

RF Exposure / SAR Statement

No. : 25IE0110-HO-1

Applicant : Panasonic Communications Co.,Ltd.
Type of Equipment : Wireless USB Adaptor
Model No. : KX-THA14
FCC ID : ACJ96NKX-THA14

Panasonic Communications Co.,Ltd. declares that Model : Wireless USB Adaptor complies with FCC radiation exposure requirement specified in the FCC Rules 2.1093. The "KX-THA14" has 51.29 mW of conducted Peak Output power and 83.95 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-THA14" 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 = 51.29 mW (Maximum peak output power)
G = 1.64 Numerical Antenna gain; equal 2.14 dBi
r = 20.0 cm

For: KX-THA14

$$S = 0.01670 \text{ mW/cm}^2$$

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Head Office EMC Lab.

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EMI TEST REPORT

Test Report No. : 25IE0110-HO-1

Applicant : Panasonic Communications Co., Ltd.
Type of Equipment : Wireless USB Adaptor
Model No. : KX-THA14
FCC ID : ACJ96NKX-THA14
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 19 to 31, 2005

Tested by:

Mitsuru Fujimura
EMC Service

Kenichi Adachi
EMC Service

Approved by :

Hironobu Shimaji
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, 812-8531 Japan
Telephone Number : +81-92 477-1405
Facsimile Number : +81-92 477-1487
Contact Person : Kunihiro Nawata

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

2.1 Identification of E.U.T.

Type of Equipment : Wireless USB Adaptor
Model No. : KX-THA14
Serial No. : 0080F080132C,
0080F080132D
Rating : From PC (DC 5.0V)
Country of Manufacture : Japan
Receipt Date of Sample : May 16, 2005
Condition of EUT : Engineering prototype
(Not for Sale: This sample is equivalent to mass-produced items.)

2.2 Product Description

Model No: KX-THA14 (referred to as the EUT in this report) is the Wireless USB Adaptor.

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	Whip
Antenna Gain	2.14 dBi
Mode of Operation	Duplex
ITU code	F1D
Power Supply	From PC

FCC 15.31 (e)

This EUT provides stable voltage(DC5.0V) from Host, 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 fixed outside 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> 11.0dB 0.1500MHz, QP, L <Mode2> 10.9dB 0.1506MHz, QP,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> 2.5dB 515.443MHz QP, Horizontal <Mode2> 3.7dB 386.582MHz QP, Horizontal	Complied

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

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

Uncertainty:

Conducted Emission

The measurement uncertainty (with a 95% confidence level) for this test is ± 1.3 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, nor 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.

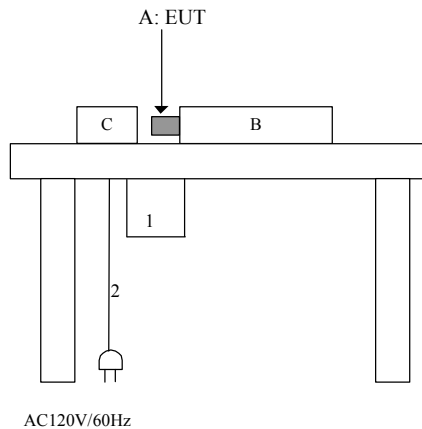
SECTION 4: Operation of E.U.T. during testing

4.1 Operating Modes

The mode is used : [Mode1]
Transmitting mode(Packet size DH1, DH5)
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 USB Adaptor	KH-THA14	0080F080132C *1 0080F080132D *2	Panasonic Communications Co., Ltd.	ACJ96NKX-THA14
B	Personal Computer	CF-73	-	Panasonic	-
C	AC Adapter	CF-AA1652A	03X01609A	Panasonic	-

*1) Used for Antenna Conducted Terminal tests

*2) Used for Conducted and Radiated emission tests

List of cables used

No.	Name	Length (m)	Shield	Backshell Material
1	DC Cable	1.8	N	Polyvinyl chloride
2	AC Cable	1.9	N	Polyvinyl chloride

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SECTION 5: Conducted Emission

Test Procedure and conditions

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 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

Test data : APPENDIX 3

Test result : Pass

- The carrier level and noise levels were confirmed at each position of X, Y and Z axes of Wireless USB Adaptor (EUT) and 5 deg. 90deg. and 175deg. of each axes (total 9 points) to see the position of maximum noise, and the test was made at the position that has the maximum noise.

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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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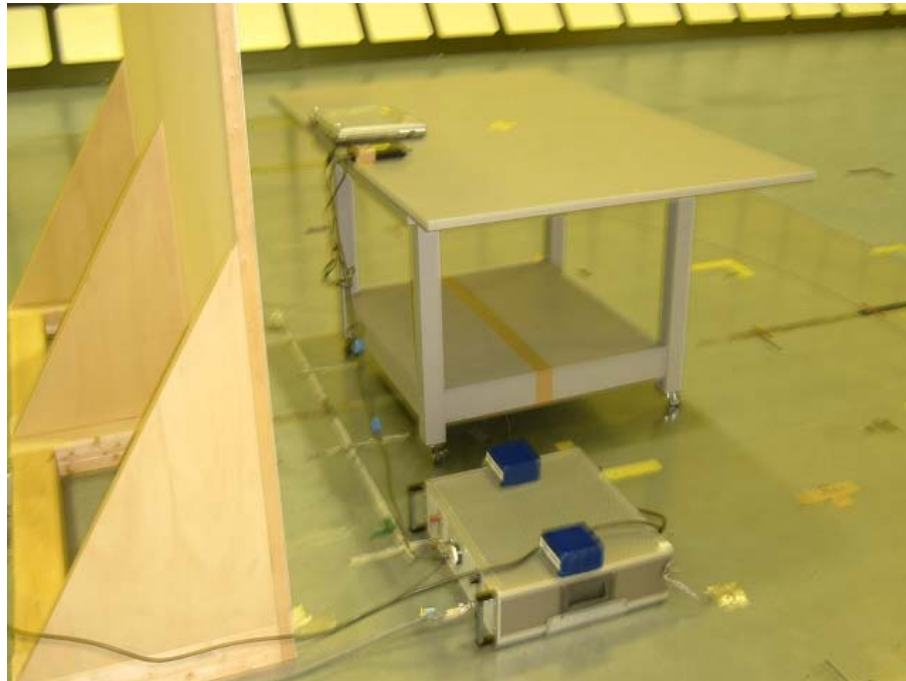
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APPENDIX 1: Photographs of test setup

