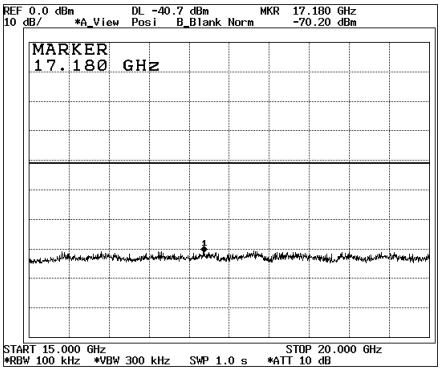
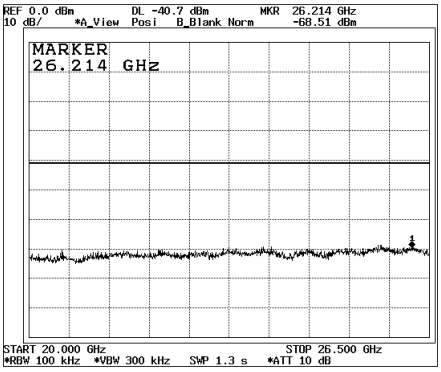
Conducted Spurious Emission(DSSS and other forms of modulation) (11b)

Ch : High

30MHz-1GHz	1GHz-5GHz
	
5GHz-10GHz	**10GHz-15GHz**
	
15GHz-20GHz	**20GHz-26.5GHz**
	

Conducted Spurious Emission(DSSS and other forms of modulation)(11g)

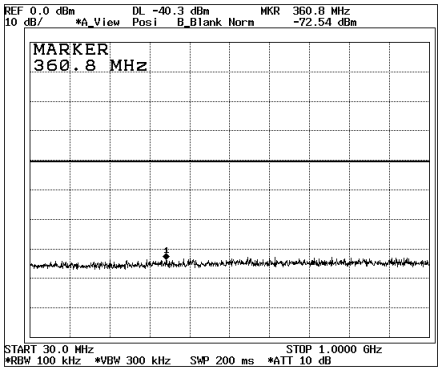
Ch : Low

30MHz-1GHz	1GHz-5GHz
	
5GHz-10GHz	**10GHz-15GHz**
	
15GHz-20GHz	**20GHz-26.5GHz**
	

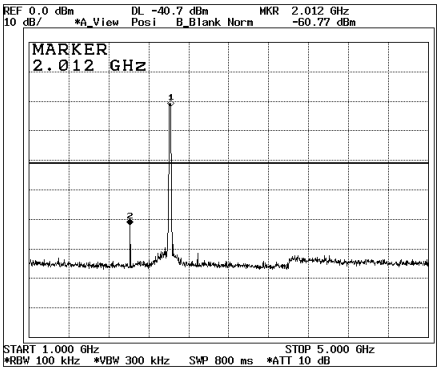
Conducted Spurious Emission(DSSS and other forms of modulation)(11g)

