

RF Exposure / SAR Statement

No. : 25IE0111-HO-1

Applicant : Panasonic Communications Co., Ltd.
Type of Equipment : Wireless Camera
Model No. : KX-THA13
FCC ID : ACJ96NKX-THA13

Panasonic Communications Co., Ltd. declares that Model : Wireless Camera complies with FCC radiation exposure requirement specified in the FCC Rules 2.1093. The "KX-THA13" has 120.23 mW of conducted Peak Output power and 196.79 mW of EIRP. This kind of equipment is below 60/frequency[GHz] mW (TCB Exclusion List) so that SAR testing is excluded. The Following calculation is the reference data for 20cm distance.

RF Exposure Calculations:

The following information provides the minimum separation distance for the highest gain antenna provided with the "KX-THA13" as calculated from FCC OET Bulletin 65 Appendix A, Table (B) Limits for General Population / Uncontrolled Exposure. This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain, and considering a 1.0mW/cm² uncontrolled exposure limit. The Friis formula used was:

$$S = (P * G) / (4 * \pi * r^2)$$

Where

P = 120.23 mW (Maximum peak output power)
G = 1.64 Numerical Antenna gain; equal 2.14 dBi
r = 20.0 cm

For: KX-THA13

$$S = 0.03915 \text{ mW/cm}^2$$

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EMI TEST REPORT

Test Report No. : 25IE0111-HO-1

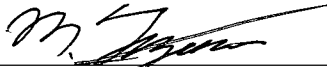
Applicant : Panasonic Communications Co., Ltd.
Type of Equipment : Wireless Camera
Model No. : KX-THA13
FCC ID : ACJ96NKX-THA13
Test standard : FCC Part 15 Subpart C
Section 15.207, Section 15.247 : 2005
Test Result : Complied

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

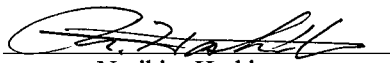
Date of test:

May 17 to 27, 2005

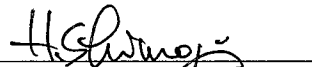
Tested by:


Mitsuru Fujimura
EMC Service


Kenichi Adachi
EMC Service


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Approved by :


Hironobu Shimoji
Group Leader of
EMC Service

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SECTION 1: Client information

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

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

2.1 Identification of E.U.T.

Type of Equipment : Wireless Camera
Model No. : KX-THA13
Serial No. : BD12 80F0 8000,
0080F08012BD,
0080F08012BA
Rating : AC120.0V/60Hz (AC Adaptor output: DC9V)
Country of Manufacture : Japan
Receipt Date of Sample : May 15, 2005
Condition of EUT : Engineering prototype
(Not for Sale: This sample is equivalent to mass-produced items.)

2.2 Product Description

Model No: KX-THA13 (referred to as the EUT in this report) is the Wireless Camera.

Clock frequencies in the system	13.000MHz (standard clock) 117.000MHz (RFIC internal clock)
Equipment Type	Transceiver
Frequency of Operation	2402MHz – 2480MHz
Type of Modulation	FHSS
Antenna Type	Dipole
Antenna Gain	2.14 dBi max
Mode of Operation	Duplex
ITU code	F1D
Power Supply (Inner)	DC2.5V

FCC 15.31 (e)

This EUT provides stable voltage (DC9V), and it is constantly converted into and provided with DC2.5V for the Operational voltage within RF Module. 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.

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SECTION 3: Test specification, procedures & results

3.1 Test Specification

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

3.2 Procedures and results

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst Margin*0)	Results
1	Conducted emission	ANSI C63.4:2003 7. AC powerline conducted emission measurements	Section 15.207	-	N/A	<Mode1> 10.5 dB 23.9992MHz AV, L <Mode2> 10.4dB 23.9999MHz AV, L	Complied
2	Carrier Frequency Separation	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247(a)(1)	Conducted	N/A	*See data.	Complied
3	20dB Bandwidth	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247(a)(1)	Conducted	N/A		Complied
4	Number of Hopping Frequency	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247(a)(1)(iii)	Conducted	N/A		Complied
5	Dwell time	ANSI C63.4:2003 13.Measurement of intentional radiators	Section15.247(a)(1)(iii)	Conducted	N/A		Complied
6	Maximum Peak Output Power	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247(b)(1)	Conducted	N/A		Complied
7	Band Edge Compliance	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247(d)	Conducted	N/A		Complied
8	Spurious Emission	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247(d)	Conducted/ Radiated	N/A	<Mode1> 2.6dB 383.998MHz Horizontal, QP <Mode2> 2.3dB 383.997MHz Horizontal, QP	Complied

Note: UL Apex's EMI Work Procedures No.QPM05 and QPM15.

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

Uncertainty:

Conducted Emission

The measurement uncertainty (with a 95% confidence level) for this test is ± 1.3 dB.

Spurious Emission (Radiated)

The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is ± 4.5 dB(3m)/ ± 4.7 dB(10m).

The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is ± 5.2 dB(3m)/ ± 3.8 dB(10m).

The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is ± 6.6 dB.

Other test except Conducted Emission and Spurious Emission (Radiated)

The measurement uncertainty (with a 95% confidence level) for this test is ± 3.0 dB.

*These tests were also referred to FCC Public Notice DA 00-705 "Guidance on Measurement for Frequency Hopping Spread Spectrum Systems".

*These tests were performed without any deviations from test procedure except for additions or exclusions.

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3.3 Addition to standards

No addition, deviation, no, exclusion has been made from standards.

3.4 Test Location

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	FCC Registration Number	IC Registration Number	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Other rooms
No.1 semi-anechoic chamber	313583	IC4247	19.2 x 11.2 x 7.7m	7.0 x 6.0m	Preparation room
No.2 semi-anechoic chamber	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.

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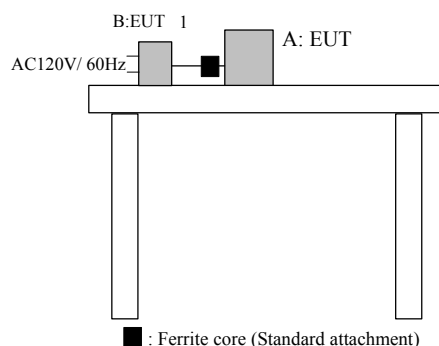
SECTION 4: Operation of E.U.T. during testing

4.1 Operating Modes

The mode is used : [Mode1]
Transmitting mode(Packet size DH1, DH3)
Low Channel :2402MHz
Mid Channel :2441MHz
High Channel :2480MHz
Inquiry
*Remarks: AFH OFF mode: 79ch, AFH ON mode 20ch

[Mode2]
Transmitting mode(Packet size DH1, DH3)
Low Channel :2402MHz
Mid Channel :2440MHz
High Channel :2480MHz
*Remarks: AFH OFF mode: 40ch, AFH ON mode 20ch

4.2 Configuration and peripherals



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

Description of EUT and Support equipment

No	Item	Model number	Serial number	Manufacturer	FCC ID
A	Wireless Camera	KX-THA13	BD12 80F0 8000 *1) 0080F08012BD *2) 0080F08012BA *3)	Panasonic Communications Co., Ltd.	ACJ96NKX-THA13 (EUT)
B	AC Adapter	PQLV1	15#A2-1A	Panasonic Communications Co., Ltd.	EUT

*1) Used for Conducted emission test and Spurious emission test (below 1GHz).

*2) Used for Spurious emission test (above 1GHz).

*3) Used for Antenna Terminal Conducted tests

List of cables used

No.	Name	Length (m)	Shield	Backshell Material
1	DC Cable	1.7	N	Polyvinyl chloride

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SECTION 5: Conducted Emission

Test Procedure and conditions

EUT was placed on a platform of nominal size, 1.0m by 0.5m, 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 itself (as a stand alone equipment)

Each EUT current-carrying power lead, except the ground (safety) lead, was individually connected through a LISN/(AMN) to the input power source. All unused 50ohm connectors of the LISN(AMN) were resistivity terminated in 50ohm when not connected to the measuring equipment.

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT in a Semi Anechoic Chamber or a Measurement Room.

The EUT was connected to a LISN (AMN).

An overview sweep with peak detection has been performed.

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

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SECTION 6: Spurious Emission

[Conducted]

Test Procedure

The Out of Band Emission was measured with a spectrum analyzer connected to the antenna port.

Test data : APPENDIX 3

Test result : Pass

[Radiated]

Test Procedure

EUT was placed on a platform of nominal size, 1.0m by 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 linear mode).

The test was made with the detector (RBW/VBW) in the following table.

When using Spectrum analyzer, the test was made with adjusting span to zero by using peak hold.

***Delta Marker Method (Measurement for Band-edge)**

STEP 1) Perform an in-band field strength measurement of the fundamental emission using the RBW table below.

STEP 2) Choose a spectrum analyzer span that encompasses both the peak of the fundamental emission and the band-edge emission under investigation. Set the analyzer RBW to 1% of the total span, and measure the amplitude delta between the peak of the fundamental and the peak of the band-edge emission.

STEP 3) Subtract the delta measured in STEP 2) from the field strengths measured in STEP 1). The result is the field strength of band-edge.

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

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

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

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

Test data : APPENDIX 3

Test result : Pass

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SECTION 7: Bandwidth

Test Procedure

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

Test data	: APPENDIX 3
Test result	: Pass

SECTION 8: Maximum Peak Output Power

Test Procedure

The Maximum Peak Output Power was measured with a power meter connected to the antenna port.

Test data	: APPENDIX 3
Test result	: Pass

SECTION 9: Carrier Frequency Separation

Test Procedure

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

Test data	: APPENDIX 3
Test result	: Pass

SECTION 10: Number of Hopping Frequency

Test Procedure

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

Test data	: APPENDIX 3
Test result	: Pass

SECTION 11: Dwell time

Test Procedure

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

Test data	: APPENDIX 3
Test result	: Pass

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APPENDIX 1: Photographs of test setup

Conducted Emission

Front



Rear

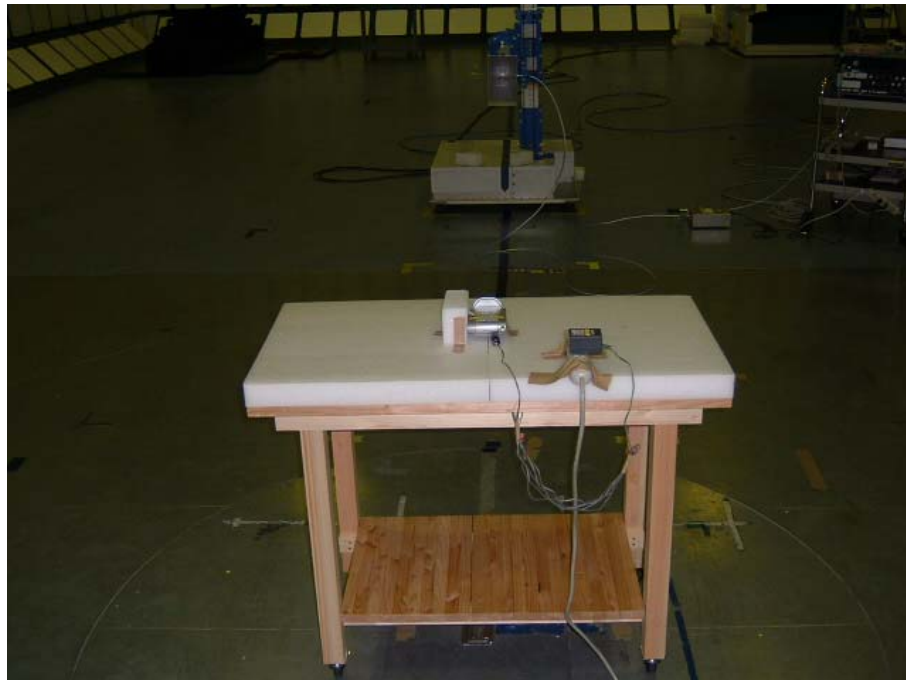


Spurious Emission (Radiated)

Front



Rear



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

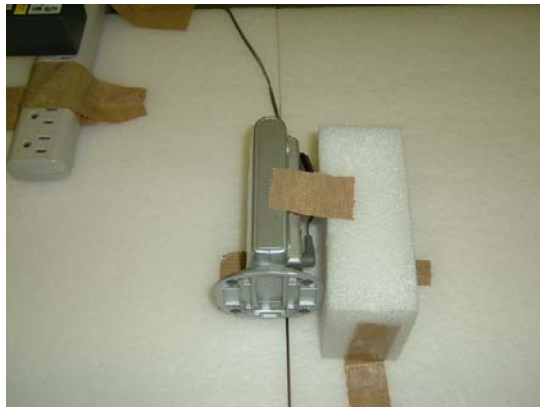
X-axis



Y-axis



Z-axis



APPENDIX 2:Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
MCC-06	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX 104	AT	2005/02/03 * 12
MAT-21	Attenuator(20dB)(above1GHz)	HIROSE ELECTRIC CO.,LTD.	AT-120	AT	2005/01/11 * 12
MSA-03	Spectrum Analyzer	Agilent	E4448A	AT	2004/06/12 * 12
MAEC-01	Anechoic Chamber	TDK	Semi Anechoic Chamber 10m	RE	2004/11/13 * 12
MTR-01	Test Receiver	Rohde & Schwarz	ESI40	RE	2004/11/12 * 12
MCC-26	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	RE	2004/08/26 * 12
MPA-05	Pre Amplifier	TSJ	TSJ 1-26.5GHz PreAmp	RE	2004/06/12 * 12
MHF-02	High Pass Filter	Tokimec	TF323DCA	RE	2004/09/18 * 12
MCC-18	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX 104	RE	2005/02/03 * 12
MHA-05	Horn Antenna	Schwarzbeck	BBHA9120D	RE	2005/01/10 * 12
MHA-02	Horn Antenna	EMCO	3160-09	RE	2005/01/10 * 12
MAEC-02	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	CE	2005/04/11 * 12
MCC-13	Coaxial Cable	Fujikura/Agilent	-	CE	2005/02/24 * 12
MRENT-14	Spectrum Analyzer	Advantest	R3273	CE	2005/02/21 * 12
MTR-02	Test Receiver	Rohde & Schwarz	ESCS30	CE	2005/02/02 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	CE	2005/02/04 * 12
MCC-12	Coaxial Cable	Fujikura/Agilent	-	RE	2005/02/24 * 12
MAT-07	Attenuator(6dB)	Weinschel Corp	2	RE	2004/12/16 * 12
MBA-02	Biconical Antenna	Schwarzbeck	BBA9106	RE	2004/10/14 * 12
MLA-02	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2004/10/14 * 12
MPA-06	Pre Amplifier	Hewlett Packard	8447D	RE	2004/08/29 * 12
MST-03	Power Meter	Agilent	E4416A	AT	2005/03/16 * 12
MPSE-04	Power sensor	Agilent	E9327A	AT	2005/03/29 * 12

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

Test Item:

CE: AC Main Conducted Emission

AT: Antenna terminal conducted measurement

RE: Radiated Spurious Emission

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APPENDIX 3: Data of EMI test

Conducted Emission [Mode1]

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber
Date : 2005/05/26 21:29:02

Applicant : Panasonic Communications Co., Ltd
Kind of EUT : Wireless Camera
Model No. : KX-THA13
Serial No. : BD12 80F0 8000

Report No. : 25IE0111-HO
Power : AC120V/60Hz
Temp°C/Humi% : 25deg. C / 42%
Operator : Norihisa Hashimoto

Mode / Remarks : Mode 1 Tx2402 /

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

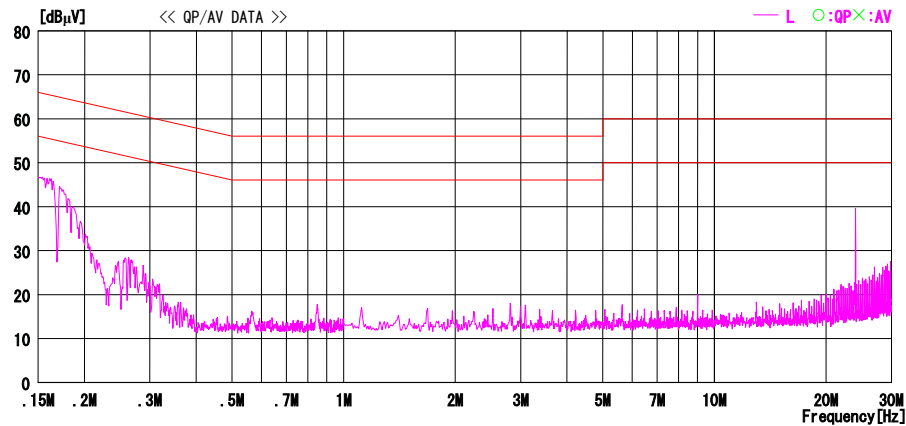
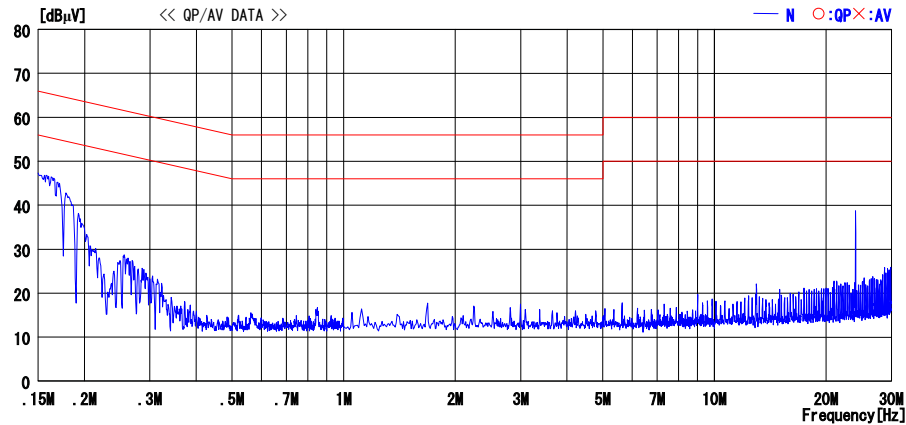


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCULATION: RESULT=READING+C.F (LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

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DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/05/26 21:38:33

Applicant : Panasonic Communications Co.,Ltd
Kind of EUT : Wireless Camera
Model No. : KC-THA13
Serial No. : BD12 80F0 8000

Report No. : 25IE0111-HO
Power : AC120V/60Hz
Temp°C/Humi% : 25deg. C / 42%
Operator : Norihisa Hashimoto