Conducted Emission **Front**



Rear

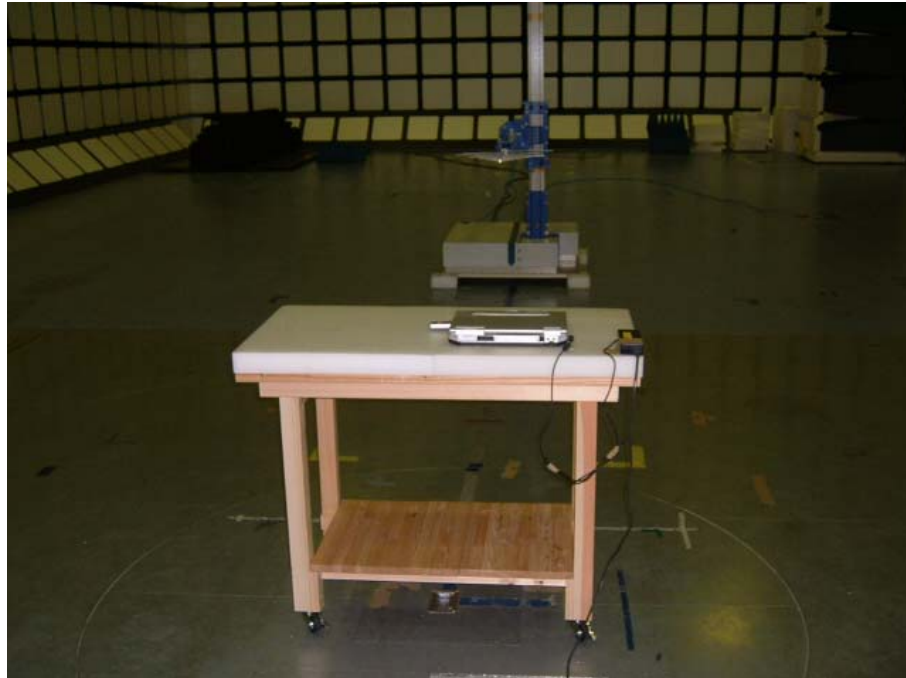


Spurious Emission (Radiated)

Front



Rear



Worst Case Position (X-axis + Ant. 5deg. :Horizontal / Z-axis + Ant. 5deg.:Vertical)

EUT: X-axis



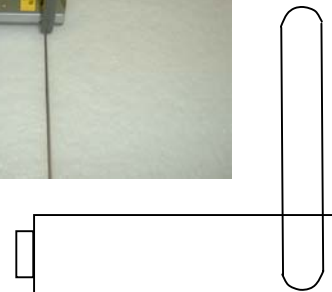
Ant: 5deg.



EUT: Y-axis



Ant: 90deg.



EUT: Z-axis



Ant: 175deg.



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/CE	2004/11/13 * 12
MTR-01	Test Receiver	Rohde & Schwarz	ESI40	RE/CE	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
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
MCC-01	Coaxial Cable 0.1-3000MHz	Suhner/storm/ Agilent/TSJ	-	RE	2004/12/19 * 12
MPA-04	Pre Amplifier	Agilent	8447D	RE	2005/05/24 * 12
MAT-06	Attenuator(6dB)	Weinschel Corp	2	RE	2004/12/16 * 12
MBA-01	Biconical Antenna	Schwarzbeck	BBA9106	RE	2004/10/14 * 12
MLA-01	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2004/10/14 * 12
MCC-03	Coaxial Cable	Fujikura/Suhner/ Agilent/TSJ	-	CE	2004/12/24 * 12
MLS-02	LISN(AMN)	Schwarzbeck	NSLK8127	CE	2004/11/10 * 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: Conducted emission,
RE: Radiated emission,
AT: Antenna terminal conducted measurement**

APPENDIX 3: Data of EMI test

Conducted Emission

(Mode 1, Tx, Ch: Low)

DATA OF CONDUCTED EMISSION TEST

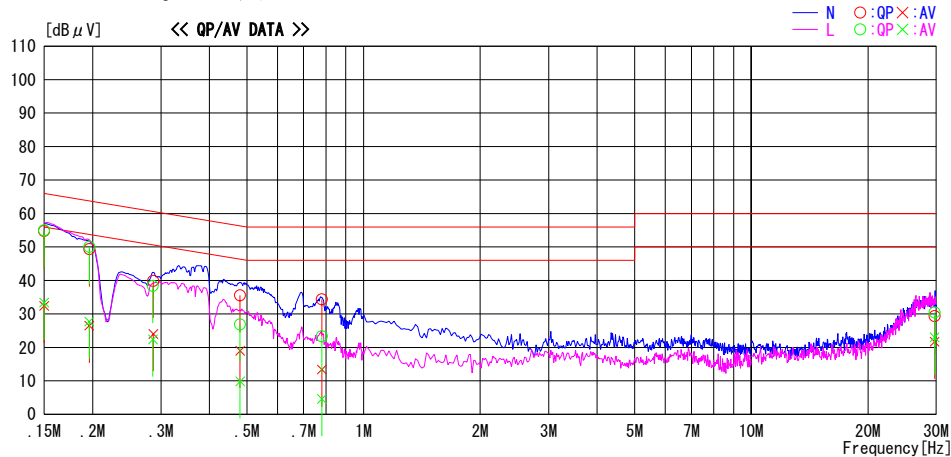
UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/06/21 18:02:41

Applicant : Panasonic Communications Co.,Ltd
Kind of EUT : Home Communication System
Model No. : KX-THA14(Wireless USB Adapter)
Serial No. : 0080F080132D

Report No. : 25IE0110-HO
Power : AC120V / 60Hz (EUT input: DC5V)
Temp./Humi. : 24deg. C / 48%
Operator : Kenichi Adachi