Ch : Mid

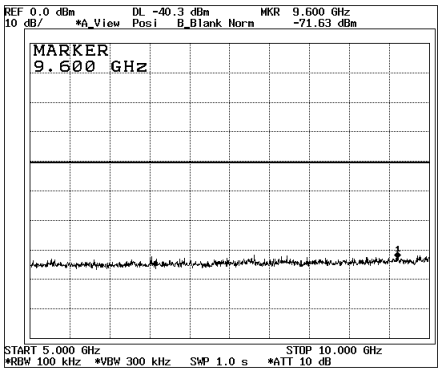
30MHz-1GHz



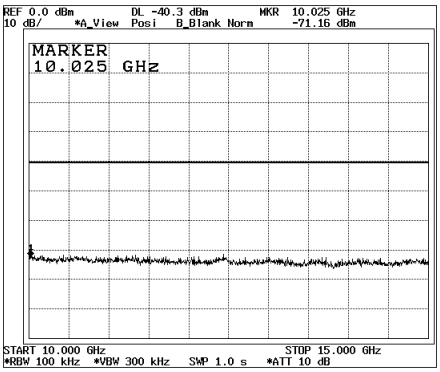
1GHz-5GHz



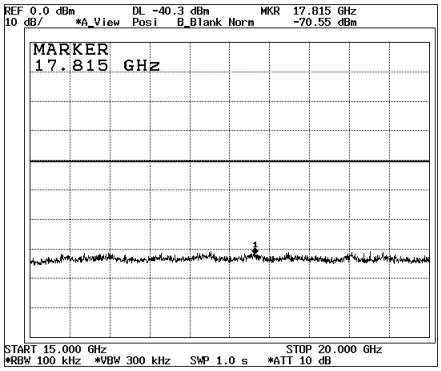
5GHz-10GHz



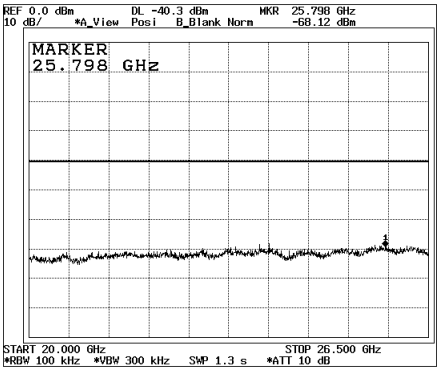
10GHz-15GHz



15GHz-20GHz



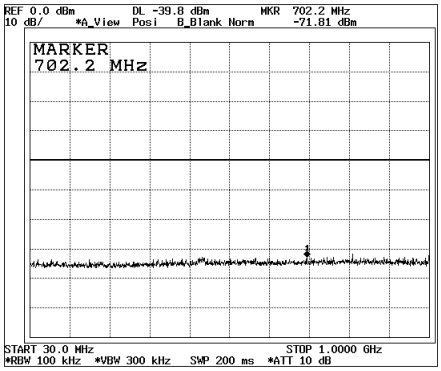
20GHz-26.5GHz



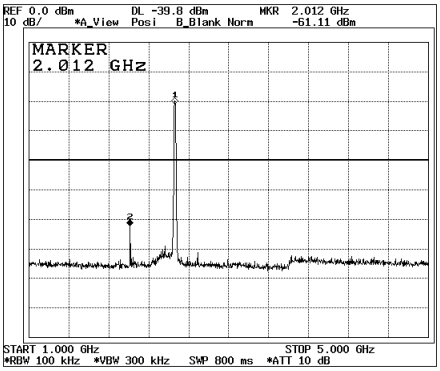
Conducted Spurious Emission(DSSS and other forms of modulation)(11g)