Mode / Remarks : Mode 1 Tx2441 /

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

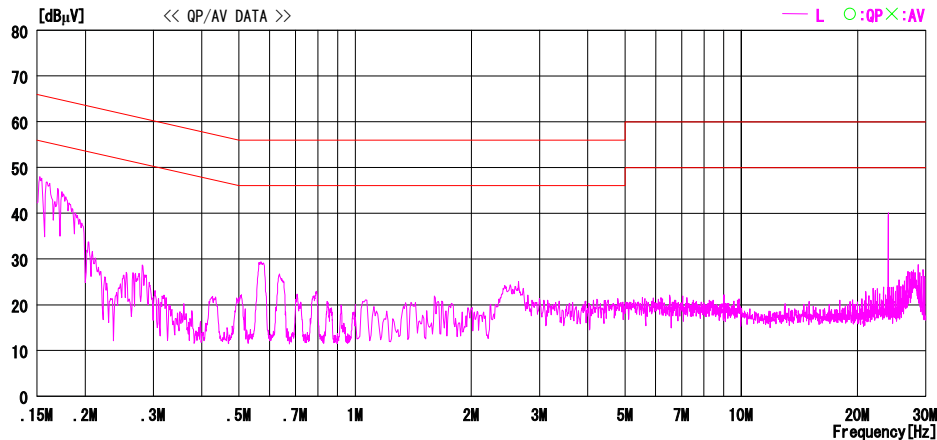
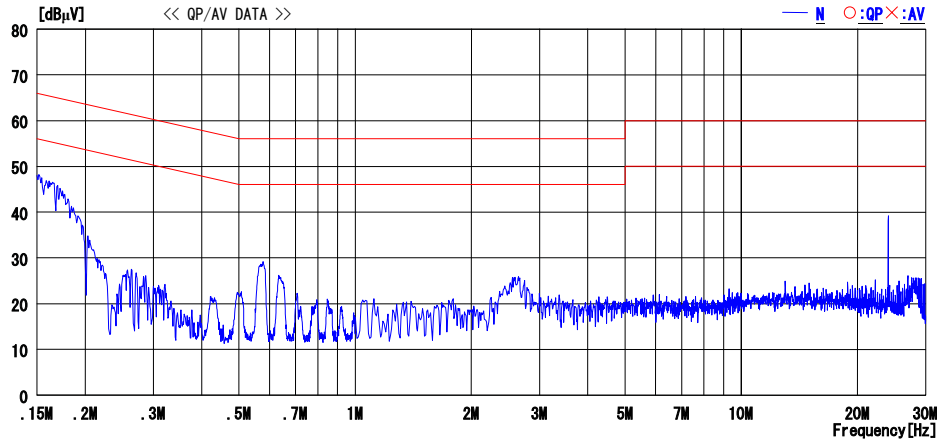


CHART:WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C.F (LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

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DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber
Date : 2005/05/26 21:43:46

Applicant : Panasonic Communications Co., Ltd
Kind of EUT : Wireless Camera
Model No. : KX-THA13
Serial No. : BD12 80FO 8000

Report No. : 25IE0111-HO
Power : AC120V/60Hz
Temp°C/Humi% : 25deg. C / 42%
Operator : Norihisa Hashimoto

Mode / Remarks : Mode 1 Tx2480 /

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

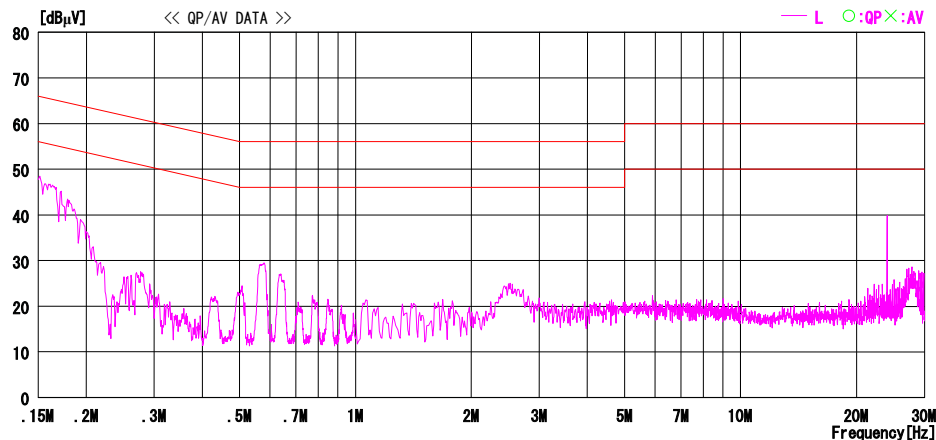
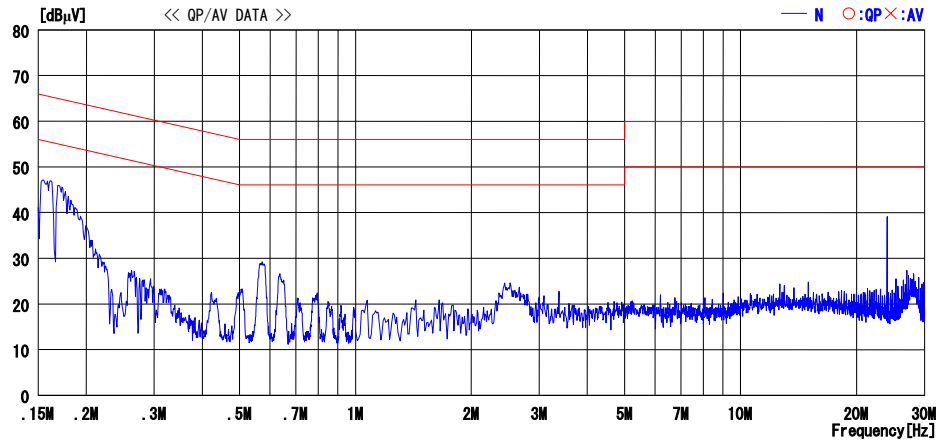


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C.F (LISN LOSS+CABLE LOSS)
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DATA OF CONDUCTED EMISSION TEST

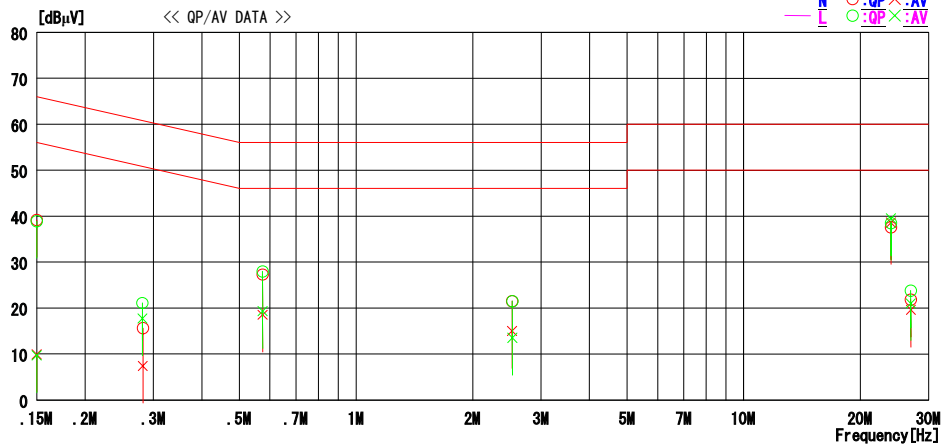
UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber
Date : 2005/05/26 21:43:46

Applicant : Panasonic Communications Co., Ltd
Kind of EUT : Wireless Camera
Model No. : KC-THA13
Serial No. : BD12 80F0 8000

Report No. : 25IE0111-HO
Power : AC120V/60Hz
Temp°C/Humi% : 25deg. C / 42%
Operator : Norihisa Hashimoto

Mode / Remarks : Mode 1 Tx2480 /

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



NO	FREQ [MHz]	READING		C. F	RESULT		LIMIT		MARGIN		PHASE
		QP [dBμV]	AV [dBμV]		QP [dBμV]	AV [dBμV]	QP [dBμV]	AV [dBμV]	QP [dB]	AV [dB]	
1	0.1500	39.1	9.8	0.1	39.2	9.9	66.0	56.0	26.8	46.1	N
2	0.2820	15.5	7.3	0.1	15.6	7.4	60.8	50.8	45.2	43.4	N
3	0.5742	27.1	18.3	0.2	27.3	18.5	56.0	46.0	28.7	27.5	N
4	2.5245	21.0	14.5	0.5	21.5	15.0	56.0	46.0	34.5	31.0	N
5	23.9995	35.6	36.6	2.0	37.6	38.6	60.0	50.0	22.4	11.4	N
6	26.9984	19.7	17.5	2.1	21.8	19.6	60.0	50.0	38.2	30.4	N
7	0.1500	38.8	9.6	0.1	38.9	9.7	66.0	56.0	27.1	46.3	L
8	0.2811	21.0	17.6	0.1	21.1	17.7	60.8	50.8	39.7	33.1	L
9	0.5741	27.8	19.1	0.2	28.0	19.3	56.0	46.0	28.0	26.7	L
10	2.5299	21.0	13.0	0.5	21.5	13.5	56.0	46.0	34.5	32.5	L
11	23.9992	36.5	37.5	2.0	38.5	39.5	60.0	50.0	21.5	10.5	L
12	26.9981	21.7	18.9	2.1	23.8	21.0	60.0	50.0	36.2	29.0	L

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

UL Apex Co., Ltd.

Head Office EMC Lab.

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MF060b(01.06.05)

Conducted Emission [Mode2]

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/05/26 22:14:08

Applicant : Panasonic Communications Co.,Ltd
Kind of EUT : Wireless Camera
Model No. : KX-THA13
Serial No. : BD12 80F0 8000

Report No. : 25IE0111-HO
Power : AC120V/60Hz
Temp°C/Humi% : 25deg.C / 42%
Operator : Norihisa Hashimoto

Mode / Remarks : Mode 2 Tx2402 /

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

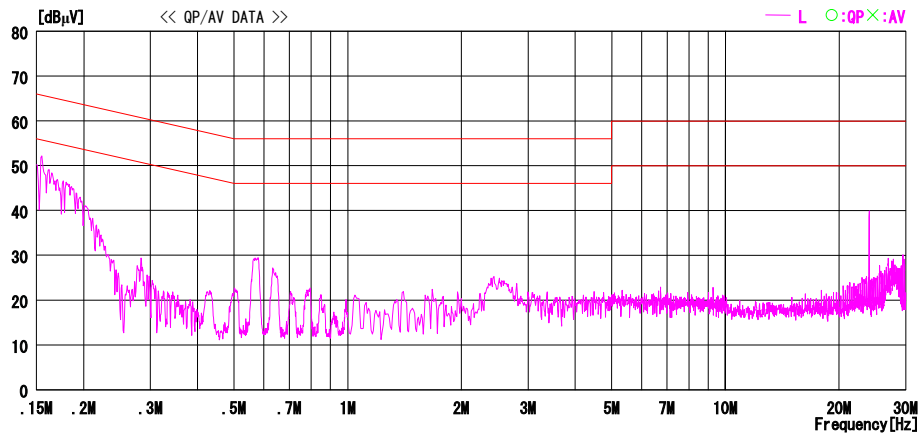
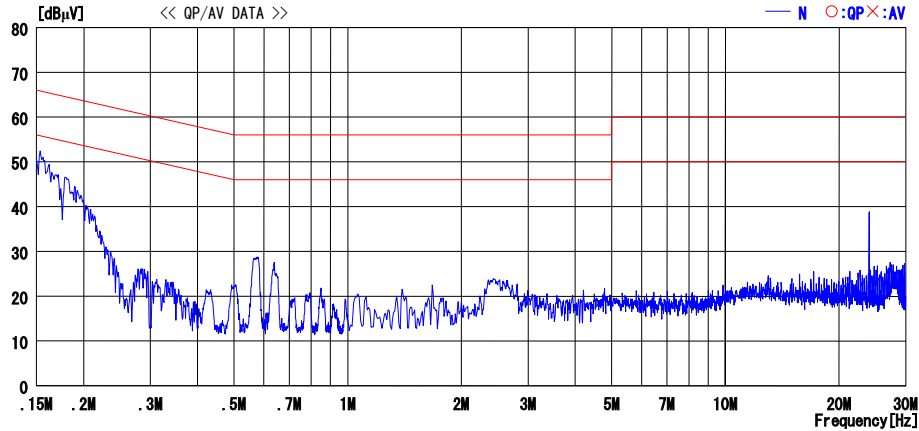


CHART:WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C.F (LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

UL Apex Co., Ltd.

Head Office EMC Lab.

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MF060b(01.06.05)

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber
Date : 2005/05/26 22:34:44

Applicant : Panasonic Communications Co., Ltd
Kind of EUT : Wireless Camera
Model No. : KX-THA13
Serial No. : BD12 80F0 8000
Report No. : 25IE0111-HO
Power : AC120V/60Hz
Temp°C/Humi% : 25deg. C / 42%
Operator : Norihisa Hashimoto

Mode / Remarks: Mode 2 Tx2440 /

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

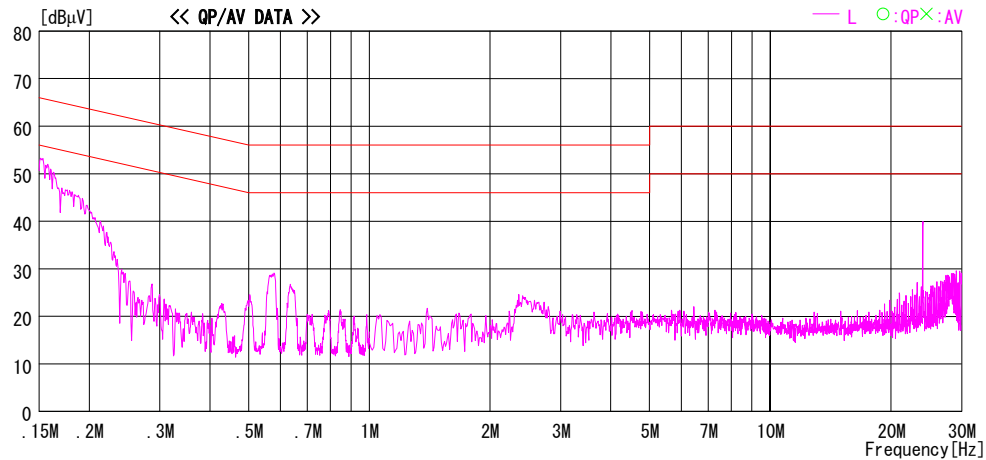
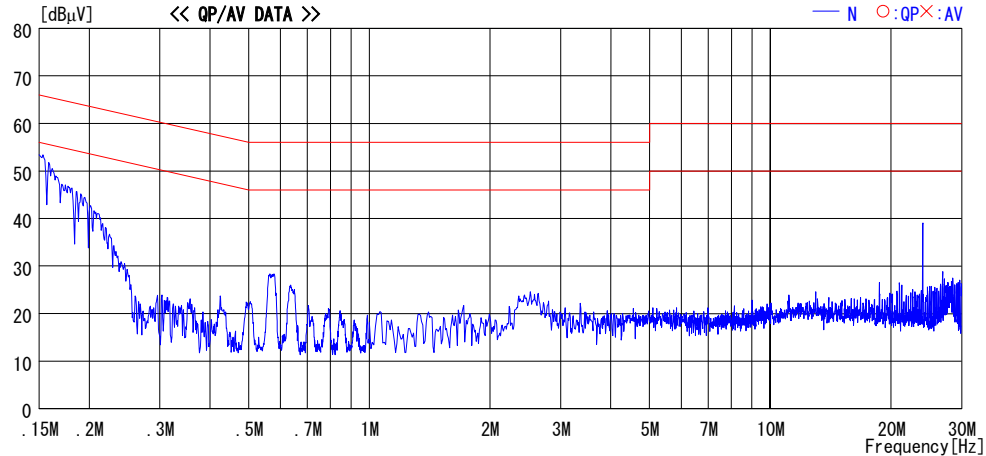


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCULATION: RESULT=READING+C. F (LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

UL Apex Co., Ltd.

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MF060b(01.06.05)

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/05/26 22:40:44

Applicant : Panasonic Communications Co., Ltd
Kind of EUT : Wireless Camera
Model No. : KX-THA13
Serial No. : BD12 80F0 8000
Report No. : 251E0111-HO
Power : AC120V/60Hz
Temp°C/Humi% : 25deg. C / 42%
Operator : Norihisa Hashimoto

Mode / Remarks: Mode 2 Tx2480 /

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

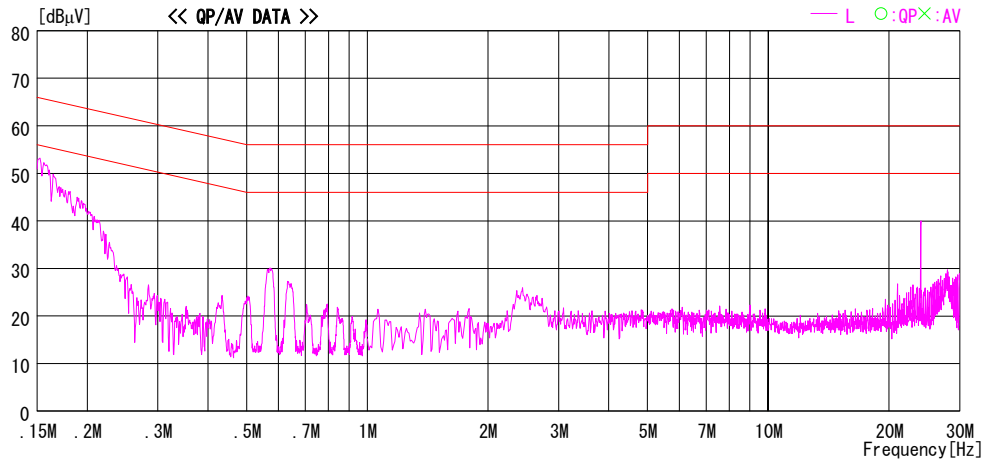
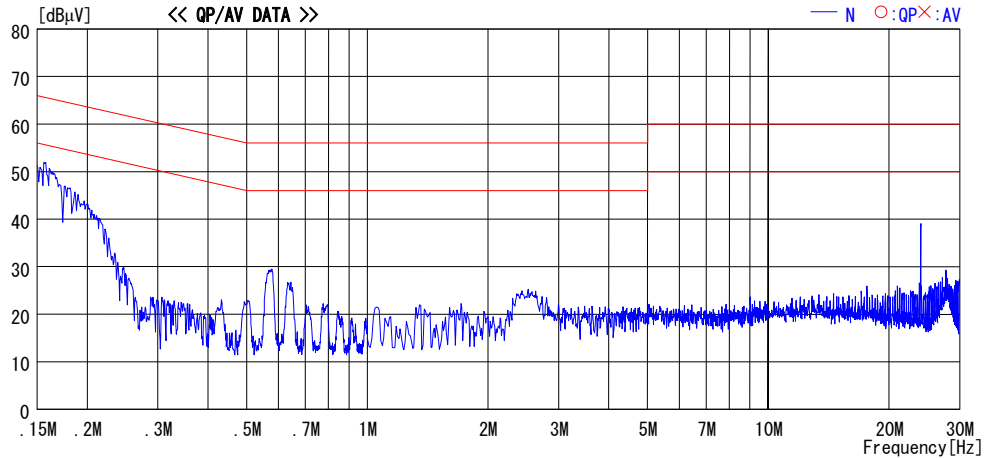


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCULATION: RESULT=READING+C. F (LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

UL Apex Co., Ltd.