Mode / Remarks : Mode 1 Tx2402 /

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



NO	FREQ [MHz]	READING		C. F	RESULT		LIMIT		MARGIN		PHASE
		QP [dB μ V]	AV [dB μ V]		QP [dB μ V]	AV [dB μ V]	QP [dB μ V]	AV [dB μ V]	QP [dB]	AV [dB]	
1	0.1500	54.5	32.1	0.3	54.8	32.4	66.0	56.0	11.2	23.6	N
2	0.1960	48.7	25.9	0.6	49.3	26.5	63.8	53.8	14.5	27.3	N
3	0.2867	39.5	23.6	0.4	39.9	24.0	60.6	50.6	20.7	26.6	N
4	0.4801	35.2	18.6	0.4	35.6	19.0	56.3	46.3	20.7	27.3	N
5	0.7801	33.8	12.8	0.6	34.4	13.4	56.0	46.0	21.6	32.6	N
6	29.6974	26.5	18.9	2.8	29.3	21.7	60.0	50.0	30.7	28.3	N
7	0.1500	54.7	33.1	0.3	55.0	33.4	66.0	56.0	11.0	22.6	L
8	0.1960	49.4	27.1	0.6	50.0	27.7	63.8	53.8	13.8	26.1	L
9	0.2860	38.0	22.0	0.4	38.4	22.4	60.6	50.6	22.2	28.2	L
10	0.4801	26.5	9.5	0.4	26.9	9.9	56.3	46.3	29.4	36.4	L
11	0.7801	22.7	4.0	0.6	23.3	4.6	56.0	46.0	32.7	41.4	L
12	29.6964	27.6	20.2	2.8	30.4	23.0	60.0	50.0	29.6	27.0	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.

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Conducted Emission
(Mode 1, Tx, Ch: Mid)
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/05/31 01:50:36

Applicant : Panasonic Communications Co.,Ltd
Kind of EUT : Home Communication System
Model No. : KX-THA14 (Wireless USB Adapter)
Serial No. : 0080F080132D

Report No. : 251E0110-HO
Power : AC120V / 60Hz (EUT input: DC5V)
Temp./Humi. : 24deg. C / 48%
Operator : Kenichi Adachi

Mode / Remarks : Mode 1 Tx2441MHz /

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

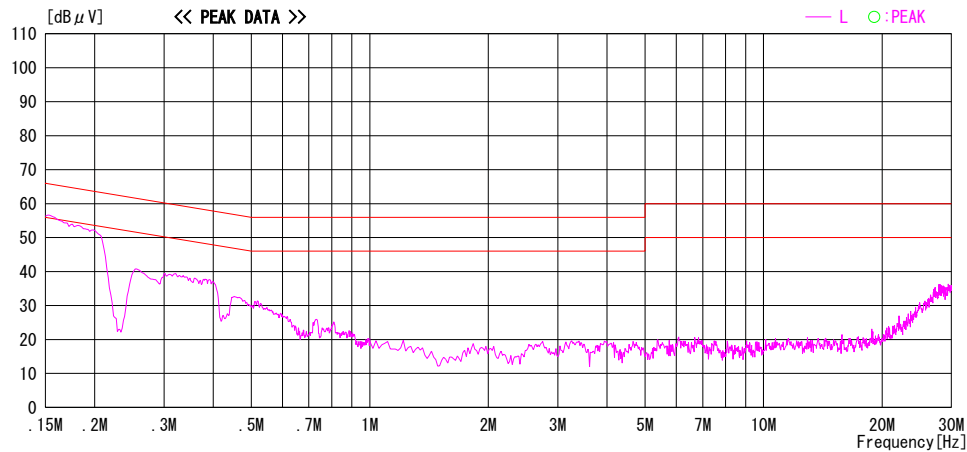
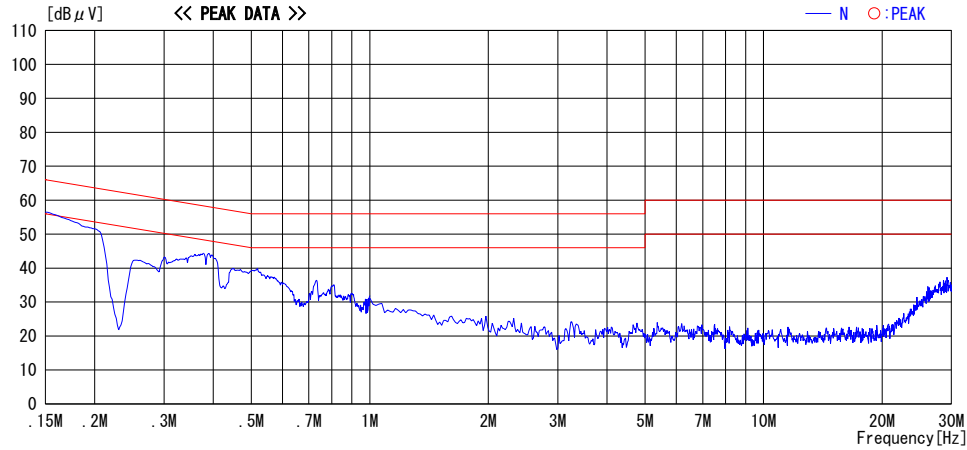


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C.F (LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Conducted Emission
(Mode 1, Tx, Ch: High)
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/05/31 01:59:56

Applicant : Panasonic Communications Co.,Ltd
Kind of EUT : Home Communication System
Model No. : KX-THA14 (Wireless USB Adapter)
Serial No. : 0080F080132D

Report No. : 25IE0110-H0
Power : AC120V / 60Hz (EUT input: DC5V)
Temp./Humi. : 24deg. C / 48%
Operator : Kenichi Adachi