Ch : High

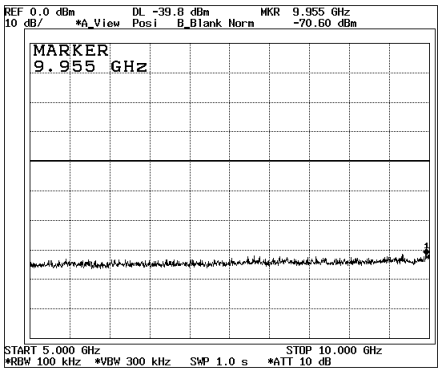
30MHz-1GHz



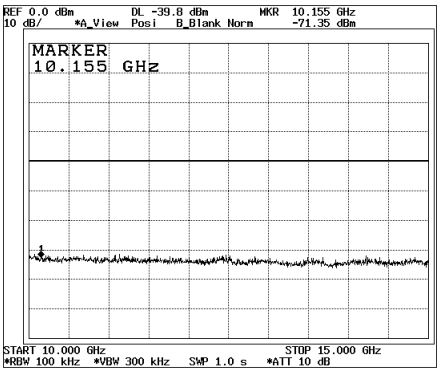
1GHz-5GHz



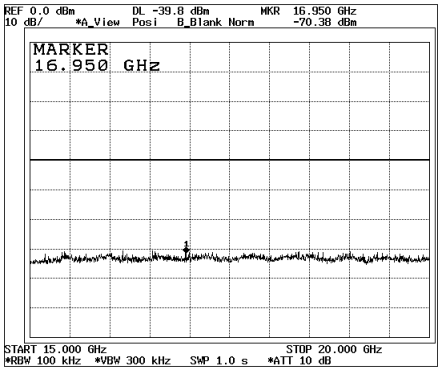
5GHz-10GHz



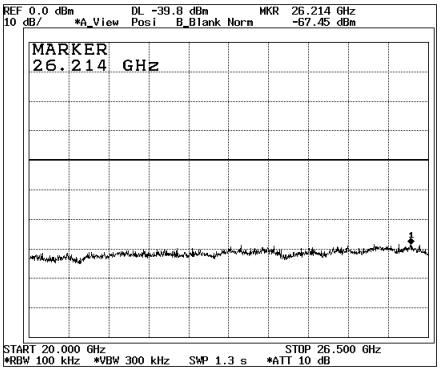
10GHz-15GHz



15GHz-20GHz

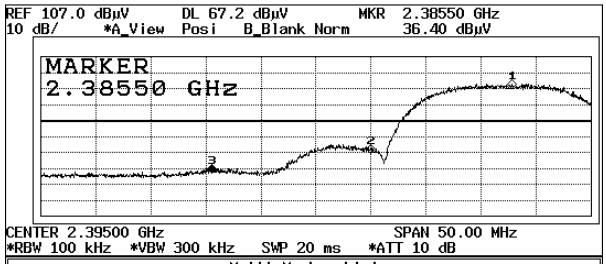


20GHz-26.5GHz



Conducted emission Band Edge compliance (DSSS and other forms of modulation)(11b)

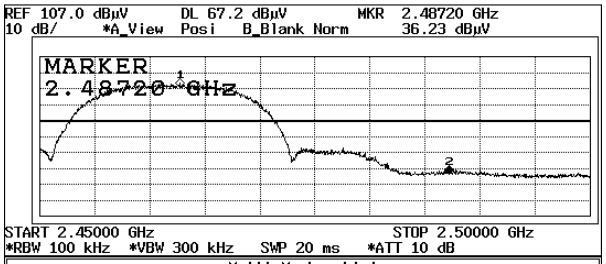
Ch:Low



Multi Marker List

1:	2.41280 GHz	90.07 dBµV
2:	2.40000 GHz	48.80 dBµV
3:	2.38550 GHz	36.40 dBµV
4:		
5:		
6:		
7:		
8:		
9:		
10:		
Δ:		

Ch:High

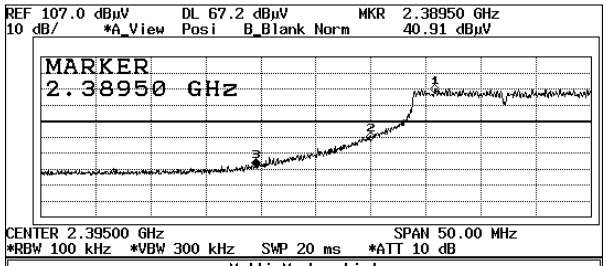


Multi Marker List

1:	2.46270 GHz	90.58 dBµV
2:	2.48720 GHz	36.23 dBµV
3:		
4:		
5:		
6:		
7:		
8:		
9:		
10:		
Δ:		

Conducted emission Band Edge compliance (DSSS and other forms of modulation)(11g)

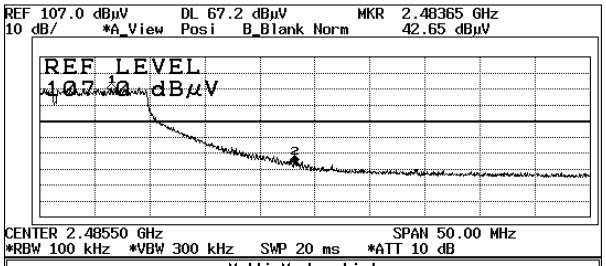
Ch:Low



Multi Marker List

1:	2.40580 GHz	87.38 dBµV
2:	2.40000 GHz	57.13 dBµV
3:	2.38950 GHz	40.91 dBµV
4:		
5:		
6:		
7:		
8:		
9:		
10:		
Δ:		

Ch:High



Multi Marker List

1:	2.46700 GHz	87.52 dBµV
2:	2.48365 GHz	42.65 dBµV
3:		
4:		
5:		
6:		
7:		
8:		
9:		
10:		
Δ:		

Peak Power Density (DSSS and other forms of modulation)

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

		REPORT NO	: 24JE0143-HO
COMPANY	: Panasonic Communications Co,. Ltd.	REGULATION	: Fcc Part15 Subpart C 15.247(d)
QUIPMENT	: Network Camera	TEST DISTANCE	: -
MODEL	: BL-C30A	DATE	: 07/07/2004
SAMPLE NO.	: ES1	TEMPERATURE	: 23℃
POWER	: AC120V/60Hz	HUMIDITY	: 60%
MODE	: Tx (ch1,6,11)	ENGINEER	: Kenichi Adachi

11b

Ch	Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
Low	2412.0	-28.02	1.97	20.00	-6.1	8.0	14.1
Mid	2437.0	**-27.11**	1.98	20.00	**-5.1**	8.0	**13.1**
High	2462.0	-29.70	1.98	20.00	-7.7	8.0	15.7