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MF060b(01.06.05)

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/05/26 22:40:44

Applicant : Panasonic Communications Co., Ltd
Kind of EUT : Wireless Camera
Model No. : KX-THA13
Serial No. : BD12 80F0 8000
Report No. : 251E0111-HO
Power : AC120V/60Hz
Temp°C/Humi% : 25deg. C / 42%
Operator : Norihisa Hashimoto

Mode / Remarks: Mode 2 Tx2480 /

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

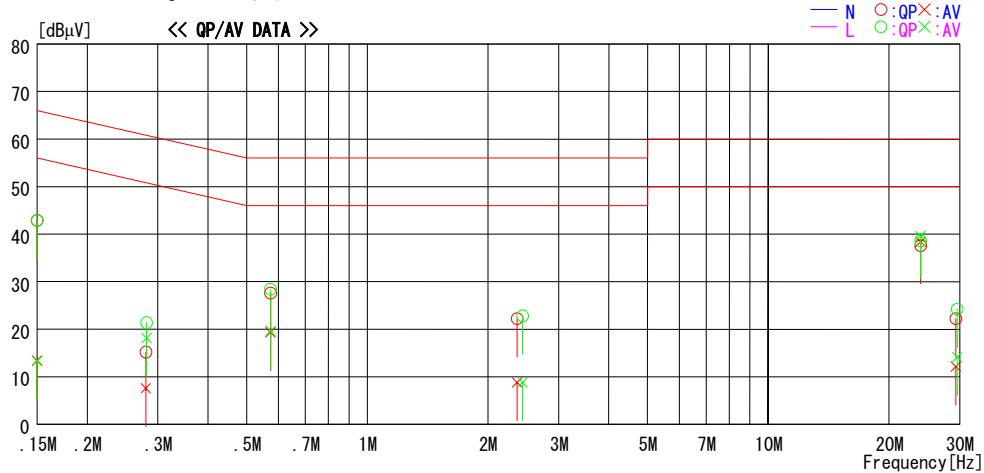


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCULATION: RESULT=READING+C. F (LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

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[Mode1]

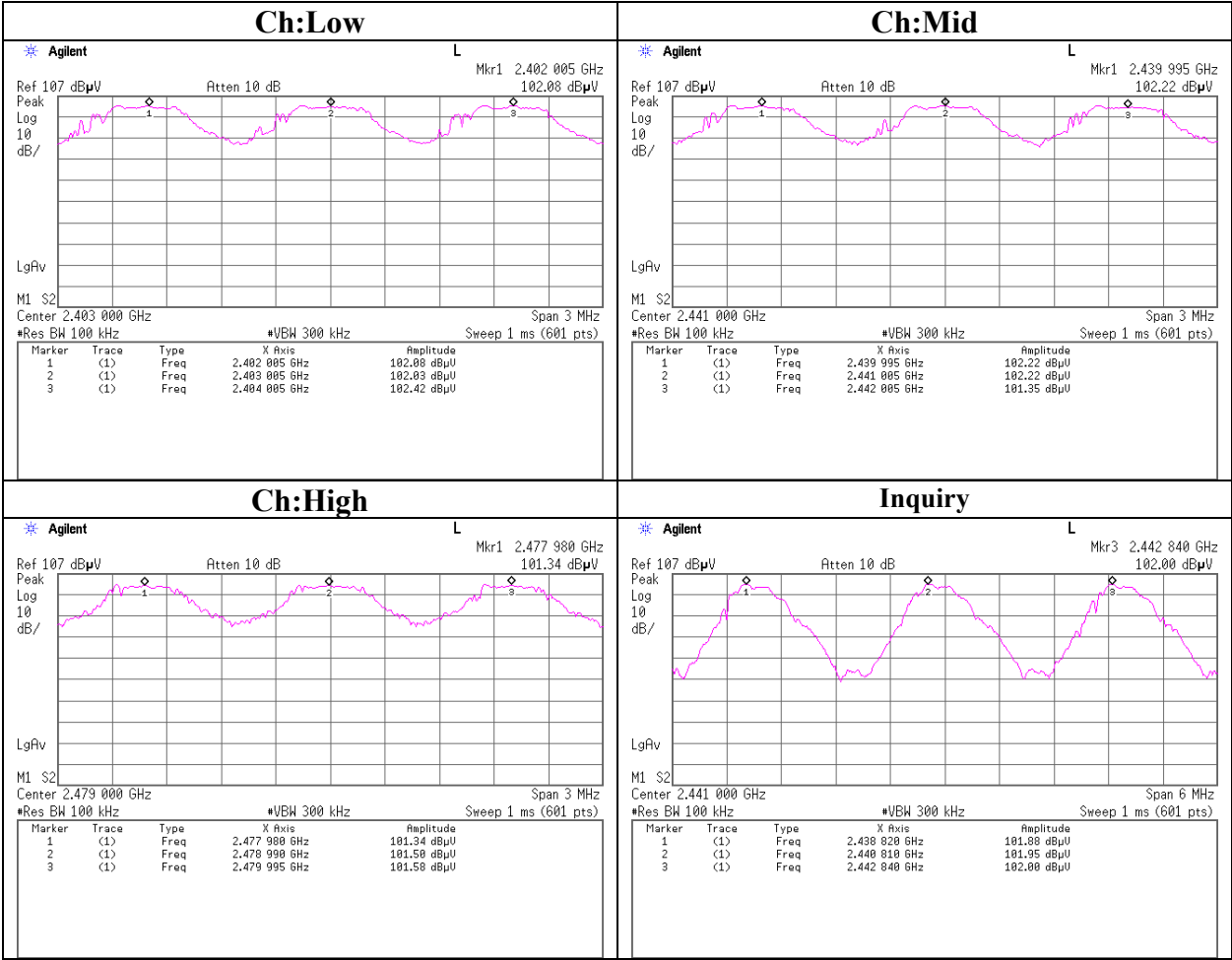
Carrier Frequency Separation [Mode1]

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

COMPANY	: Panasonic Communications Co.,Ltd.	REGULATION	: Fcc Part15 Subpart C 15.247(a)(1)
EQUIPMENT	: Wireless Camera	TEST DISTANCE	: -
MODEL	: KX-THA13	DATE	: 05/17/2005
S/ N	: 0080F08012BA	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz	HUMIDITY	: 35%
MODE	: Tx(Hopping on)/Inquiry	ENGINEER	: Mitsuru Fujimura

Ch	Freq. [MHz]	Channel separation [MHz]	Limit
Low	2402.0	1.000	> two-thirds of 20dB Bandwidth or 25[kHz]
Mid	2441.0	1.000	> two-thirds of 20dB Bandwidth or 25[kHz]
High	2480.0	1.005	> two-thirds of 20dB Bandwidth or 25[kHz]
Inquiry	2441.0	1.990	> two-thirds of 20dB Bandwidth or 25[kHz]

Carrier Frequency Separation [Mode1]



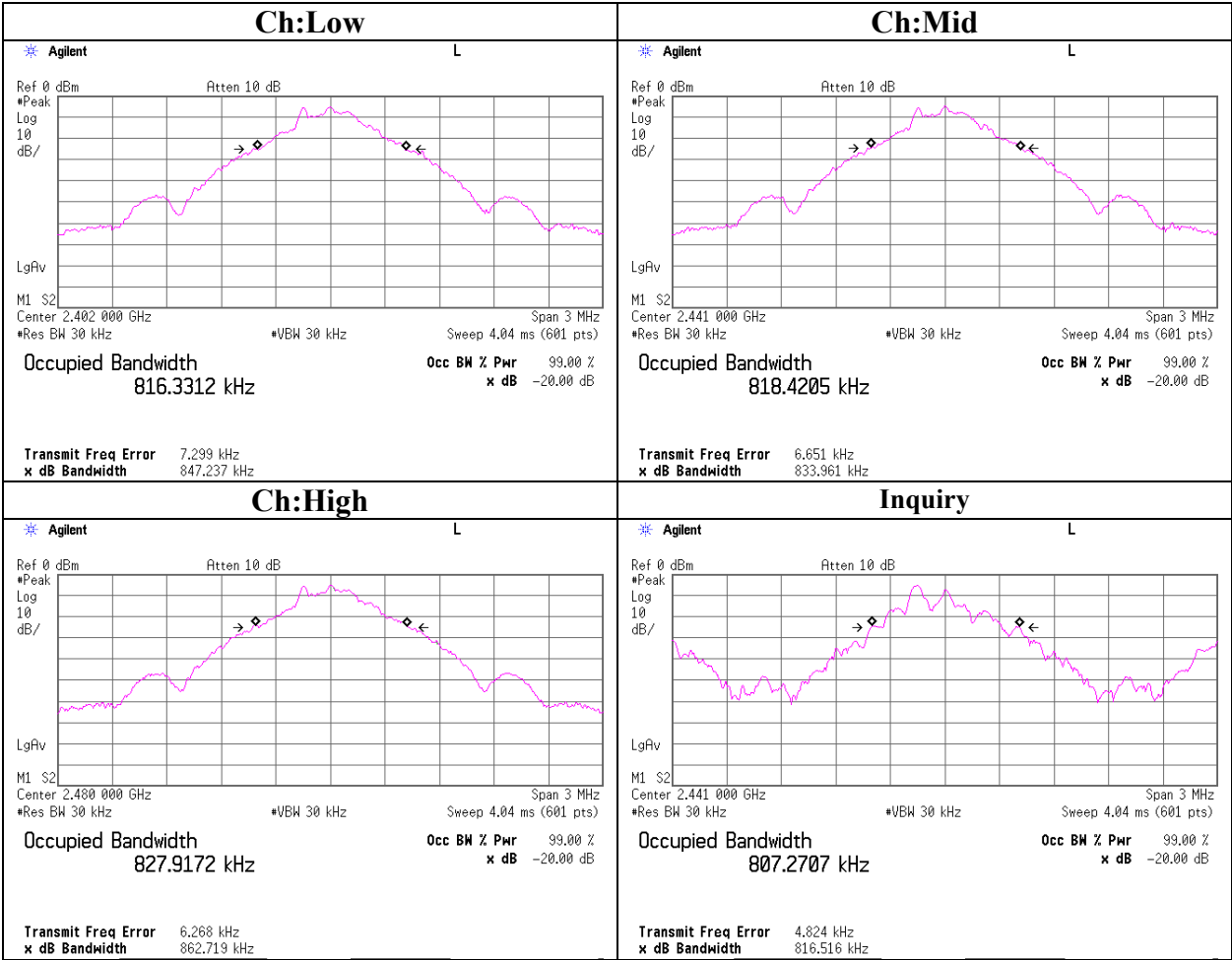
20dB Bandwidth [Model1]

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

COMPANY	: Panasonic Communications Co.,Ltd.	REGULATION	: Fcc Part15 Subpart C 15.247(a)(1)
EQUIPMENT	: Wireless Camera	TEST DISTANCE	: -
MODEL	: KX-THA13	DATE	: 05/17/2005
S/ N	: 0080F08012BA	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz	HUMIDITY	: 35%
MODE	: Tx (Hopping off) /Inquiry	ENGINEER	: Mitsuru Fujimura

Ch	Freq.	20dB Bandwidth	Limit
	[MHz]	[MHz]	[MHz]
Low	2402.0	0.847	-
Mid	2441.0	0.834	-
High	2480.0	0.863	-
Inquiry	2441.0	0.817	-

20dB Bandwidth [Model1]



Number of Hopping Frequency [Mode1]

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

COMPANY	: Panasonic Communications Co.,Ltd.	REGULATION	: FCC15.247 (a)(1)(iii)
EQUIPMENT	: Wireless Camera	TEST DISTANCE	: -
MODEL	: KX-THA13	DATE	: 05/17/2005
S/ N	: 0080F08012BA	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz	HUMIDITY	: 35%
MODE	: Tx (Hopping on) /Inquiry	ENGINEER	: Mitsuru Fujimura

Mode 1, AFH off

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

Mode 1, AFH off

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

Mode 1, AFH on

Mode	Number of channel	Limit
	[time]	[time]
Tx(Hopping on)	20	≥ 15

UL Apex Co., Ltd.

Head Office EMC Lab.

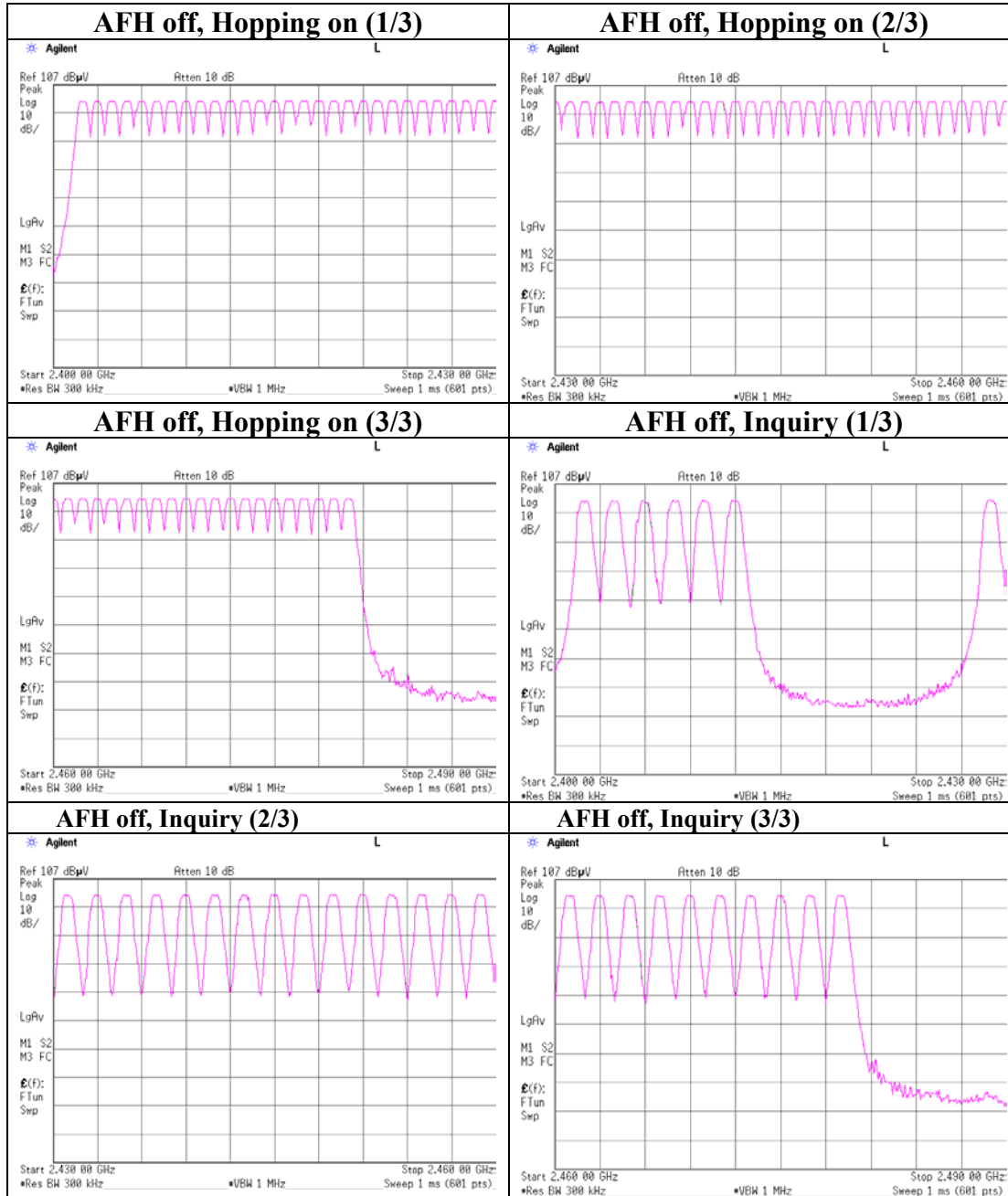
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Telephone : +81 596 24 8116

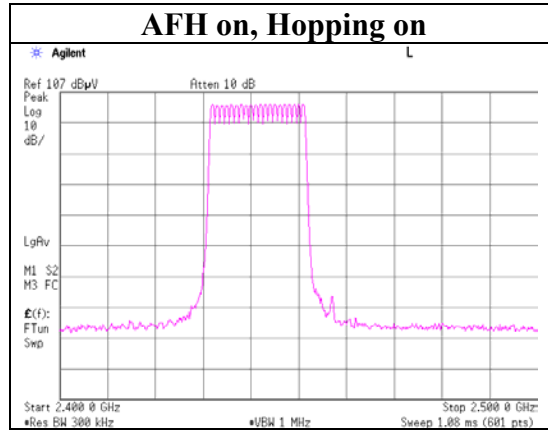
Facsimile : +81 596 24 8124

MF060b(01.06.05)

Number of Hopping Frequency [Mode1]



Number of Hopping Frequency [Mode1]



Dwell Time [Mode 1]

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

COMPANY	: Panasonic Communications Co.,Ltd.	REGULATION	: FCC15.247 (a)(1)(iii)
EQUIPMENT	: Wireless Camera	TEST DISTANCE	: -
MODEL	: KX-THA13	DATE	: 05/17/2005
S/N	: 0080F08012BA	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz	HUMIDITY	: 35%
MODE	: Tx (Hopping on) /Inquiry	ENGINEER	: Mitsuru Fujimura