Mode / Remarks : Mode 1 Tx2480MHz /

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

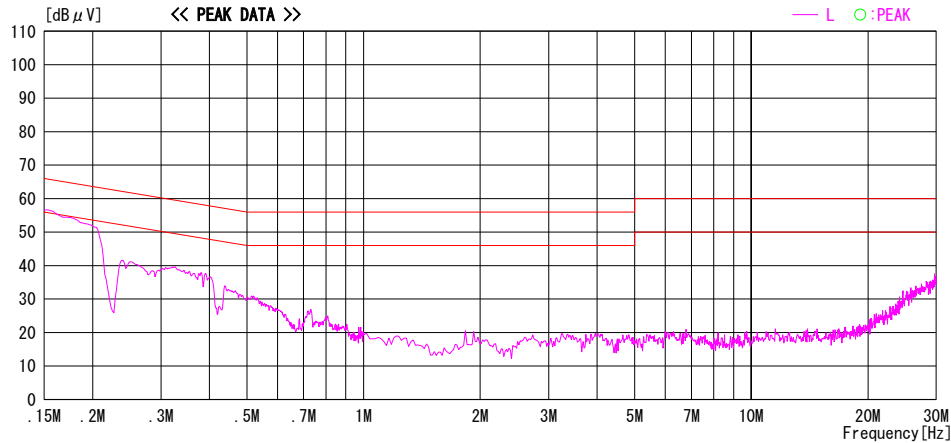
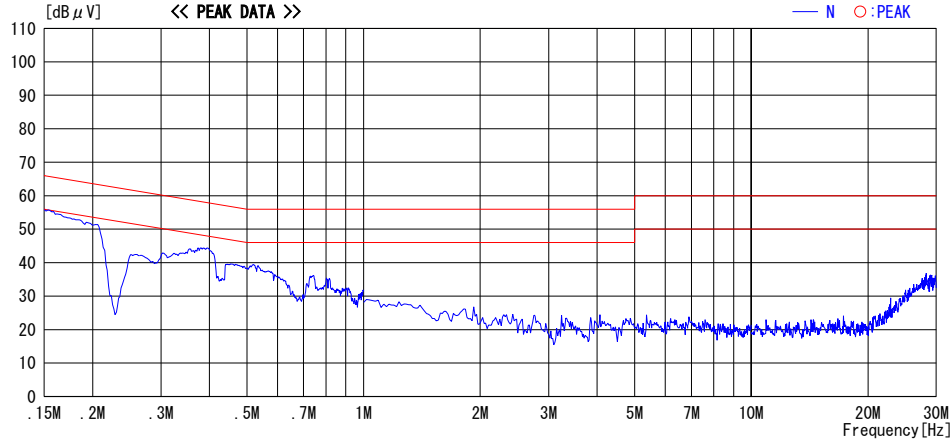


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F (LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Conducted Emission
(Mode 2, Tx, Ch: Low)
DATA OF CONDUCTED EMISSION TEST

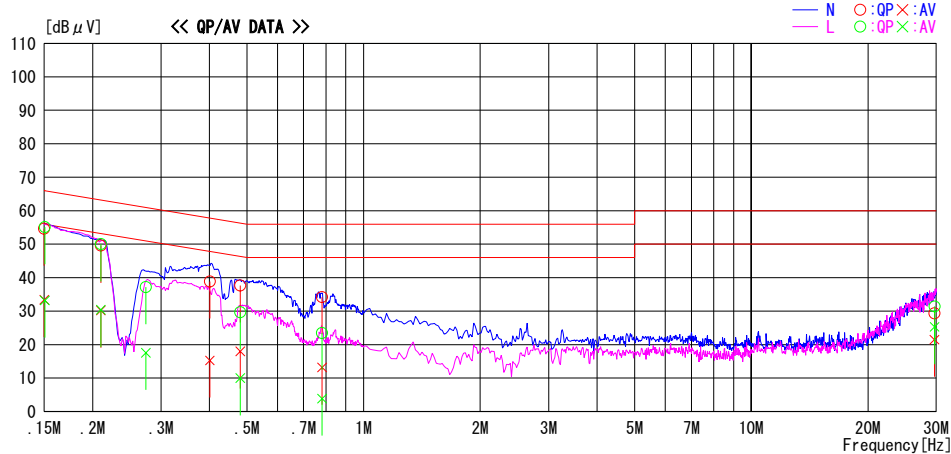
UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/05/31 02:06:01

Applicant : Panasonic Communications Co.,Ltd
Kind of EUT : Home Communication System
Model No. : KX-THA14 (Wireless USB Adapter)
Serial No. : 0080F080132D

Report No. : 25IE0110-HO
Power : AC120V / 60Hz (EUT input: DC5V)
Temp./Humi. : 24deg. C / 48%
Operator : Kenichi Adachi

Mode / Remarks : Mode 2 Tx2402MHz /

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



NO	FREQ [MHz]	READING		C. F [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dB μ V]	AV [dB μ V]		QP [dB μ V]	AV [dB μ V]	QP [dB μ V]	AV [dB μ V]	QP [dB]	AV [dB]	
1	0.1501	54.4	33.1	0.3	54.7	33.4	66.0	56.0	11.3	22.6	N
2	0.2100	49.0	29.6	0.6	49.6	30.2	63.2	53.2	13.6	23.0	N
3	0.4011	38.6	15.0	0.3	38.9	15.3	57.8	47.8	18.9	32.5	N
4	0.4807	37.3	17.6	0.4	37.7	18.0	56.3	46.3	18.6	28.3	N
5	0.7812	33.6	12.6	0.6	34.2	13.2	56.0	46.0	21.8	32.8	N
6	29.6960	26.5	18.7	2.8	29.3	21.5	60.0	50.0	30.7	28.5	N
7	0.1506	54.8	32.9	0.3	55.1	33.2	66.0	56.0	10.9	22.8	L
8	0.2100	49.4	29.8	0.6	50.0	30.4	63.2	53.2	13.2	22.8	L
9	0.2743	36.7	17.1	0.5	37.2	17.6	61.0	51.0	23.8	33.4	L
10	0.4806	29.3	9.6	0.4	29.7	10.0	56.3	46.3	26.6	36.3	L
11	0.7812	22.9	3.3	0.6	23.5	3.9	56.0	46.0	32.5	42.1	L
12	29.6962	28.6	22.5	2.8	31.4	25.3	60.0	50.0	28.6	24.7	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.