11g

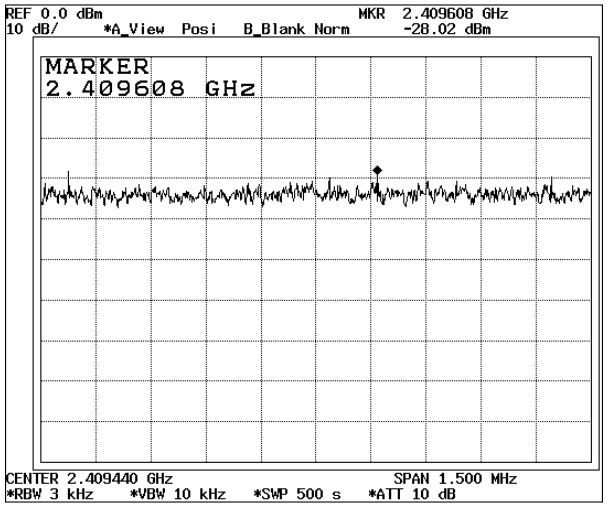
Ch	Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
Low	2412.0	-31.60	1.97	20.00	-9.6	8.0	17.6
Mid	2437.0	-31.57	1.98	20.00	-9.6	8.0	17.6
High	2462.0	-30.87	1.98	20.00	-8.9	8.0	16.9

Sample Calculation:
Result = Reading + Cable Loss + Attenuator
* Atten. was not used for factor 0.0dB of the above table.

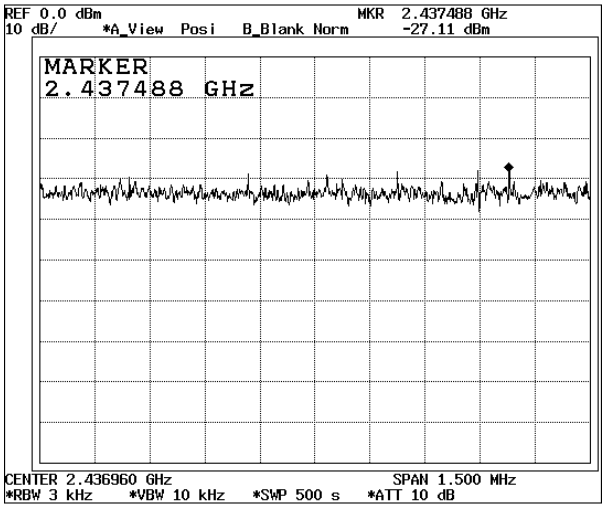
Peak Power Density(DSSS and other forms of modulation)