Mode 1, AFH off

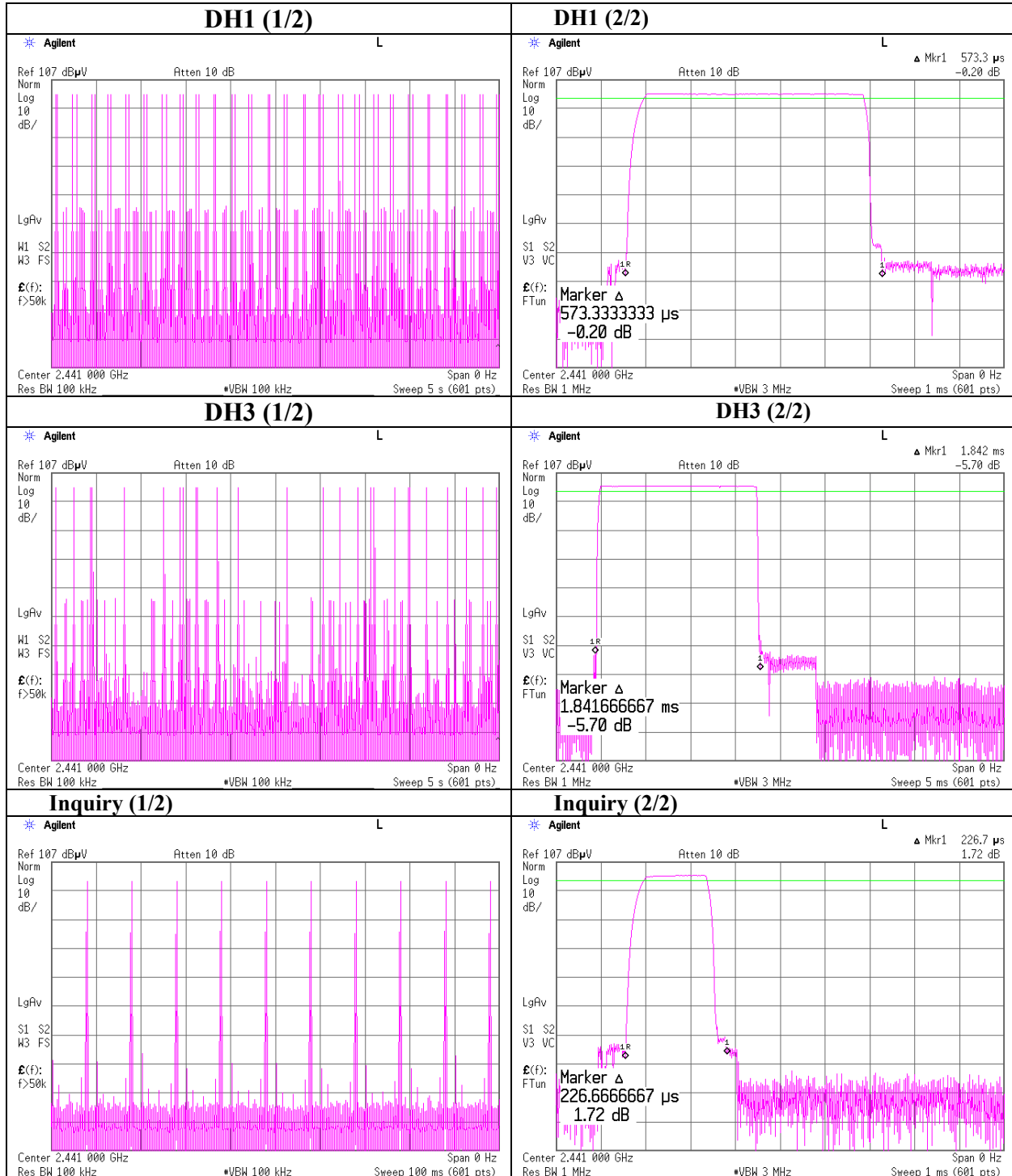
Mode	Number of transmission in a 31.6(79 Hopping x 0.4) / 12.8(32 Hopping x 0.4)second period	Length of transmission time [msec]	Result [msec]	Limit [msec]
DH1	52 times /5sec. x 31.6 = 328.64 times	0.573	188	400
DH3	26 times / 5 sec. x 31.6 = 164.32 times	1.842	303	400
Inquiry	10 times / 0.1sec. x 12.8 = 1280 times	0.227	290	400

Mode 1, AFH on

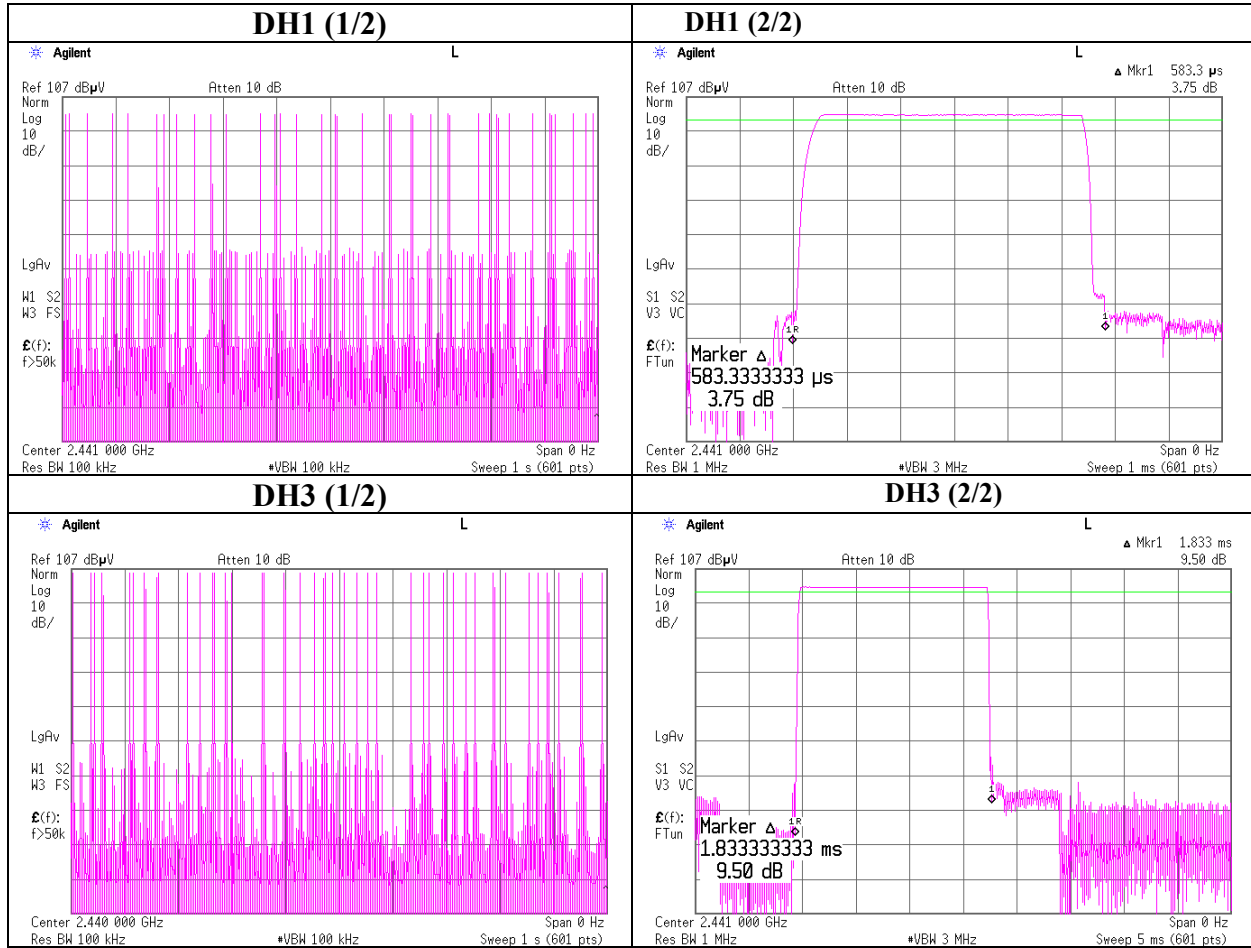
Mode	Number of transmission in a 8(20 Hopping x 0.4) second period	Length of transmission time [msec]	Result [msec]	Limit [msec]
DH1	38 times /1sec. x 8 = 304.0 times	0.583	177	400
DH3	95 times / 5 sec. x 8 = 152 times	1.833	279	400

*Dwell Factor calculation for Spurious emissions : $= 20 \times \log \left(\left(1.833 \text{ [ms]} \times \left(95 / \left(5 \text{ [s]} / 0.100 \text{ [s]} \right) \right) \right) / 100 \text{ [ms]} \right) = -29.2 \text{ dB}$

Dwell Time [Mode1]
AFH off



Dwell Time [Model]
AFH on



Maximum Peak Output Power[Mode 1]

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

COMPANY	: Panasonic Communications Co.,Ltd.	REGULATION	: Fcc Part15 Subpart C 15.247(b)(1)
EQUIPMENT	: Wireless Camera	TEST DISTANCE	: -
MODEL	: KX-THA13	DATE	: 05/17/2005
S/ N	: 0080F08012BA	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz	HUMIDITY	: 35%
MODE	: Tx(Hopping on)/Inquiry	ENGINEER	: Mitsuru Fujimura

AFH off (Low/Mid/High : 79 hopping , Inquiry : 32 hopping)

Ch	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
Low	2402.0	-4.10	0.00	20.00	15.90	20.96	5.06
Mid	2440.0	-3.66	0.00	20.00	16.34	20.96	4.62
High	2480.0	-3.50	0.00	20.00	16.50	20.96	4.46
Inquiry	2441.0	-3.48	0.00	20.00	16.52	20.96	4.44

Sample Calculation:

Result = Reading + Cable Loss (supplied by customer)+ Attenuator

* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

UL Apex Co., Ltd.

Head Office EMC Lab.

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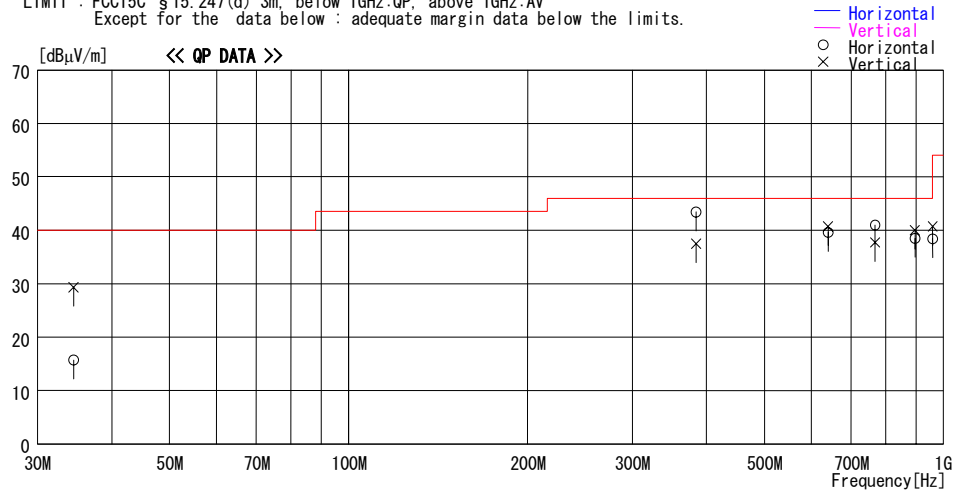
Radiated Emission [Mode 1]
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/05/27 19:46:05

Applicant : Panasonic Communications Co.,Ltd. Report No. : 25IE0111-HO
Kind of EUT : Wireless Camera Power : AC120V/60Hz
Model No. : KX-THA13 Temp/C/Humi% : 25deg. C / 36%
Serial No. : BD12 80FD 8000 Operator : Norihisa Hashimoto

Mode / Remarks : Mode 1 Tx2441MHz DH3 / Main Antenna / Max-axis

LIMIT : FCC15C §15.247(d) 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	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
				[dB]	[dB]	[dBμV/m]	[dBμV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	34.491	20.8	16.7	6.0	27.8	15.7	40.0	24.3	115	182
2	383.998	44.6	18.0	8.2	27.4	43.4	46.0	2.6	100	98
3	639.998	38.5	20.0	9.4	28.3	39.6	46.0	6.4	121	318
4	768.001	37.9	21.5	9.7	28.1	41.0	46.0	5.0	114	-1
5	895.996	34.1	21.9	10.2	27.7	38.5	46.0	7.5	164	154
6	959.994	33.0	22.8	10.3	27.7	38.4	46.0	7.6	148	122
----- Vertical -----										
7	34.503	34.4	16.7	6.0	27.8	29.3	40.0	10.7	100	348
8	384.002	38.7	18.0	8.2	27.4	37.5	46.0	8.5	139	268
9	639.997	39.6	20.0	9.4	28.3	40.7	46.0	5.3	181	184
10	768.000	34.6	21.5	9.7	28.1	37.7	46.0	8.3	162	87
11	895.994	35.6	21.9	10.2	27.7	40.0	46.0	6.0	115	298
12	959.994	35.3	22.8	10.3	27.7	40.7	46.0	5.3	114	181

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

*There was no difference in levels at low/mid/high channels between 30MHz and 1GHz, and thus test was conducted at Tx 2441MHz only.

Radiated Emission [Mode 1]

UL Apex Co., Ltd.
Head Office EMC Lab. No.1 Semi Anechoic Chamber

Company : Panasonic Communications Co.,Ltd.
Equipment : Wireless Camera
Model : KX-THA13
Sample No. : 0080F08012BD
Power : AC 120 V / 60 Hz
Mode : Mode 1, Tx 2402MHz
Remarks : Hor Y-axis Ver X-axis

REPORT NO : 25IE0111-HO
REGULATION : Fcc Part15 Subpart C 15.247(d)
TEST DISTANCE : 3/1m
DATE : 05/25/2005
TEMPERATURE : 23deg.C
HUMIDITY : 41%
ENGINEER : Kenichi Adachi

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter or ATT [dB]	Dwell Factor [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]							[dBuV/m]			[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	1215.9	59.1	65.1	23.0	39.8	1.8	0.0	0.0	44.1	50.1	74.0	29.9	23.9
2	2389.6	52.8	53.0	31.0	39.9	2.6	0.0	0.0	46.5	46.7	74.0	27.5	27.3
3*	2400.0	97.2	97.9	30.9	39.9	2.6	0.0	0.0	90.8	91.5	74.0	-	-
4	4804.2	57.7	56.1	34.9	41.2	3.9	1.0	0.0	56.3	54.7	74.0	17.7	19.3
5	7205.5	58.3	57.3	37.6	40.4	4.8	0.4	0.0	60.7	59.7	74.0	13.3	14.3
6	8485.8	53.0	55.8	36.9	39.6	5.2	0.1	0.0	55.6	58.4	74.0	18.4	15.6
7	9608.8	54.5	52.9	36.3	39.5	5.5	0.2	0.0	57.0	55.4	74.0	17.0	18.6
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
8	12010.0	47.8	48.3	41.4	39.6	6.6	0.1	0.0	46.8	47.3	74.0	27.2	26.7
9	14412.0	48.4	53.5	41.7	41.0	6.7	0.2	0.0	46.5	51.6	74.0	27.5	22.4
10	16814.0	48.1	48.3	44.7	41.7	7.1	1.1	0.0	49.8	50.0	74.0	24.2	24.0
11	19216.0	45.9	45.5	40.1	40.3	7.6	0.0	0.0	43.8	43.4	74.0	30.2	30.6
12	21618.0	46.6	46.1	39.8	35.4	8.2	0.0	0.0	49.7	49.2	74.0	24.3	24.8
13	24020.0	45.4	46.0	40.4	32.9	8.2	0.0	0.0	51.6	52.2	74.0	22.4	21.8

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter or ATT [dB]	Dwell Factor [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]							[dBuV/m]			[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	1215.9	52.8	56.7	23.0	39.8	1.8	0.0	-29.2	8.6	12.5	54.0	45.4	41.5
2	2389.6	37.4	37.6	31.0	39.9	2.6	0.0	-29.2	1.9	2.1	54.0	52.1	51.9
3*	2400.0	61.0	61.7	30.9	39.9	2.6	0.0	-29.2	25.4	26.1	54.0	-	-
4	4804.2	43.8	42.9	34.9	41.2	3.9	1.0	-29.2	13.2	12.3	54.0	40.8	41.7
5	7205.5	42.9	42.5	37.6	40.4	4.8	0.4	-29.2	16.1	15.7	54.0	37.9	38.3
6	8485.8	39.7	36.4	36.9	39.6	5.2	0.1	-29.2	13.1	9.8	54.0	41.0	44.2
7	9608.8	39.4	38.1	36.3	39.5	5.5	0.2	-29.2	12.7	11.4	54.0	41.4	42.6
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
8	12010.0	35.4	35.2	41.4	39.6	6.6	0.1	-29.2	14.7	14.5	54.0	39.3	39.5
9	14412.0	36.1	38.6	41.7	41.0	6.7	0.2	-29.2	14.5	17.0	54.0	39.5	37.0
10	16814.0	35.7	35.2	44.7	41.7	7.1	1.1	-29.2	17.7	17.2	54.0	36.3	36.8
11	19216.0	32.2	32.5	40.1	40.3	7.6	0.0	-29.2	10.4	10.7	54.0	43.6	43.3
12	21618.0	32.8	32.7	39.8	35.4	8.2	0.0	-29.2	16.2	16.1	54.0	37.8	37.9
13	24020.0	31.9	31.9	40.4	32.9	8.2	0.0	-29.2	18.4	18.4	54.0	35.6	35.6

* Reference data

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATT LOSS [dB]	Dwell Factor [dB]	RESULT		Limit 20dBc [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER			
		[dBuV]										[dBuV/m]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
0	2401.8	121.0	121.1	30.9	39.9	2.6	0.0	0.0	114.6	114.7	-	-	-
3	2400.0	63.7	64.9	30.9	39.9	2.6	0.0	0.0	57.3	58.5	Funda-20dB	37.3	36.2

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.

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

*Hi-Pass Fiter was not used for factor 0.0dB of the above table.

*Dwell Factor calculation for Spurious emissions : = 20 x log ((1.833 [ms] x (95 / (5[s] / 0.100 [s]))) / 100 [ms]) = -29.2 dB

UL Apex Co., Ltd.