Conducted Emission
(Mode 2, Tx, Ch: Mid)
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/05/31 02:33:26

Applicant : Panasonic Communications Co., Ltd
Kind of EUT : Home Communication System
Model No. : KX-THA14 (Wireless USB Adapter)
Serial No. : 0080F080132D

Report No. : 251E0110-HO
Power : AC120V / 60Hz (EUT input: DC5V)
Temp./Humi. : 24deg. C / 48%
Operator : Kenichi Adachi

Mode / Remarks : Mode 2 Tx2440MHz /

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

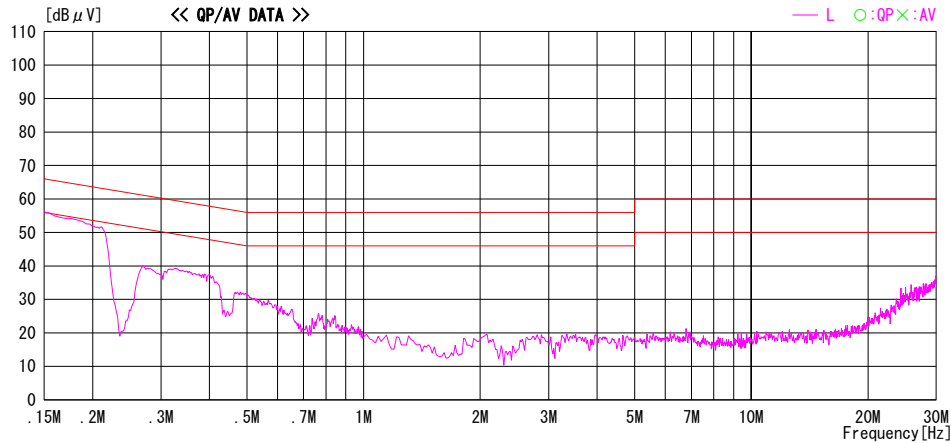
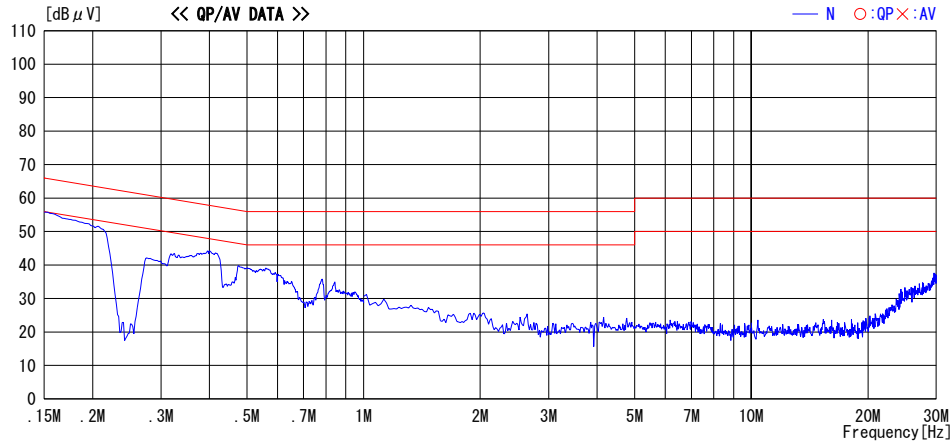


CHART:WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C.F (LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Conducted Emission
(Mode 2, Tx, Ch: High)
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/05/31 02:38:37

Applicant : Panasonic Communications Co., Ltd
Kind of EUT : Home Communication System
Model No. : KX-THA14 (Wireless USB Adapter)
Serial No. : 0080F080132D

Report No. : 25IE0110-HO
Power : AC120V / 60Hz (EUT input: DC5V)
Temp./Humi. : 24deg. C / 48%
Operator : Kenichi Adachi

Mode / Remarks : Mode 2 Tx2480MHz /

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

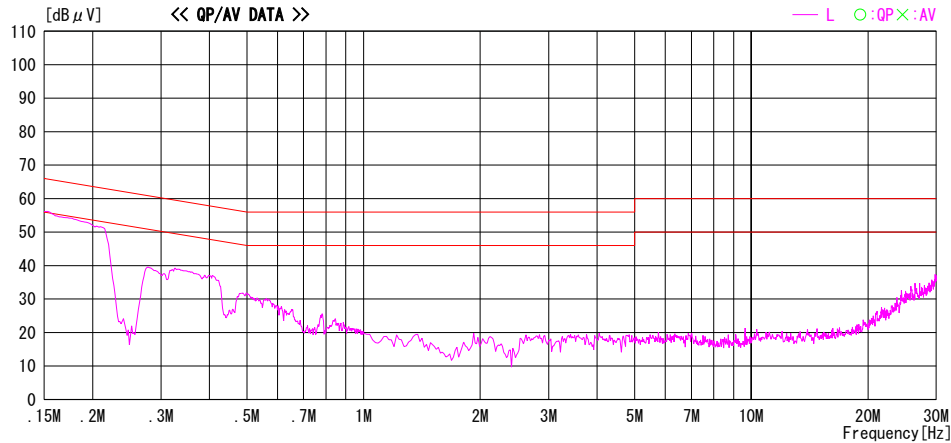
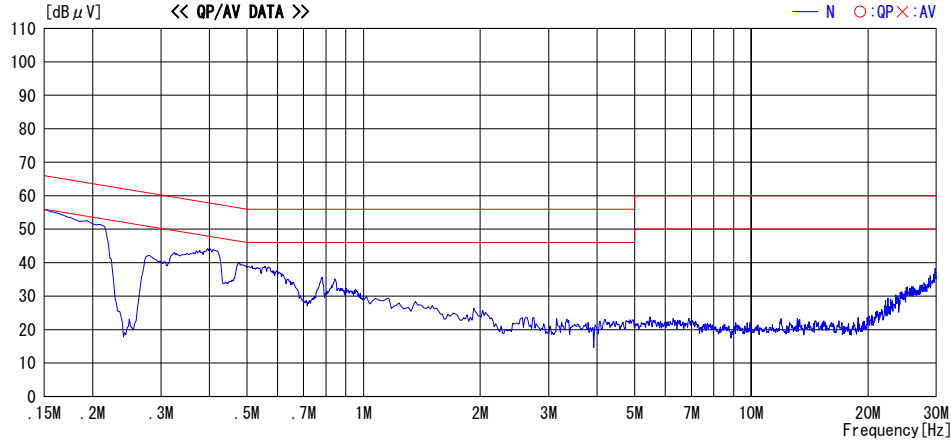


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F (LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Conducted Emission
(Mode 1/ Mode 2, Rx, Ch: Mid)
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/05/31 02:44:23