11b

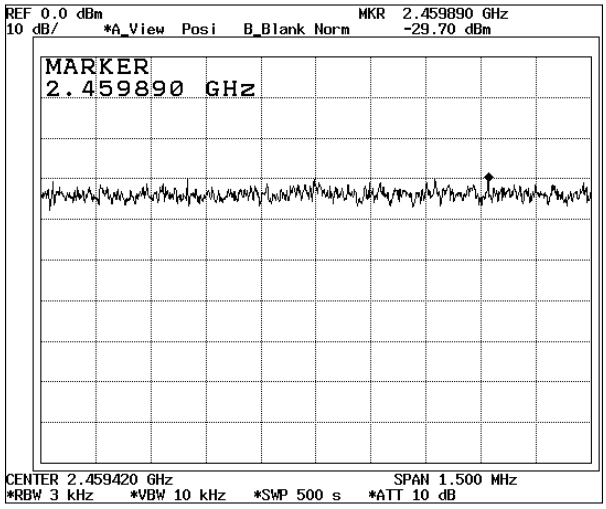
Ch:Low



Ch:Mid

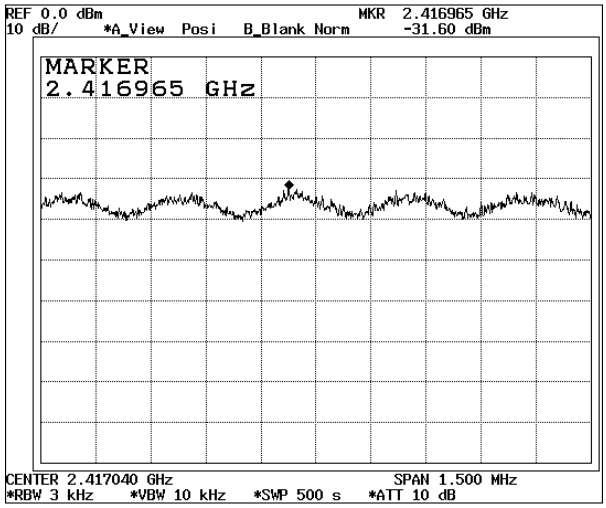
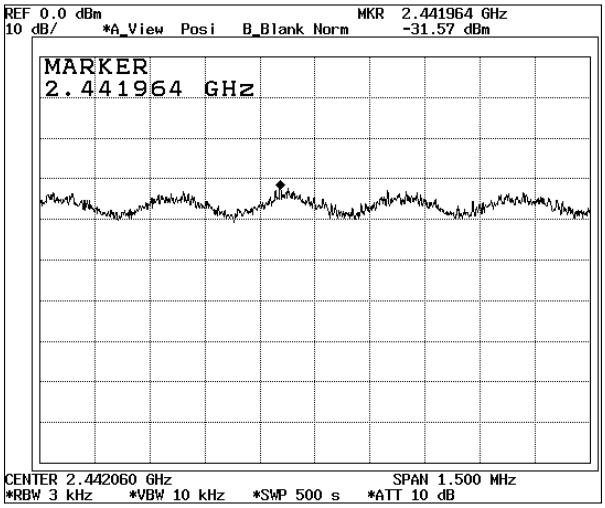
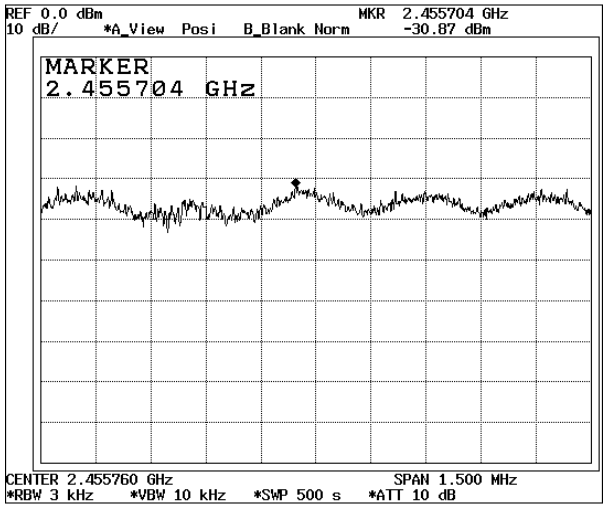


Ch:High



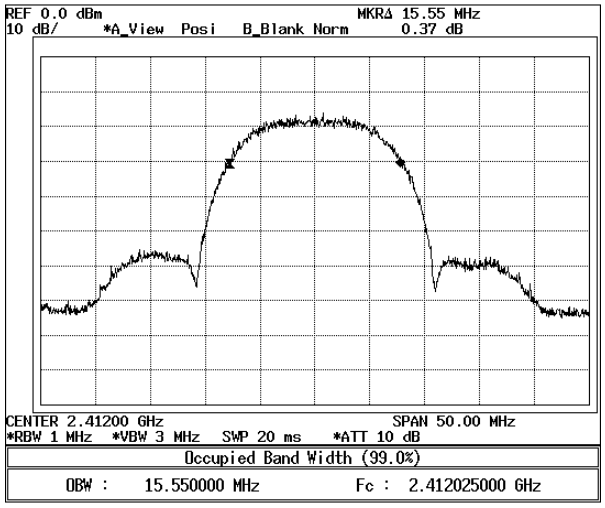
Peak Power Density(DSSS and other forms of modulation)

11g

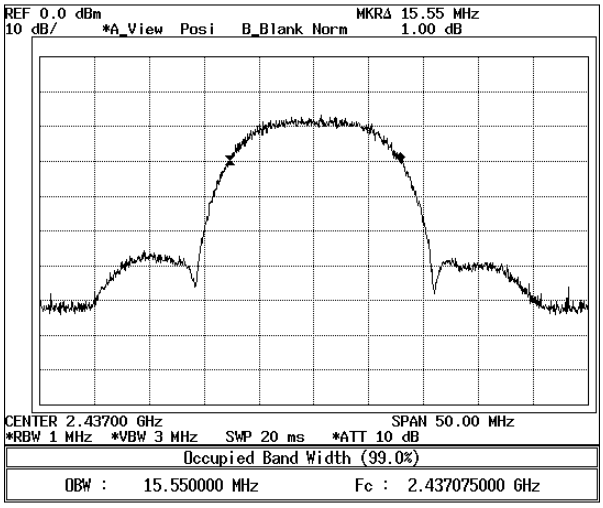
Ch:Low	Ch:Mid
	
Ch:High	
	

99%Occupied Bandwidth(DSSS and other forms of modulation)(11b)