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MF060b(01.06.05)

Radiated Emission [Mode 1]

UL Apex Co., Ltd.
Head Office EMC Lab. No.1 Semi Anechoic Chamber

Company : Panasonic Communications Co.,Ltd.
Equipment : Wireless Camera
Model : KX-THA13
Sample No. : 0080F08012BD
Power : AC 120 V / 60 Hz
Mode : Mode 1, Tx 2441MHz
Remarks : Hor Y-axis Ver X-axis

REPORT NO : 25IE0111-HO
REGULATION : Fcc Part15 Subpart C 15.247(d)
TEST DISTANCE : 3/1m
DATE : 05/25/2005
TEMPERATURE : 23deg.C
HUMIDITY : 41%
ENGINEER : Kenichi Adachi

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter or ATT [dB]	Dwell Factor [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]							[dBuV/m]			[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	1152.1	54.5	57.1	22.9	39.9	1.8	0.0	0.0	39.3	41.9	74.0	34.7	32.1
2	4882.4	54.7	55.7	35.3	41.2	3.9	1.0	0.0	53.7	54.7	74.0	20.3	19.3
3	7323.1	55.3	54.3	37.8	40.4	4.8	0.5	0.0	58.0	57.0	74.0	16.0	17.0
4	8484.4	51.9	53.0	36.9	39.6	5.2	0.1	0.0	54.5	55.6	74.0	19.5	18.4
5	9764.0	54.8	50.4	36.2	39.6	5.6	0.2	0.0	57.2	52.8	74.0	16.8	21.2
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
6	12205.0	49.7	48.8	41.5	39.8	6.6	0.3	0.0	48.8	47.9	74.0	25.2	26.1
7	14646.0	49.1	52.2	42.2	40.9	6.7	0.2	0.0	47.8	50.9	74.0	26.2	23.1
8	17087.0	48.2	48.6	44.5	41.8	7.1	1.1	0.0	49.6	50.0	74.0	24.4	24.0
9	19528.0	44.6	45.0	40.3	39.8	7.9	0.0	0.0	43.5	43.9	74.0	30.5	30.1
10	21969.0	48.4	48.3	39.8	35.9	8.2	0.0	0.0	51.0	50.9	74.0	23.0	23.1
11	24410.0	46.2	45.9	40.4	33.8	8.4	0.0	0.0	51.7	51.4	74.0	22.3	22.6

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter or ATT [dB]	Dwell Factor [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]							[dBuV/m]			[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	1152.1	43.3	47.2	22.9	39.9	1.8	0.0	0.0	28.1	32.0	54.0	25.9	22.0
2	4882.4	40.8	42.3	35.3	41.2	3.9	1.0	-29.2	10.6	12.1	54.0	43.4	41.9
3	7323.1	41.2	40.8	37.8	40.4	4.8	0.5	-29.2	14.7	14.3	54.0	39.3	39.7
4	8484.4	39.1	39.4	36.9	39.6	5.2	0.1	-29.2	12.5	12.8	54.0	41.5	41.2
5	9764.0	39.5	36.7	36.2	39.6	5.6	0.2	-29.2	12.7	9.9	54.0	41.3	44.1
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
6	12205.0	36.3	35.6	41.5	39.8	6.6	0.3	-29.2	15.7	15.0	54.0	38.3	39.0
7	14646.0	35.8	38.1	42.2	40.9	6.7	0.2	-29.2	14.8	17.1	54.0	39.2	36.9
8	17087.0	35.3	35.3	44.5	41.8	7.1	1.1	-29.2	17.0	17.0	54.0	37.0	37.0
9	19528.0	31.9	31.4	40.3	39.8	7.9	0.0	-29.2	11.1	10.6	54.0	42.9	43.4
10	21969.0	34.8	34.7	39.8	35.9	8.2	0.0	-29.2	17.7	17.6	54.0	36.3	36.4
11	24410.0	32.0	32.0	40.4	33.8	8.4	0.0	-29.2	17.8	17.8	54.0	36.2	36.2

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.

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

*Hi-Pass Filter was not used for factor 0.0dB of the above table.

*Dwell Factor calculation for Spurious emissions : $= 20 \times \log \left(\left(1.833 \text{ [ms]} \times \left(95 / \left(5 \text{ [s]} / 0.100 \text{ [s]} \right) \right) \right) / 100 \text{ [ms]} \right) = -29.2 \text{ dB}$

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MF060b(01.06.05)

Radiated Emission [Mode 1]

Company : Panasonic Communications Co.,Ltd.
Equipment : Wireless Camera
Model : KX-THA13
Sample No. : 0080F08012BD
Power : AC 120 V / 60 Hz
Mode : Mode 1, Tx 2480MHz
Remarks : Hor Y-axis Ver X-axis

UL Apex Co., Ltd.
Head Office EMC Lab. No.1 Semi Anechoic Chamber

REPORT NO : 25IE0111-HO
REGULATION : Fcc Part15 Subpart C 15.247(d)
TEST DISTANCE : 3/1m
DATE : 05/25/2005
TEMPERATURE : 23deg.C
HUMIDITY : 41%
ENGINEER : Kenichi Adachi

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter or ATT [dB]	Dwell Factor [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]							[dBuV/m]			[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	1216.1	60.6	61.3	23.0	39.8	1.8	0.0	0.0	45.6	46.3	74.0	28.4	27.7
2	2483.5	70.3	71.6	30.8	40.0	2.5	0.0	0.0	63.6	64.9	74.0	10.4	9.1
3	4960.0	53.8	53.8	35.8	41.3	3.9	1.1	0.0	53.3	53.3	74.0	20.7	20.7
4	7439.7	55.5	55.4	37.9	40.3	4.8	0.7	0.0	58.6	58.5	74.0	15.4	15.5
5	8487.3	49.7	53.9	36.9	39.6	5.2	0.1	0.0	52.3	56.5	74.0	21.7	17.5
6	9919.8	51.6	48.9	36.2	39.6	5.8	0.3	0.0	54.3	51.6	74.0	19.7	22.4
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
7	12400.0	50.2	48.6	41.6	40.0	6.6	0.4	0.0	49.3	47.7	74.0	24.7	26.3
8	14880.0	51.9	55.7	42.6	40.9	6.9	0.5	0.0	51.5	55.3	74.0	22.5	18.7
9	17360.0	47.0	48.5	44.4	41.6	7.1	0.9	0.0	48.3	49.8	74.0	25.7	24.2
10	19840.0	44.8	44.8	40.4	39.4	8.0	0.0	0.0	44.3	44.3	74.0	29.7	29.7
11	22320.0	47.2	46.3	39.8	35.3	8.2	0.0	0.0	50.4	49.5	74.0	23.6	24.5
12	24800.0	45.9	46.3	40.7	34.6	8.6	0.0	0.0	51.1	51.5	74.0	22.9	22.5

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter or ATT [dB]	Dwell Factor [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]							[dBuV/m]			[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	1216.1	52.8	52.7	23.0	39.8	1.8	0.0	-29.2	8.6	8.5	54.0	45.4	45.5
2	2483.5	48.6	49.8	30.8	40.0	2.5	0.0	-29.2	12.7	13.9	54.0	41.3	40.1
3	4960.0	40.9	41.3	35.8	41.3	3.9	1.1	-29.2	11.2	11.6	54.0	42.8	42.4
4	7439.7	41.6	41.3	37.9	40.3	4.8	0.7	-29.2	15.5	15.2	54.0	38.5	38.8
5	8487.3	37.2	40.5	36.9	39.6	5.2	0.1	-29.2	10.6	13.9	54.0	43.4	40.1
6	9919.8	38.2	36.3	36.2	39.6	5.8	0.3	-29.2	11.7	9.8	54.0	42.3	44.2
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
7	12400.0	37.0	36.1	41.6	40.0	6.6	0.4	-29.2	16.4	15.5	54.0	37.6	38.5
8	14880.0	36.7	39.6	42.6	40.9	6.9	0.5	-29.2	16.6	19.5	54.0	37.4	34.5
9	17360.0	34.7	35.3	44.4	41.6	7.1	0.9	-29.2	16.3	16.9	54.0	37.7	37.1
10	19840.0	31.9	31.8	40.4	39.4	8.0	0.0	-29.2	11.7	11.6	54.0	42.3	42.4
11	22320.0	33.5	33.6	39.8	35.3	8.2	0.0	-29.2	17.0	17.1	54.0	37.0	36.9
12	24800.0	33.1	33.1	40.7	34.6	8.6	0.0	-29.2	18.6	18.6	54.0	35.4	35.4

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.

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

*Hi-Pass Fiter was not used for factor 0.0dB of the above table.

*Dwell Factor calculation for Spurious emissions : = 20 x log ((1.833 [ms] x (95 / (5[s] / 0.100 [s]))) / 100 [ms]) = -29.2 dB

UL Apex Co., Ltd.

Head Office EMC Lab.

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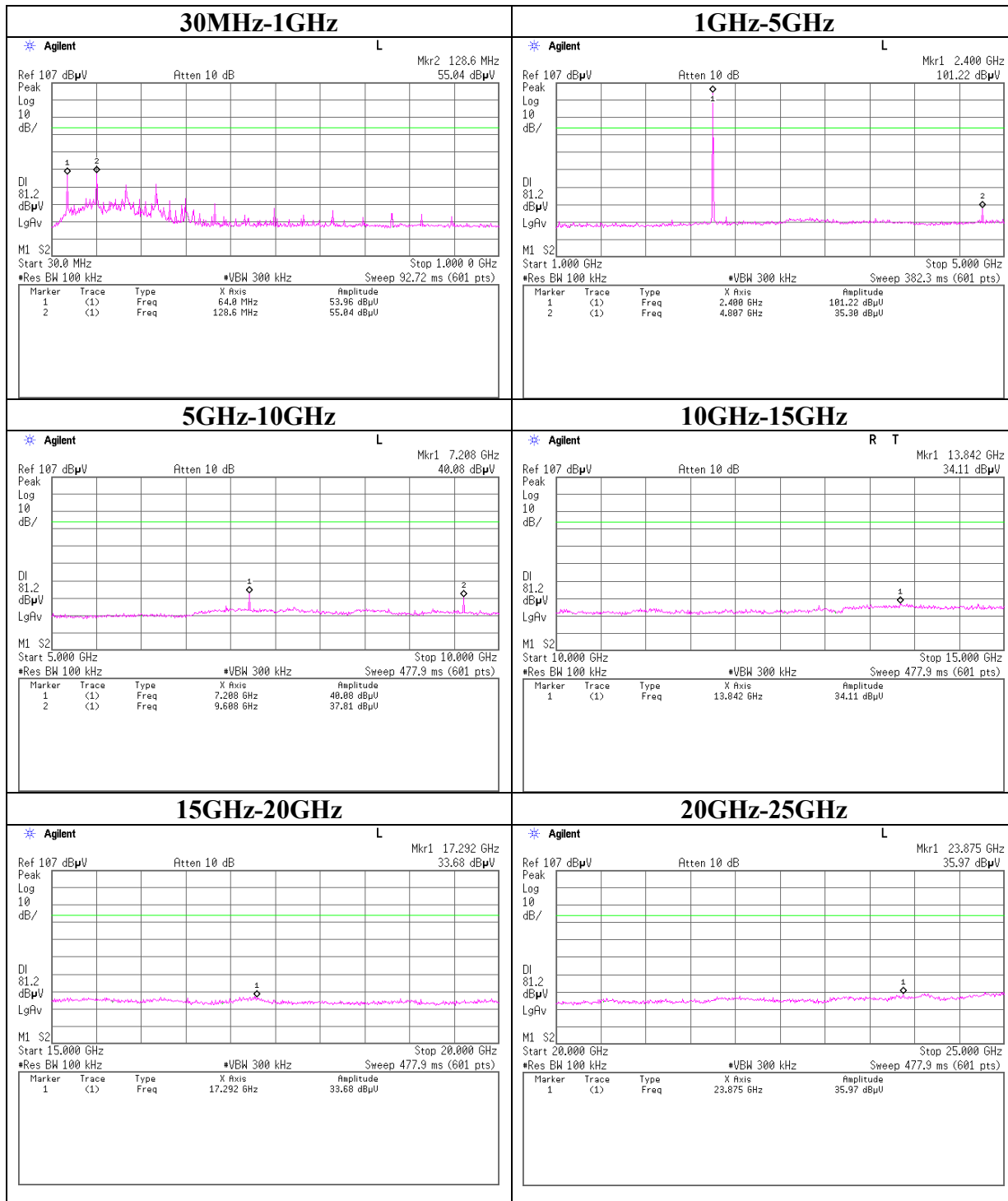
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MF060b(01.06.05)

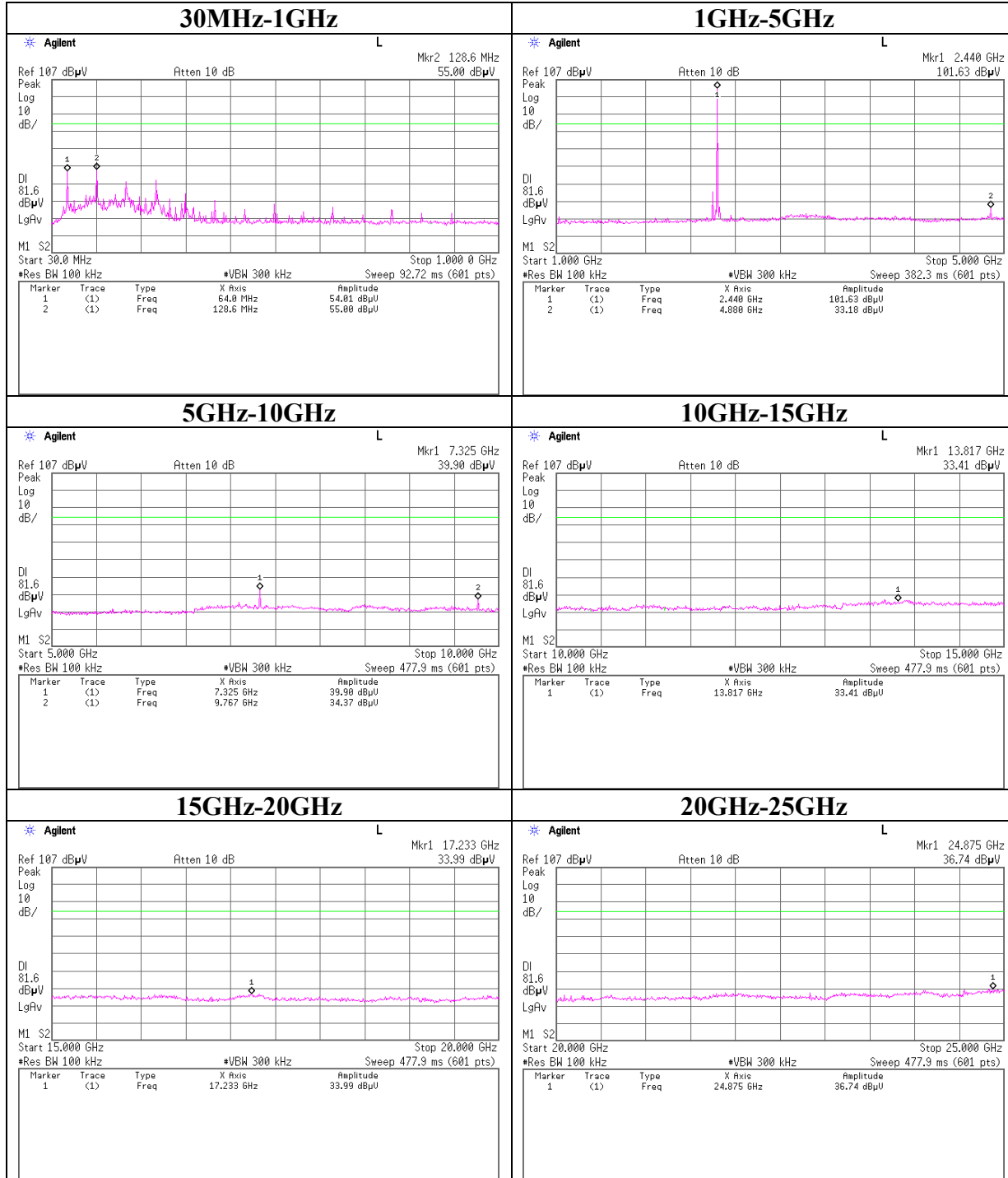
Conducted Spurious Emission [Mode1]

Ch:Low



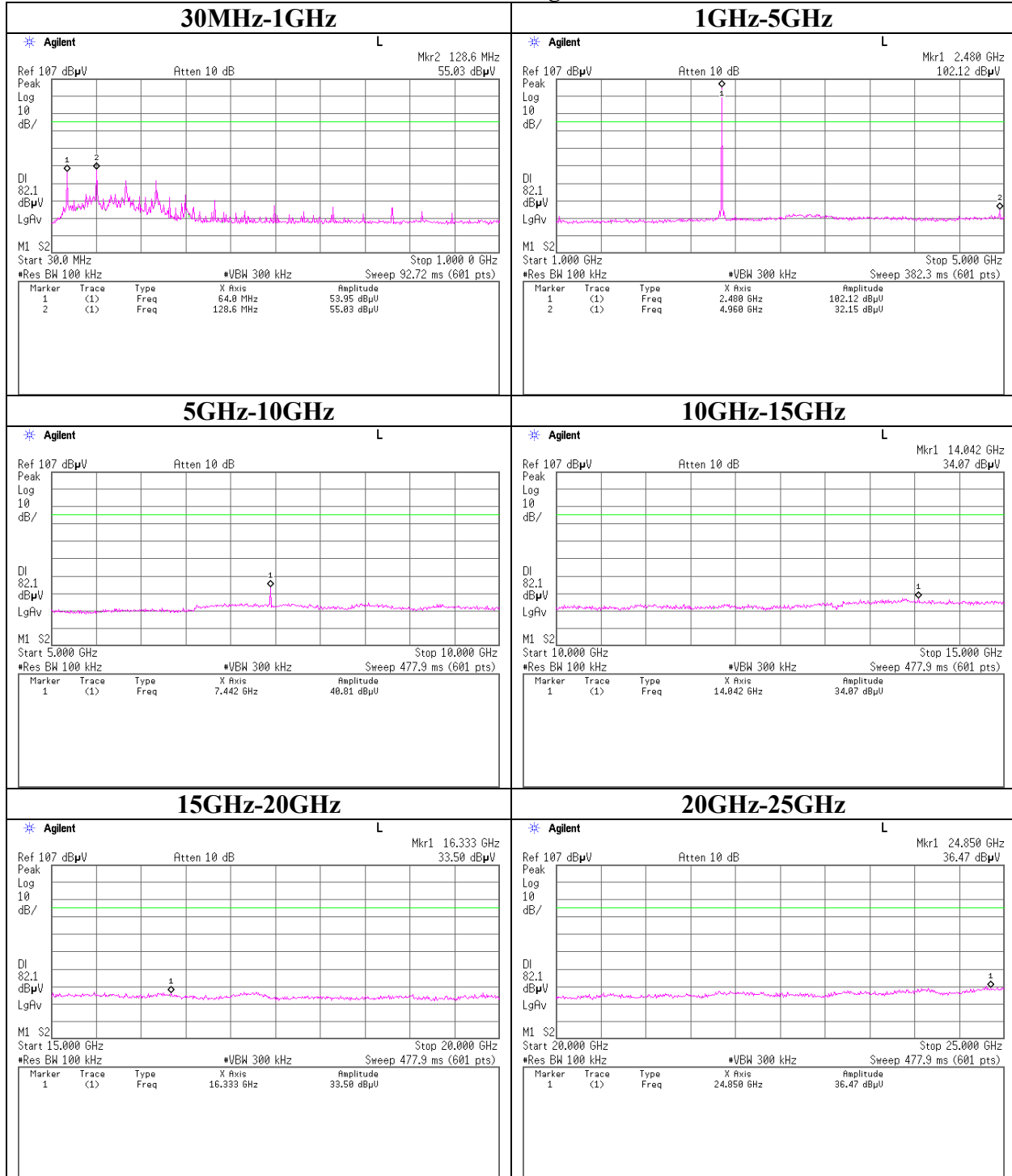
Conducted Spurious Emission [Mode1]