Applicant : Panasonic Communications Co.,Ltd
Kind of EUT : Home Communication System
Model No. : KX-THA14 (Wireless USB Adapter)
Serial No. : 0080F080132D

Report No. : 25IE0110-HO
Power : AC120V / 60Hz (EUT input: DC5V)
Temp./Humi. : 24deg. C / 48%
Operator : Kenichi Adachi

Mode / Remarks : Mode 1 / mode 2, Rx2440MHz /

LIMIT : FCC15B ClassB (QP) (0.15-30MHz)
FCC15B ClassB (AV) (0.15-30MHz)

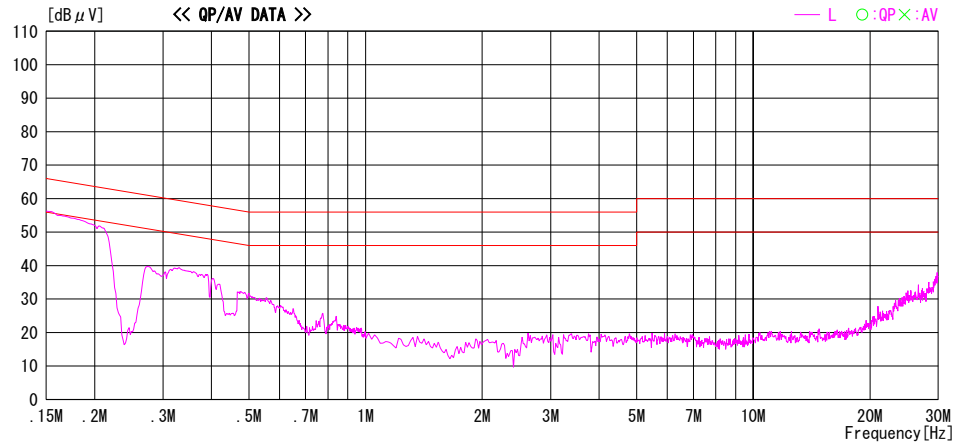
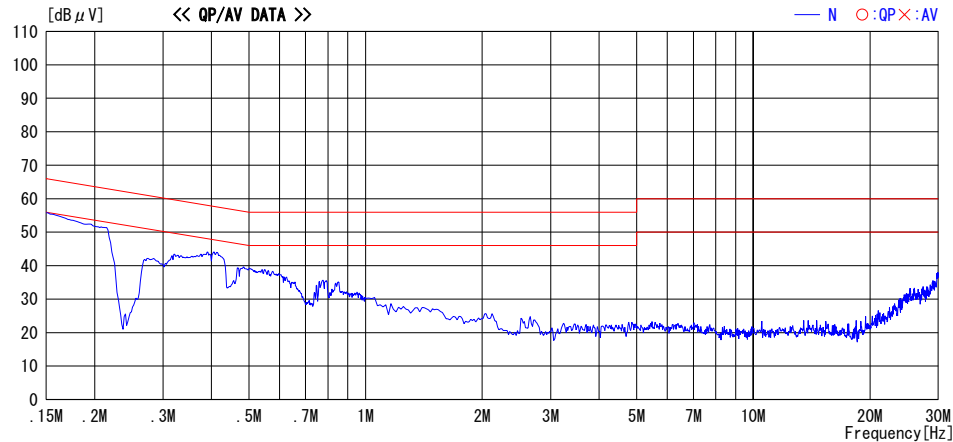


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F (LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

[Mode 1]

Carrier Frequency Separation [Mode 1]