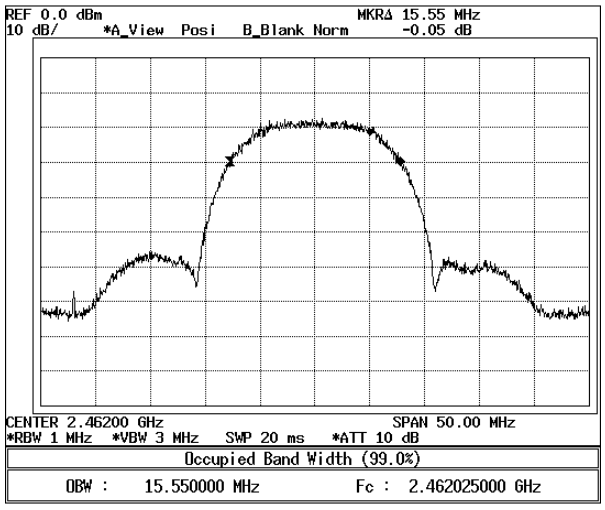
Ch:Low



Ch:Mid

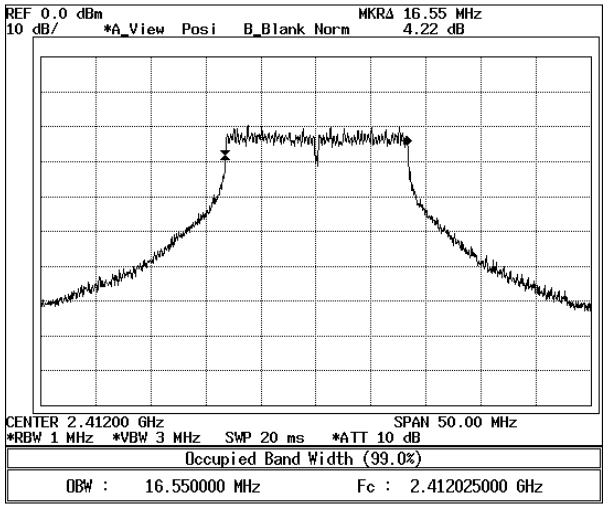


Ch:High

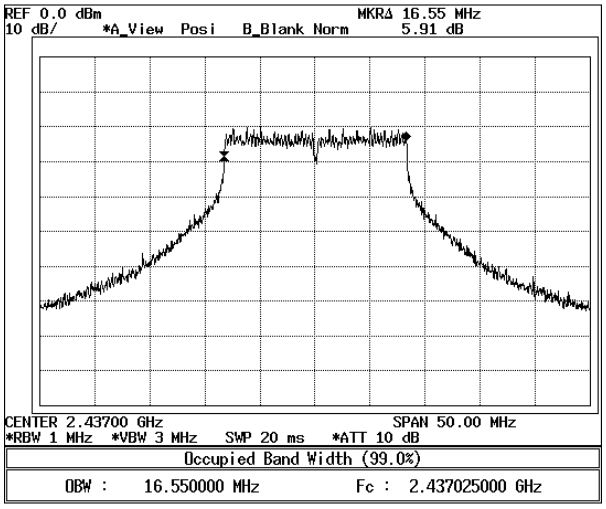
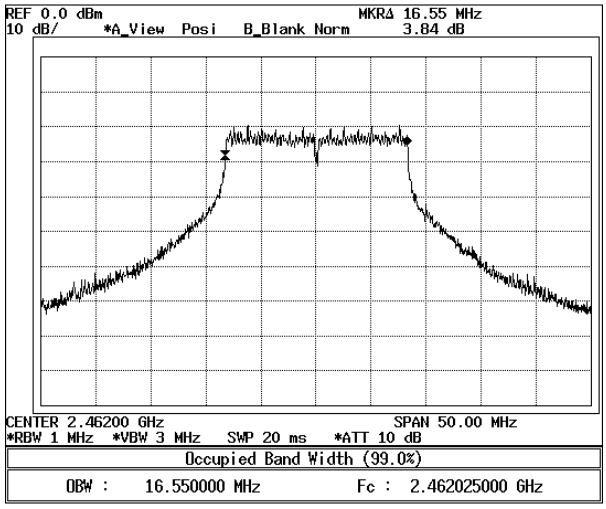


99%Occupied Bandwidth(DSSS and other forms of modulation)(11g)

Ch:Low



Ch:Mid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