Ch:Mid

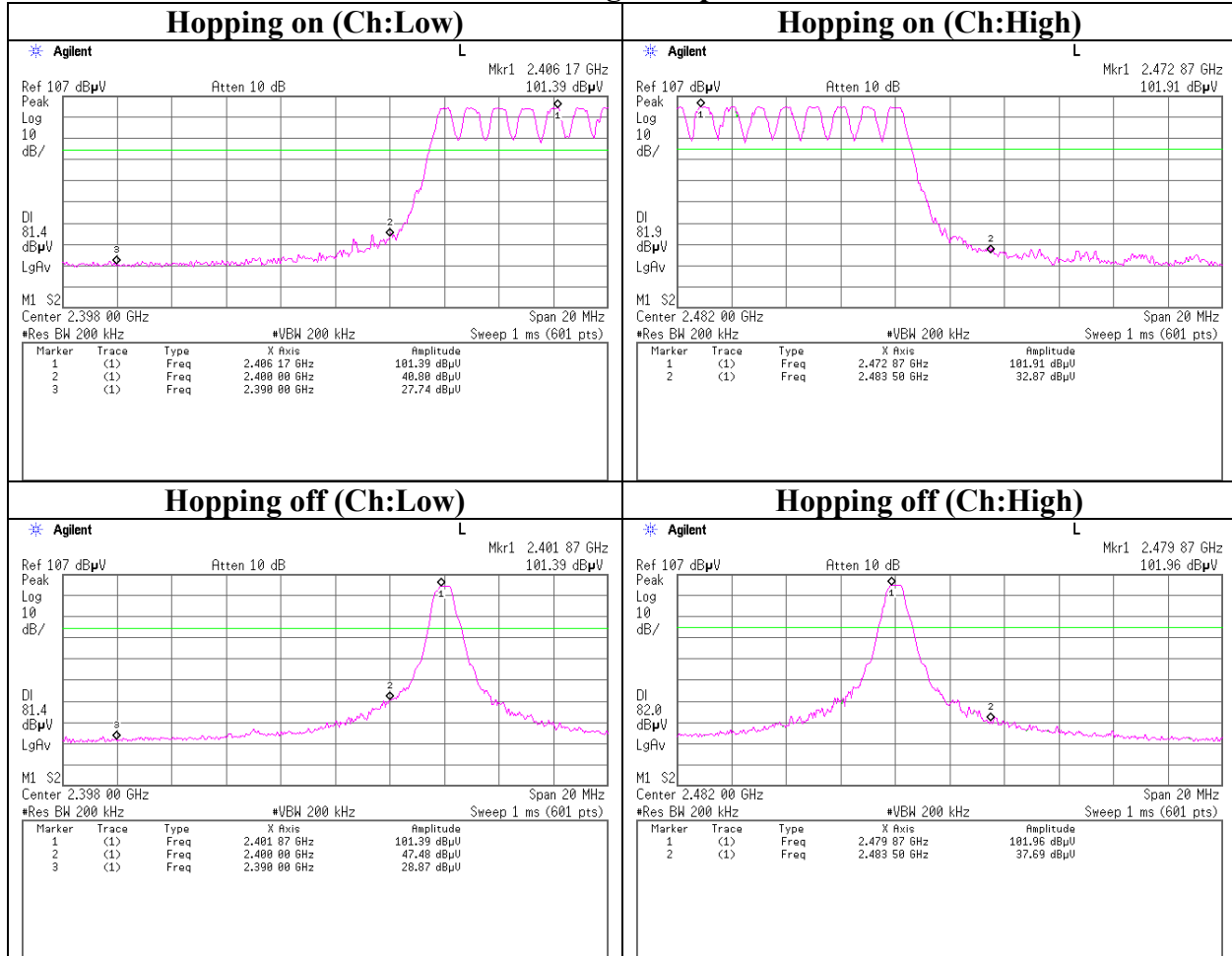


Conducted Spurious Emission [Mode1]

Ch:High



Conducted Spurious Emission [Mode1]
Band Edge compliance



[Mode2]

Carrier Frequency Separation [Mode2]

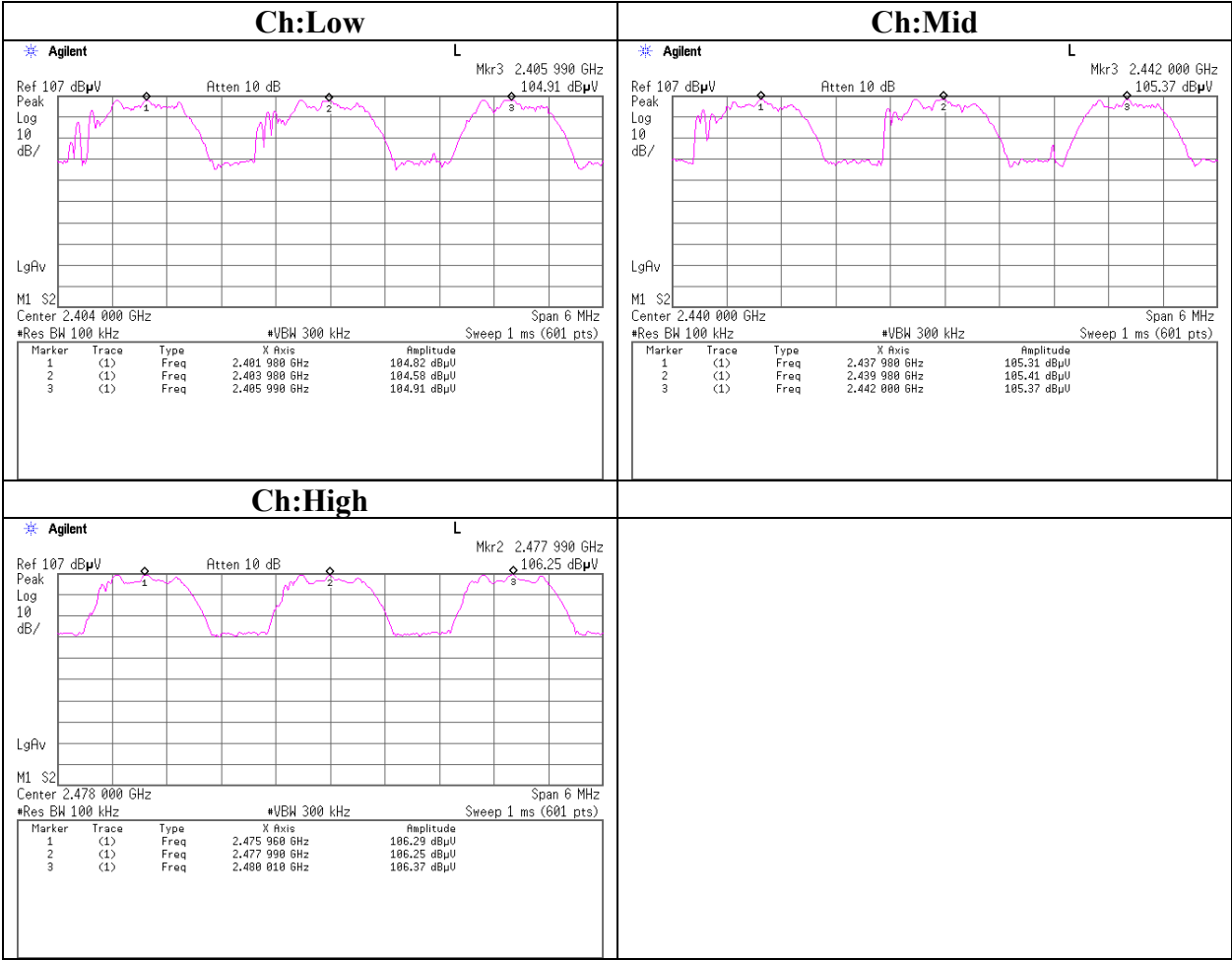
DATA OF CARRIER FREQUENCY SEPARATION

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

COMPANY	: Panasonic Communications Co.,Ltd.	REGULATION	: Fcc Part15 Subpart C 15.247(a)(1)
EQUIPMENT	: Wireless Camera	TEST DISTANCE	: -
MODEL	: KX-THA13	DATE	: 05/17/2005
S/ N	: 0080F08012BA	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz	HUMIDITY	: 35%
MODE	: Tx(Hopping on)	ENGINEER	: Mitsuru Fujimura

Ch	Freq. [MHz]	Channel separation [MHz]	Limit
Low	2402.0	2.000	> two-thirds of 20dB Bandwidth or 25[kHz]
Mid	2440.0	2.000	> two-thirds of 20dB Bandwidth or 25[kHz]
High	2480.0	2.020	> two-thirds of 20dB Bandwidth or 25[kHz]

Carrier Frequency Separation [Mode2]



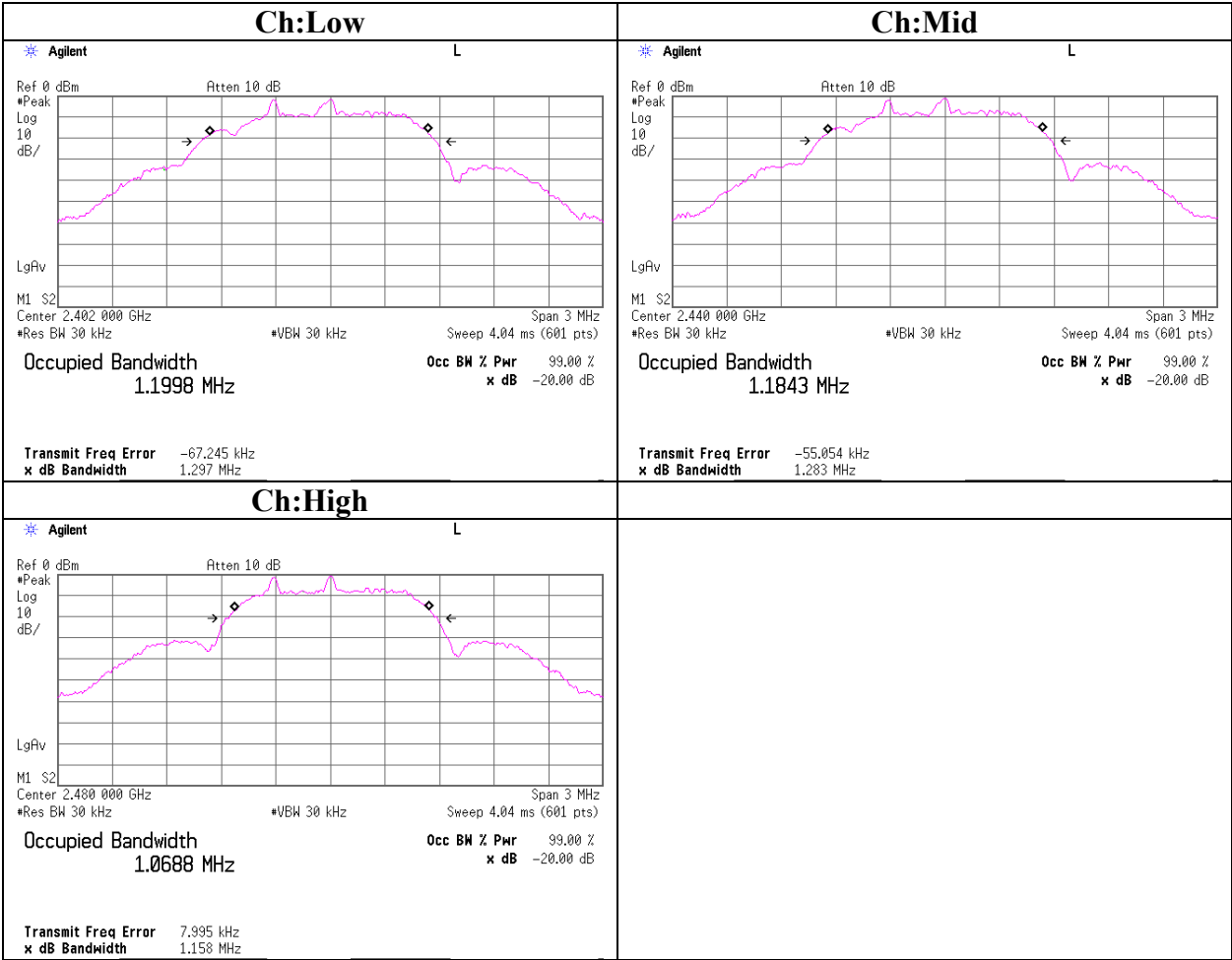
20dB Bandwidth [Mode2]

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

COMPANY	: Panasonic Communications Co.,Ltd.	REGULATION	: Fcc Part15 Subpart C 15.247(a)(1)
EQUIPMENT	: Wireless Camera	TEST DISTANCE	: -
MODEL	: KX-THA13	DATE	: 05/17/2005
S/ N	: 0080F08012BA	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz	HUMIDITY	: 35%
MODE	: Tx (Hopping off)	ENGINEER	: Mitsuru Fujimura

Ch	Freq. [MHz]	20dB Bandwidth [MHz]	Limit [MHz]
Low	2402.0	1.297	-
Mid	2440.0	1.283	-
High	2480.0	1.158	-

20dB Bandwidth [Mode2]



Number of Hopping Frequency [Mode2]

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

COMPANY	: Panasonic Communications Co.,Ltd.	REGULATION	: FCC15.247 (a)(1)(iii)
EQUIPMENT	: Wireless Camera	TEST DISTANCE	: -
MODEL	: KX-THA13	DATE	: 05/17/2005
S/N	: 0080F08012BA	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz	HUMIDITY	: 35%
MODE	: Tx (Hopping on)	ENGINEER	: Mitsuru Fujimura

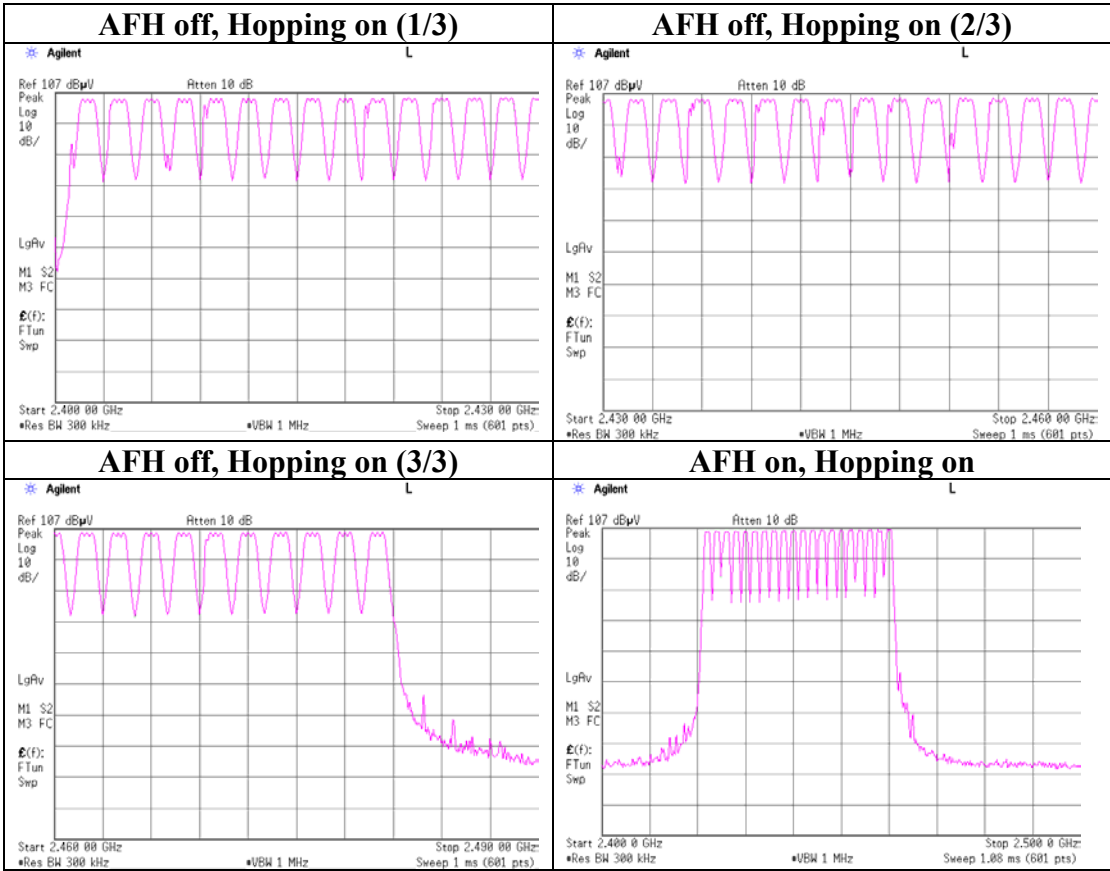
Mode 2, AFH off

Mode	Number of channel	Limit
	[time]	[time]
Tx(Hopping on)	40	≥ 15

Mode 2, AFH on

Mode	Number of channel	Limit
	[time]	[time]
Tx(Hopping on)	20	≥ 15

Number of Hopping Frequency [Mode2]



Dwell Time [Mode2]

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

COMPANY : Panasonic Communications Co.,Ltd.	REGULATION : FCC15.247 (a)(1)(iii)
EQUIPMENT : Wireless Camera	TEST DISTANCE : -
MODEL : KX-THA13	DATE : 05/17/2005
S/ N : 0080F08012BA	TEMPERATURE : 25deg.C
POWER : AC120V / 60Hz	HUMIDITY : 35%
MODE : Tx (Hopping on)	ENGINEER : Mitsuru Fujimura