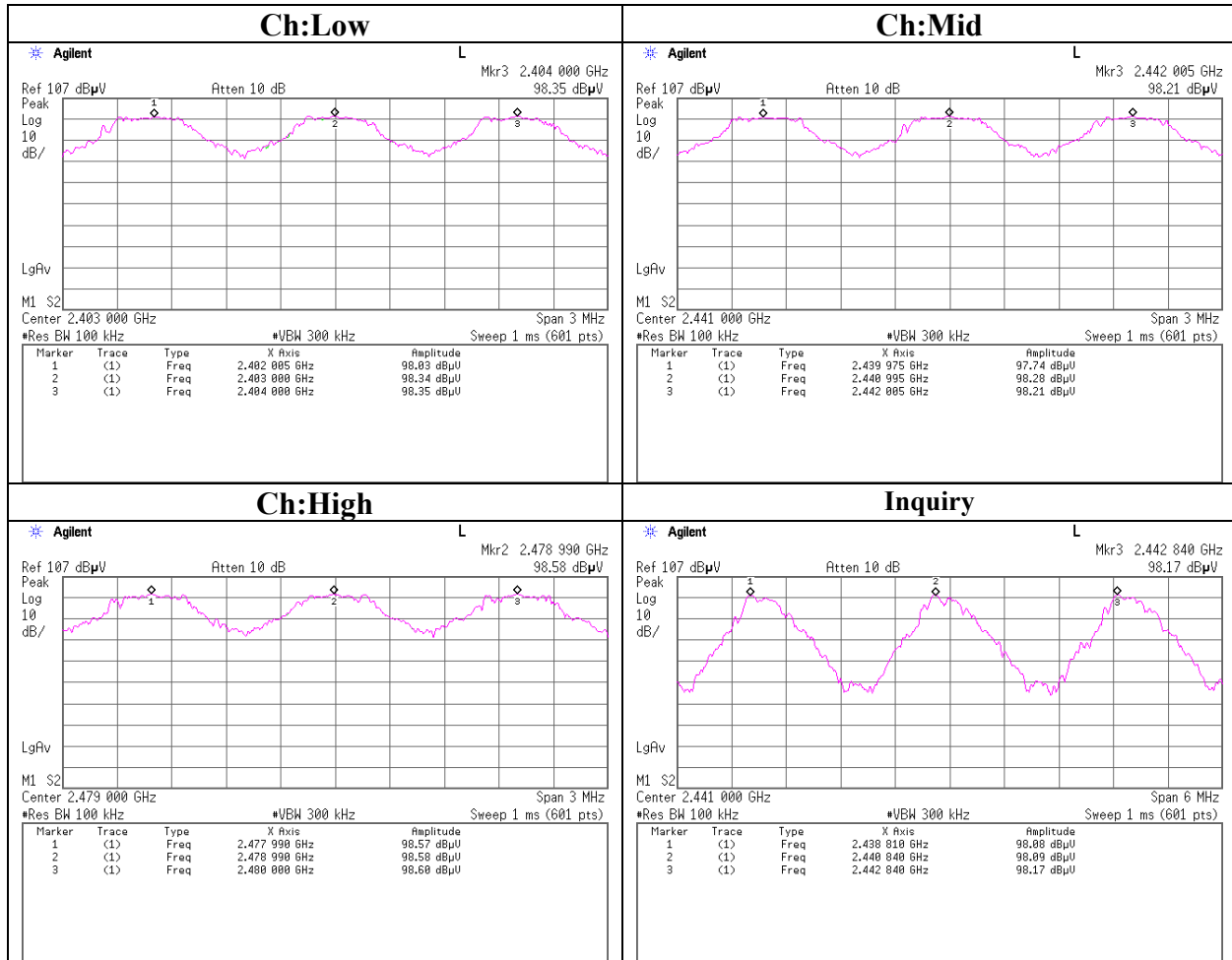
DATA OF CARRIER FREQUENCY SEPARATION

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 USB Adaptor	TEST DISTANCE	: -
MODEL	: KX-THA14	DATE	: 05/20/2005
S/ N	: 0080F080132C	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz (EUT input: DC5V)	HUMIDITY	: 35%
MODE	: Tx(Hopping on)/Inquiry	ENGINEER	: Mitsuru Fujimura

Ch	Freq. [MHz]	Channel separation [MHz]	Limit
Low	2402.0	0.995	> two-thirds of 20dB Bandwidth or 25[kHz]
Mid	2441.0	1.010	> two-thirds of 20dB Bandwidth or 25[kHz]
High	2480.0	1.000	> two-thirds of 20dB Bandwidth or 25[kHz]
Inquiry	2441.0	2.000	> two-thirds of 20dB Bandwidth or 25[kHz]

Carrier Frequency Separation [Mode 1]



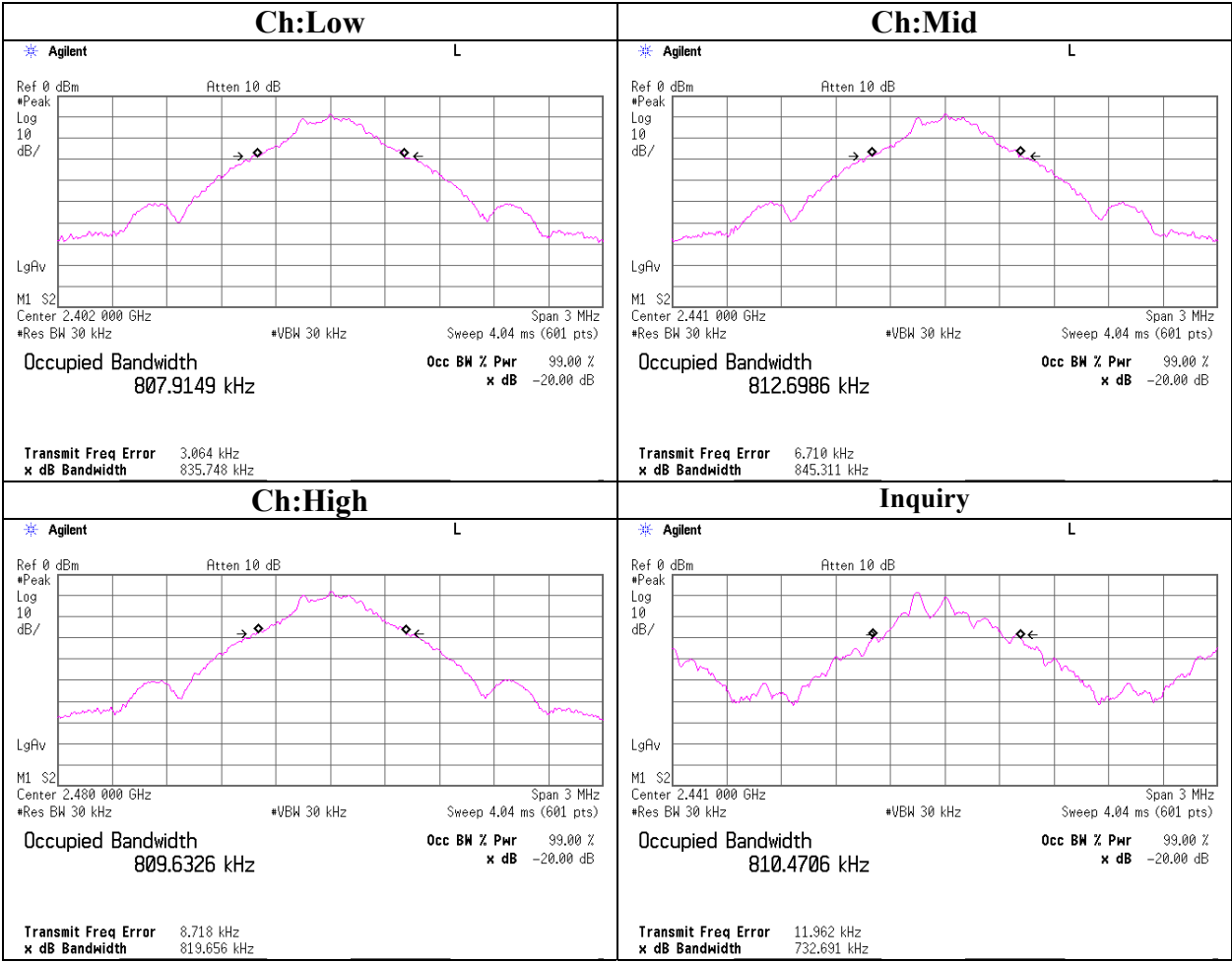
20dB Bandwidth [Mode 1]

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 USB Adaptor	TEST DISTANCE	: -
MODEL	: KX-THA14	DATE	: 05/20/2005
S/ N	: 0080F080132C	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz (EUT input: DC5V)	HUMIDITY	: 35%
MODE	: Tx (Hopping off) /Inquiry	ENGINEER	: Mitsuru Fujimura