Mode 2, AFH off

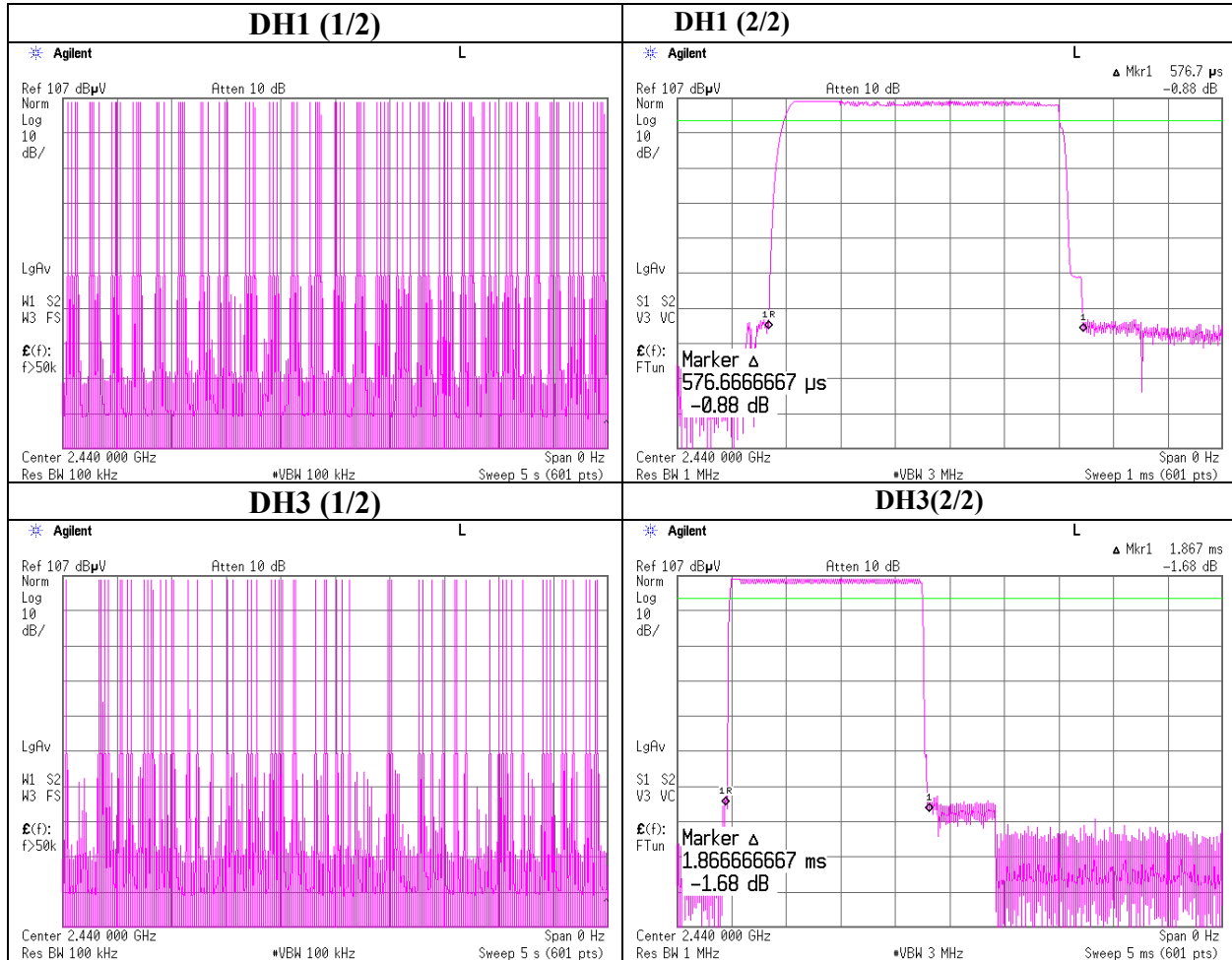
Mode	Number of transmission in a 16(40 Hopping x 0.4) second period	Length of transmission time [msec]	Result [msec]	Limit [msec]
DH1	96 times /5sec. x 16 = 307.2 times	0.577	177	400
DH3	62 times /5 sec. x 16 = 198.4 times	1.867	370	400

Mode 2, AFH on

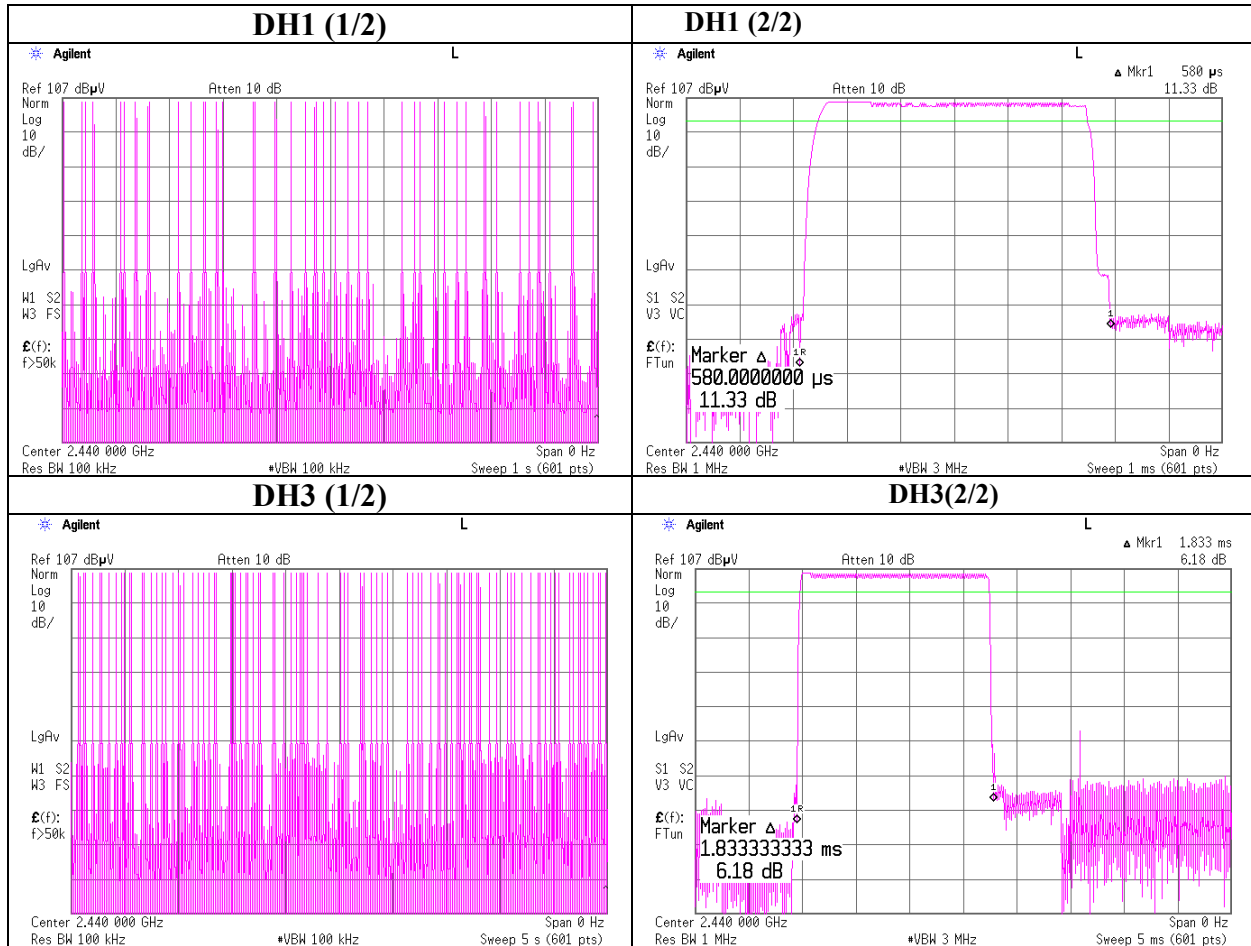
Mode	Number of transmission in a 8(20 Hopping x 0.4) second period	Length of transmission time [msec]	Result [msec]	Limit [msec]
DH1	49 times /1sec. x 8 = 392.0 times	0.580	227	400
DH3	100 times /5 sec. x 8 = 160.0 times	1.833	293	400

*Dwell Factor calculation for Spurious emissions : $= 20 \times \log ((1.833 \text{ [ms]} \times (100 / (5 \text{ [s]} / 0.100 \text{ [s]}))) / 100 \text{ [ms]}) = -28.7 \text{ dB}$

Dwell Time [Mode2]
AFH off



Dwell Time [Mode2]
AFH on



Maximum Peak Output Power [Mode2]

UL Apex Co., Ltd.

Head Office EMC Lab. No.3 Measurement Room

COMPANY	: Panasonic Communications Co.,Ltd.	REGULATION	: Fcc Part15 Subpart C 15.247(b)(1)
EQUIPMENT	: Wireless Camera	TEST DISTANCE	: -
MODEL	: KX-THA13	DATE	: 05/17/2005
S/ N	: 0080F08012BA	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz	HUMIDITY	: 35%
MODE	: Tx(Hopping on)	ENGINEER	: Mitsuru Fujimura

AFH off

Ch	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
Low	2402.0	-0.19	0.00	20.00	19.81	20.96	1.15
Mid	2440.0	0.40	0.00	20.00	20.40	20.96	0.56
High	2480.0	0.80	0.00	20.00	20.80	20.96	0.16

Sample Calculation:

Result = Reading + Cable Loss (supplied by customer)+ Attenuator

* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

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MF060b(01.06.05)

Radiated Emission [Mode2]

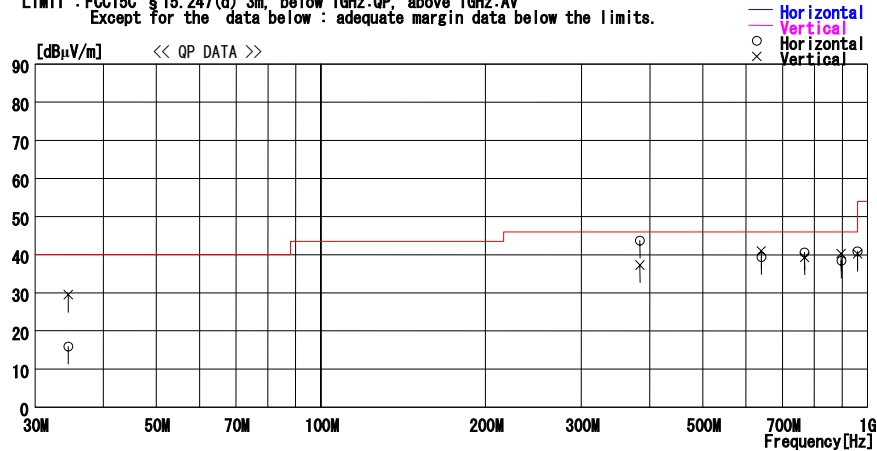
DATA OF RADIATED EMISSION TEST

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

Applicant : Panasonic Communications Co.,Ltd. Report No. : 25IE0111-HO
Kind of EUT : Wireless Camera Power : AC120V/60Hz
Model No. : KX-THA13 Temp°C/Humi% : 25deg.C / 36%
Serial No. : BD12 80FD 8000 Operator : Norihisa Hashimoto

Mode / Remarks: Mode 2 Tx2440MHz DH3 / Max-axis

LIMIT : FCC15C §15.247(d) 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	34.523	21.0	16.7	6.0	27.8	15.9	40.0	24.1	150	143
2	383.997	44.9	18.0	8.2	27.4	43.7	46.0	2.3	100	89
3	640.000	38.3	20.0	9.4	28.3	39.4	46.0	6.6	123	314
4	767.996	37.5	21.5	9.7	28.1	40.6	46.0	5.4	110	358
5	895.998	34.0	21.9	10.2	27.7	38.4	46.0	7.6	166	156
6	959.993	35.5	22.8	10.3	27.7	40.9	46.0	5.1	150	142
Vertical										
7	34.505	34.6	16.7	6.0	27.8	29.5	40.0	10.5	100	357
8	383.998	38.5	18.0	8.2	27.4	37.3	46.0	8.7	129	267
9	639.998	39.9	20.0	9.4	28.3	41.0	46.0	5.0	182	194
10	767.993	36.2	21.5	9.7	28.1	39.3	46.0	6.7	164	73
11	895.993	35.9	21.9	10.2	27.7	40.3	46.0	5.7	114	301
12	959.993	34.8	22.8	10.3	27.7	40.2	46.0	5.8	114	184

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

*There was no difference in levels at low/mid/high channels between 30MHz and 1GHz, and thus test was conducted at Tx 2440MHz only.

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MF060b(01.06.05)

Radiated Emission [Mode2]

UL Apex Co., Ltd.
Head Office EMC Lab. No.1 Semi Anechoic Chamber

Company : Panasonic Communications Co.,Ltd.
Equipment : Wireless Camera
Model : KX-THA13
Sample No. : 0080F08012BD
Power : AC 120 V / 60 Hz
Mode : Mode 2, Tx 2402MHz
Remarks : Hor Y-axis Ver X-axis

REPORT NO : 25IE0111-HO
REGULATION : Fcc Part15 Subpart C 15.247(d)
TEST DISTANCE : 3/1m
DATE : 05/25/2005
TEMPERATURE : 23deg.C
HUMIDITY : 41%
ENGINEER : Kenichi Adachi

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter or ATT [dB]	Dwell Factor [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]							[dBuV/m]			[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	1151.9	57.5	56.4	22.9	39.9	1.8	0.0	0.0	42.3	41.2	74.0	31.7	32.8
2	2389.4	56.1	55.2	31.0	39.9	2.6	0.0	0.0	49.8	48.9	74.0	24.2	25.1
3*	2400.0	103.4	103.9	30.9	39.9	2.6	0.0	0.0	97.0	97.5	74.0	-	-
4	4804.6	57.1	56.2	34.9	41.2	3.9	1.0	0.0	55.7	54.8	74.0	18.3	19.2
5	7207.0	59.8	57.1	37.6	40.4	4.8	0.4	0.0	62.2	59.5	74.0	11.8	14.5
6	8490.9	50.7	52.1	36.9	39.6	5.2	0.1	0.0	53.3	54.7	74.0	20.7	19.3
7	9607.9	54.9	55.3	36.3	39.5	5.6	0.1	0.0	57.4	57.8	74.0	16.6	16.2
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
8	12010.0	48.1	47.2	41.4	39.6	6.6	0.1	0.0	47.1	46.2	74.0	26.9	27.8
9	14412.0	53.1	55.7	41.7	41.0	6.7	0.2	0.0	51.2	53.8	74.0	22.8	20.2
10	16814.0	48.6	48.2	44.7	41.7	7.1	1.1	0.0	50.3	49.9	74.0	23.7	24.1
11	19216.0	45.4	46.5	40.1	40.3	7.6	0.0	0.0	43.3	44.4	74.0	30.7	29.6
12	21618.0	46.4	45.6	39.8	35.4	8.2	0.0	0.0	49.5	48.7	74.0	24.5	25.3
13	24020.0	45.4	45.7	40.4	32.9	8.2	0.0	0.0	51.6	51.9	74.0	22.4	22.1

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter or ATT [dB]	Dwell Factor [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]							[dBuV/m]			[dBuV/m]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	1151.9	46.7	39.4	22.9	39.9	1.8	0.0	0.0	31.5	24.2	54.0	22.5	29.8
2	2389.4	38.1	38.1	31.0	39.9	2.6	0.0	-28.7	3.1	3.1	54.0	50.9	50.9
3*	2400.0	76.7	77.7	30.9	39.9	2.6	0.0	-28.7	41.6	42.6	54.0	-	-
4	4804.6	44.7	44.2	34.9	41.2	3.9	1.0	-28.7	14.6	14.1	54.0	39.4	39.9
5	7207.0	44.1	42.5	37.6	40.4	4.8	0.4	-28.7	17.8	16.2	54.0	36.2	37.8
6	8490.9	39.4	42.5	36.9	39.6	5.2	0.1	-28.7	13.3	16.4	54.0	40.7	37.6
7	9607.9	40.0	39.8	36.3	39.5	5.6	0.1	-28.7	13.8	13.6	54.0	40.2	40.4
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
8	12010.0	35.2	35.1	41.4	39.6	6.6	0.1	-28.7	15.0	14.9	54.0	39.0	39.1
9	14412.0	38.4	40.6	41.7	41.0	6.7	0.2	-28.7	17.3	19.5	54.0	36.7	34.5
10	16814.0	36.0	36.1	44.7	41.7	7.1	1.1	-28.7	18.5	18.6	54.0	35.5	35.4
11	19216.0	32.5	32.8	40.1	40.3	7.6	0.0	-28.7	11.2	11.5	54.0	42.8	42.5
12	21618.0	32.8	32.9	39.8	35.4	8.2	0.0	-28.7	16.7	16.8	54.0	37.3	37.2
13	24020.0	31.9	31.9	40.4	32.9	8.2	0.0	-28.7	18.9	18.9	54.0	35.1	35.1

* Reference data

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter [dB]	Dwell Factor [dB]	RESULT		Limit 20dBc [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]							[dBuV/m]			[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
0	2401.7	120.5	121.3	30.9	39.9	2.6	0.0	0.0	114.1	114.9	-	-	-
3	2400.0	70.4	70.7	30.9	39.9	2.6	0.0	0.0	64.0	64.3	Funda-20dB	30.1	30.6

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.

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

*Hi-Pass Filter was not used for factor 0.0dB of the above table.

*Dwell Factor calculation for Spurious emissions : $= 20 \times \log \left(\left(1.833 \text{ [ms]} \times \left(100 / \left(5 \text{ [s]} / 0.100 \text{ [s]} \right) \right) \right) / 100 \text{ [ms]} \right) = -28.7 \text{ dB}$

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MF060b(01.06.05)

Radiated Emission [Mode2]

UL Apex Co., Ltd.
Head Office EMC Lab. No.1 Semi Anechoic Chamber

Company : Panasonic Communications Co.,Ltd.
Equipment : Wireless Camera
Model : KX-THA13
Sample No. : 0080F08012BD
Power : AC 120 V / 60 Hz
Mode : Mode 2, Tx 2440MHz
Remarks : Hor Y-axis Ver X-axis

REPORT NO : 25IE0111-HO
REGULATION : Fcc Part15 Subpart C 15.247(d)
TEST DISTANCE : 3/1m
DATE : 05/25/2005
TEMPERATURE : 23deg.C
HUMIDITY : 41%
ENGINEER : Kenichi Adachi

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter or ATT [dB]	Dwell Factor [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]							[dBuV/m]			[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	1151.9	57.0	55.7	22.9	39.9	1.8	0.0	0.0	41.8	40.5	74.0	32.2	33.5
2	4881.0	54.7	53.0	35.3	41.2	3.9	1.0	0.0	53.7	52.0	74.0	20.3	22.0
3	7319.9	59.6	58.2	37.7	40.4	4.8	0.5	0.0	62.2	60.8	74.0	11.8	13.2
4	8486.4	49.9	51.4	36.9	39.6	5.2	0.1	0.0	52.5	54.0	74.0	21.5	20.0
5	9761.3	57.1	54.0	36.2	39.6	5.6	0.2	0.0	59.5	56.4	74.0	14.5	17.6
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
4	12200.0	49.2	48.8	41.5	39.8	6.6	0.3	0.0	48.3	47.9	74.0	25.7	26.1
5	14640.0	52.7	52.0	42.2	40.9	6.7	0.2	0.0	51.4	50.7	74.0	22.6	23.3
6	17080.0	47.5	51.3	44.6	41.8	7.1	1.1	0.0	49.0	52.8	74.0	25.0	21.2
7	19520.0	48.4	46.3	40.3	39.8	7.8	0.0	0.0	47.2	45.1	74.0	26.8	28.9
8	22960.0	49.1	47.0	39.8	35.9	8.2	0.0	0.0	51.7	49.6	74.0	22.3	24.4
9	24400.0	45.2	44.8	40.4	33.7	8.4	0.0	0.0	50.8	50.4	74.0	23.2	23.6

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter or ATT [dB]	Dwell Factor [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]							[dBuV/m]			[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	1151.9	43.0	42.0	22.9	39.9	1.8	0.0	0.0	27.8	26.8	54.0	26.2	27.2
2	4881.0	41.3	40.8	35.3	41.2	3.9	1.0	-28.7	11.6	11.1	54.0	42.4	42.9
3	7319.9	46.6	45.7	37.7	40.4	4.8	0.5	-28.7	20.5	19.6	54.0	33.5	34.4
4	8486.4	39.5	40.7	36.9	39.6	5.2	0.1	-28.7	13.4	14.6	54.0	40.6	39.4
5	9761.3	40.8	39.2	36.2	39.6	5.6	0.2	-28.7	14.5	12.9	54.0	39.5	41.1
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
4	12200.0	36.5	35.6	41.5	39.8	6.6	0.3	-28.7	16.4	15.5	54.0	37.6	38.5
5	14640.0	38.9	38.2	42.2	40.9	6.7	0.2	-28.7	18.4	17.7	54.0	35.6	36.3
6	17080.0	34.7	36.8	44.6	41.8	7.1	1.1	-28.7	17.0	19.1	54.0	37.0	34.9
7	19520.0	33.4	33.3	40.3	39.8	7.8	0.0	-28.7	13.0	12.9	54.0	41.0	41.1
8	22960.0	34.1	34.0	39.8	35.9	8.2	0.0	-28.7	17.5	17.4	54.0	36.5	36.6
9	24400.0	31.7	31.6	40.4	33.7	8.4	0.0	-28.7	18.1	18.0	54.0	35.9	36.0

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.

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

*Hi-Pass Fiter was not used for factor 0.0dB of the above table.

*Dwell Factor calculation for Spurious emissions : $= 20 \times \log \left(\left(1.833 \text{ [ms]} \times \left(100 / \left(5 \text{ [s]} / 0.100 \text{ [s]} \right) \right) \right) / 100 \text{ [ms]} \right) = -28.7 \text{ dB}$

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MF060b(01.06.05)

Radiated Emission [Mode2]

UL Apex Co., Ltd.
Head Office EMC Lab. No.1 Semi Anechoic Chamber

Company : Panasonic Communications Co.,Ltd.
Equipment : Wireless Camera
Model : KX-THA13
Sample No. : 0080F08012BD
Power : AC 120 V / 60 Hz
Mode : Mode 2, Tx 2480MHz
Remarks : Hor Y-axis Ver X-axis
PK DETECT (RBW: 1MHz, VBW: 1MHz)

REPORT NO : 25IE0111-HO
REGULATION : Fcc Part15 Subpart C 15.247(d)
TEST DISTANCE : 3/1m
DATE : 05/25/2005
TEMPERATURE : 23deg.C
HUMIDITY : 41%
ENGINEER : Kenichi Adachi

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter or ATT [dB]	Dwell Factor [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]							[dBuV/m]			[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	1279.9	57.7	55.9	23.1	39.8	1.8	0.0	0.0	42.8	41.0	74.0	31.2	33.0
2	2483.5	76.9	76.0	30.8	40.0	2.5	0.0	0.0	70.2	69.3	74.0	3.8	4.7
3	4960.2	52.2	43.4	35.8	41.3	3.9	1.1	0.0	51.7	42.9	74.0	22.3	31.1
4	7440.9	59.4	57.6	37.9	40.3	4.8	0.7	0.0	62.5	60.7	74.0	11.5	13.3
5	8486.4	49.9	53.8	36.9	39.6	5.2	0.1	0.0	52.5	56.4	74.0	21.5	17.6
6	9920.2	52.6	50.7	36.2	39.6	5.8	0.3	0.0	55.3	53.4	74.0	18.7	20.6
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
5	12400.0	49.1	52.4	41.6	40.0	6.6	0.4	0.0	48.2	51.5	74.0	25.8	22.5
6	14880.0	50.2	47.5	42.6	40.9	6.9	0.5	0.0	49.8	47.1	74.0	24.2	26.9
7	17360.0	53.1	53.5	44.4	41.6	7.1	0.9	0.0	54.4	54.8	74.0	19.6	19.2
8	19840.0	48.8	46.4	40.4	39.4	8.0	0.0	0.0	48.3	45.9	74.0	25.7	28.1
9	22320.0	46.8	46.6	39.8	35.3	8.2	0.0	0.0	50.0	49.8	74.0	24.0	24.2
10	24800.0	46.7	47.0	40.7	34.6	8.6	0.0	0.0	51.9	52.2	74.0	22.1	21.8

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter or ATT [dB]	Dwell Factor [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]							[dBuV/m]			[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	1279.9	47.6	42.1	23.1	39.8	1.8	0.0	0.0	32.7	27.2	54.0	21.3	26.8
2	2483.5	59.7	59.3	30.8	40.0	2.5	0.0	-28.7	24.3	23.9	54.0	29.7	30.1
3	4960.2	39.2	39.9	35.8	41.3	3.9	1.1	-28.7	10.0	10.7	54.0	44.0	43.3
4	7440.9	44.4	45.3	37.9	40.3	4.8	0.7	-28.7	18.8	19.7	54.0	35.2	34.3
5	8486.4	39.8	43.2	36.9	39.6	5.2	0.1	-28.7	13.7	17.1	54.0	40.3	36.9
6	9920.2	38.1	37.1	36.2	39.6	5.8	0.3	-28.7	12.1	11.1	54.0	41.9	42.9
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
5	12400.0	36.1	37.7	41.6	40.0	6.6	0.4	-28.7	16.0	17.6	54.0	38.0	36.4
6	14880.0	35.8	34.8	42.6	40.9	6.9	0.5	-28.7	16.2	15.2	54.0	37.8	38.8
7	17360.0	37.1	38.3	44.4	41.6	7.1	0.9	-28.7	19.2	20.4	54.0	34.8	33.6
8	19840.0	35.2	31.9	40.4	39.4	8.0	0.0	-28.7	15.5	12.2	54.0	38.5	41.8
9	22320.0	33.6	33.6	39.8	35.3	8.2	0.0	-28.7	17.6	17.6	54.0	36.4	36.4
10	24800.0	33.1	33.0	40.7	34.6	8.6	0.0	-28.7	19.1	19.0	54.0	34.9	35.0

* Reference data

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.

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

*Hi-Pass Filter was not used for factor 0.0dB of the above table.

*Dwell Factor calculation for Spurious emissions : $= 20 \times \log \left(\left(1.833 \text{ [ms]} \times \left(100 / \left(5 \text{ [s]} / 0.100 \text{ [s]} \right) \right) \right) / 100 \text{ [ms]} \right) = -28.7 \text{ dB}$

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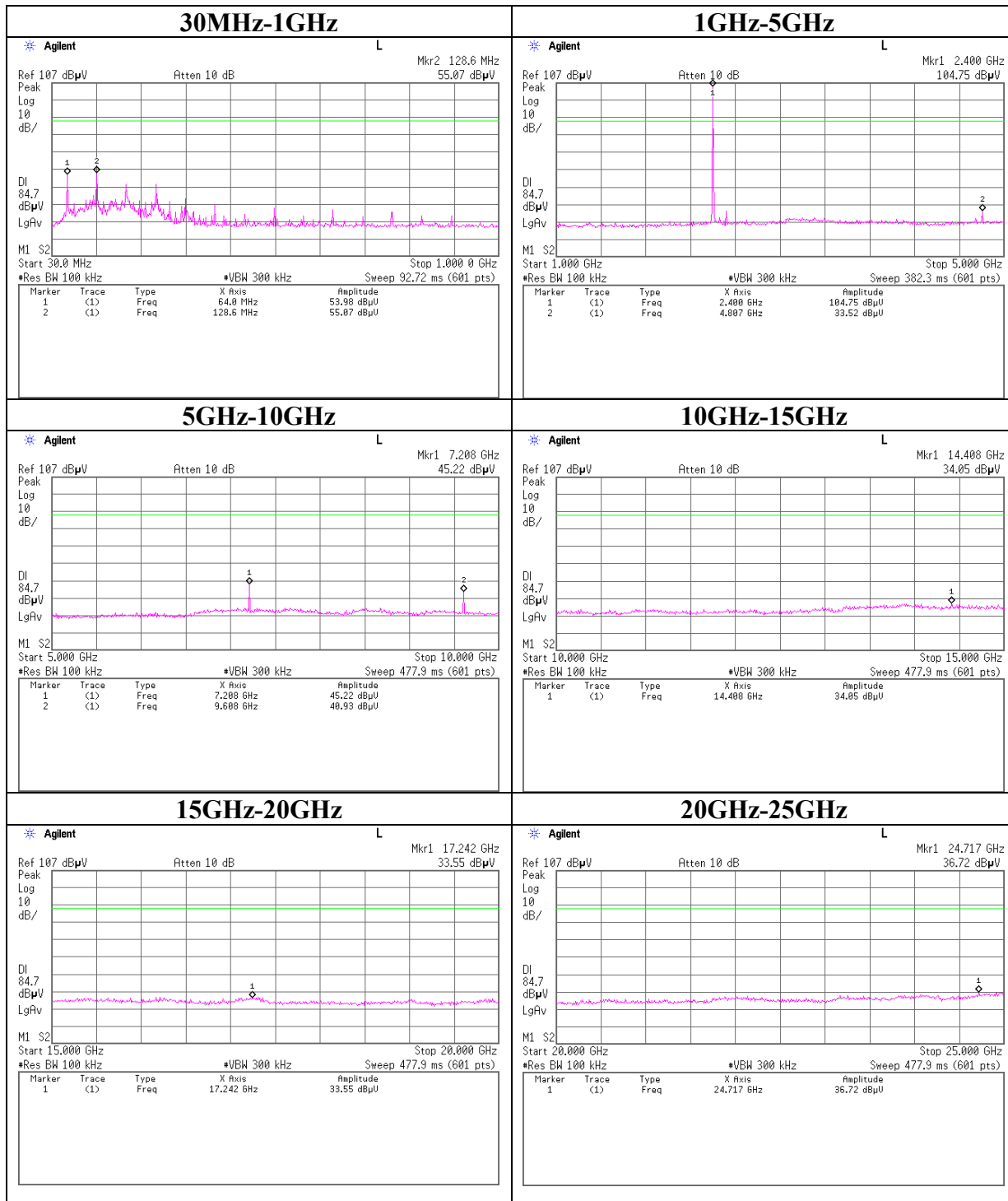
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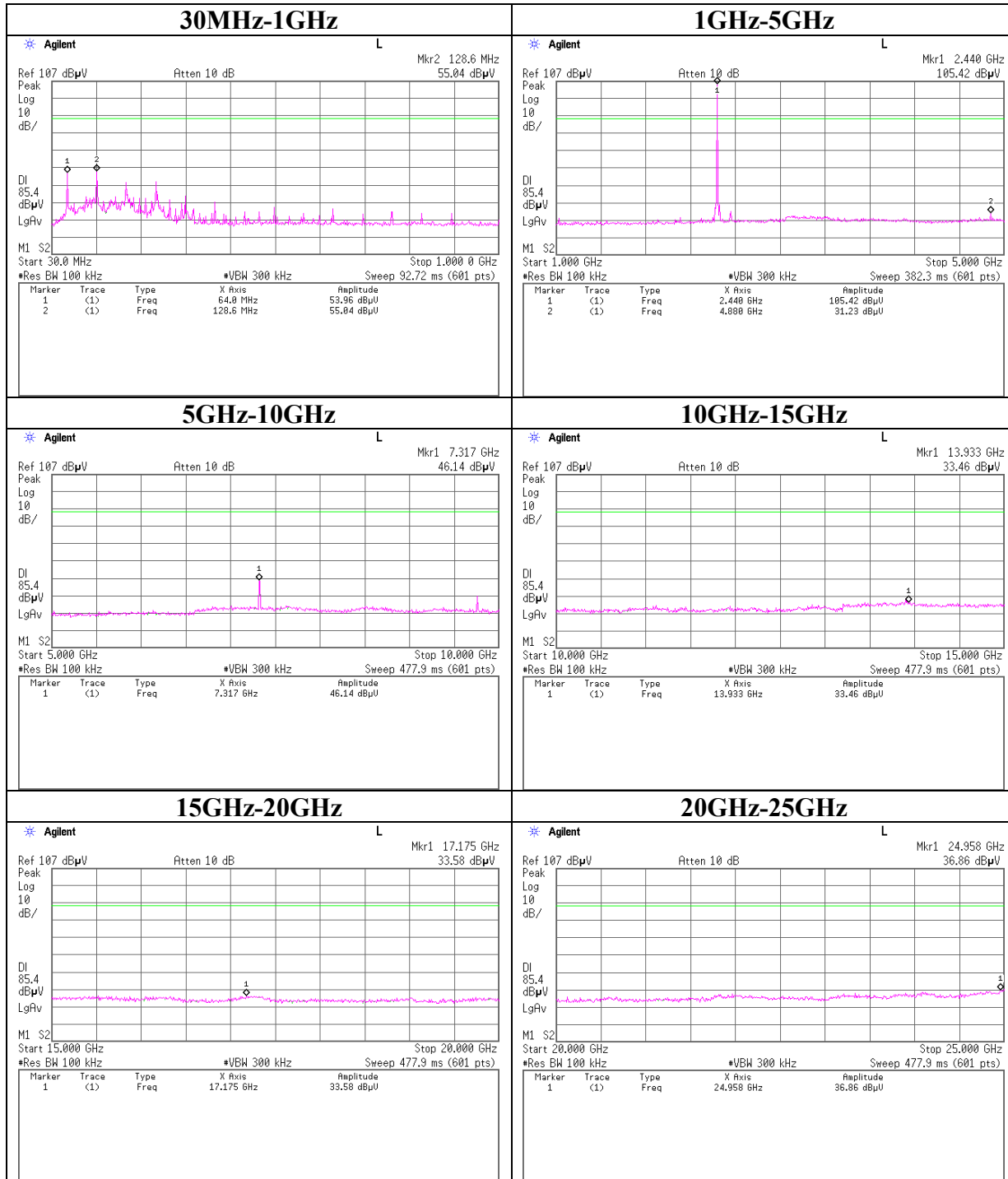
MF060b(01.06.05)

Conducted Spurious Emission [Mode2]

Ch:Low

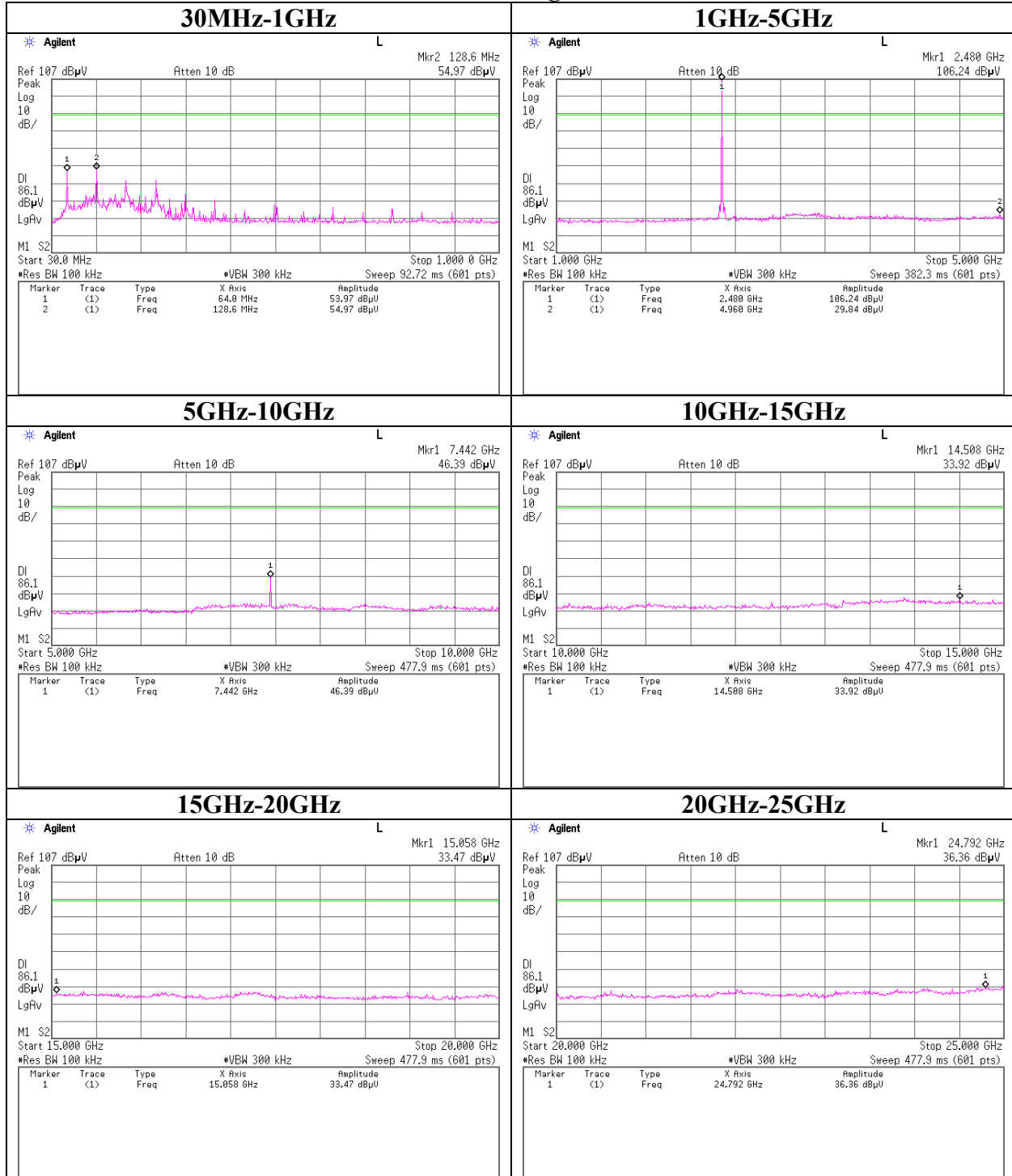


Conducted Spurious Emission [Mode2]
Ch:Mid



Conducted Spurious Emission [Mode2]

Ch:High



Conducted Spurious Emission [Mode2] Band Edge compliance