Ch	Freq.	20dB Bandwidth	Limit
	[MHz]	[MHz]	[MHz]
Low	2402.0	0.836	-
Mid	2441.0	0.845	-
High	2480.0	0.820	-
Inquiry	2441.0	0.733	-

20dB Bandwidth [Mode 1]



Number of Hopping Frequency [Mode 1]

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)(iii)
EQUIPMENT	: Wireless USB Adaptor	TEST DISTANCE	: -
MODEL	: KX-THA14	DATE	: 05/20/2005
S/ N	: 0080F080132C	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz (EUT input: DC5V)	HUMIDITY	: 35%
MODE	: Tx (Hopping on) /Inquiry	ENGINEER	: Mitsuru Fujimura

Mode1, AFH off

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

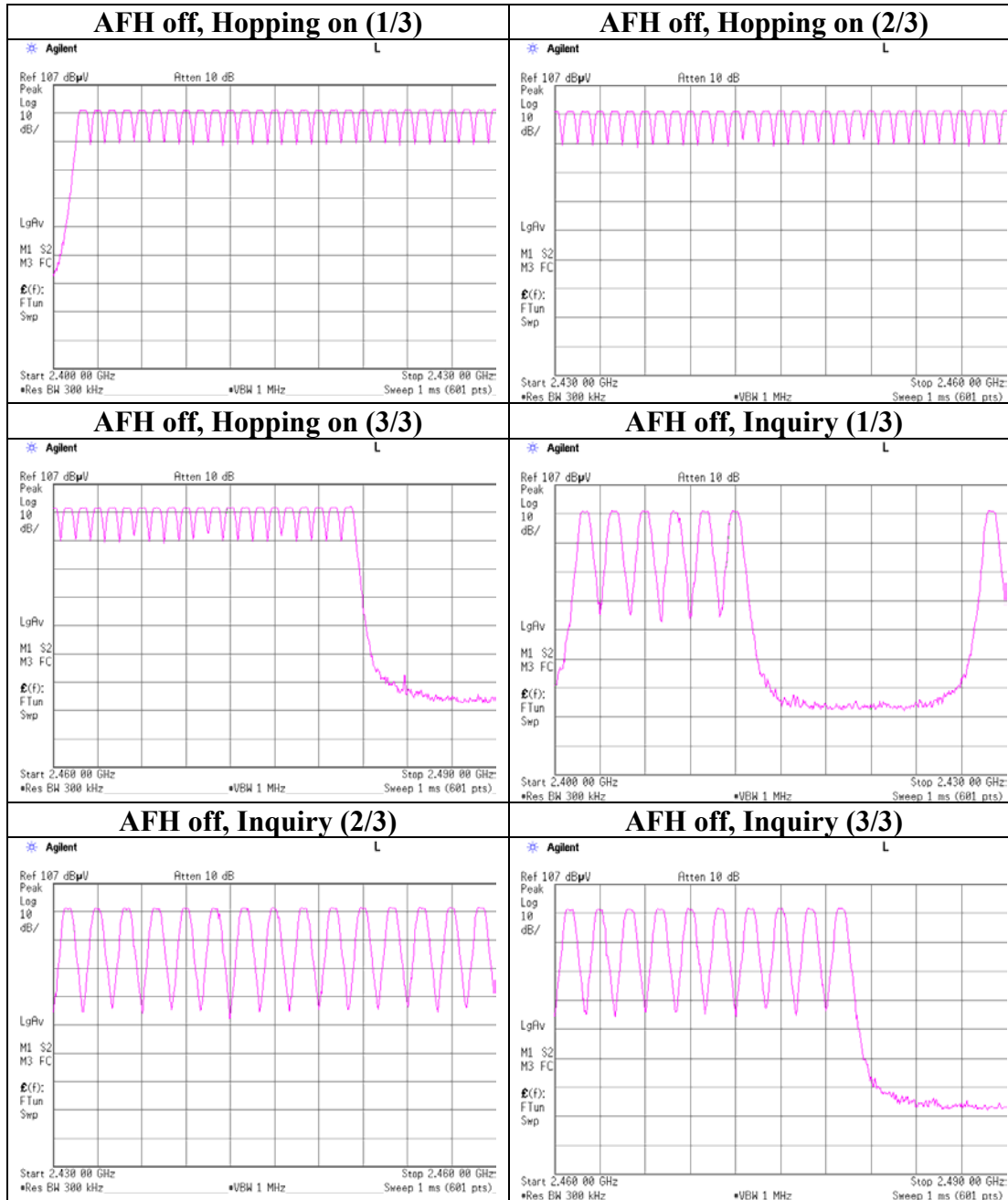
Mode1, AFH off

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

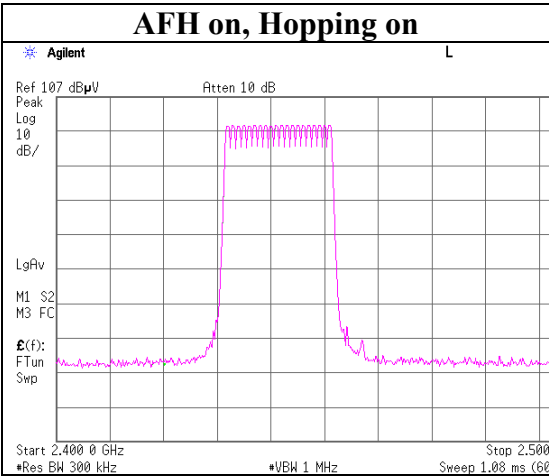
Mode1, AFH on

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

Number of Hopping Frequency [Mode 1]



Number of Hopping Frequency [Mode 1]



Dwell Time [Mode 1]

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)(iii)
EQUIPMENT : Wireless USB Adaptor	TEST DISTANCE : -
MODEL : KX-THA14	DATE : 05/20/2005
S/ N : 0080F080132C	TEMPERATURE : 25deg.C
POWER : AC120V / 60Hz (EUT input: DC5V)	HUMIDITY : 35%
MODE : Tx (Hopping on) /Inquiry	ENGINEER : Mitsuru Fujimura

Mode1, AFH off

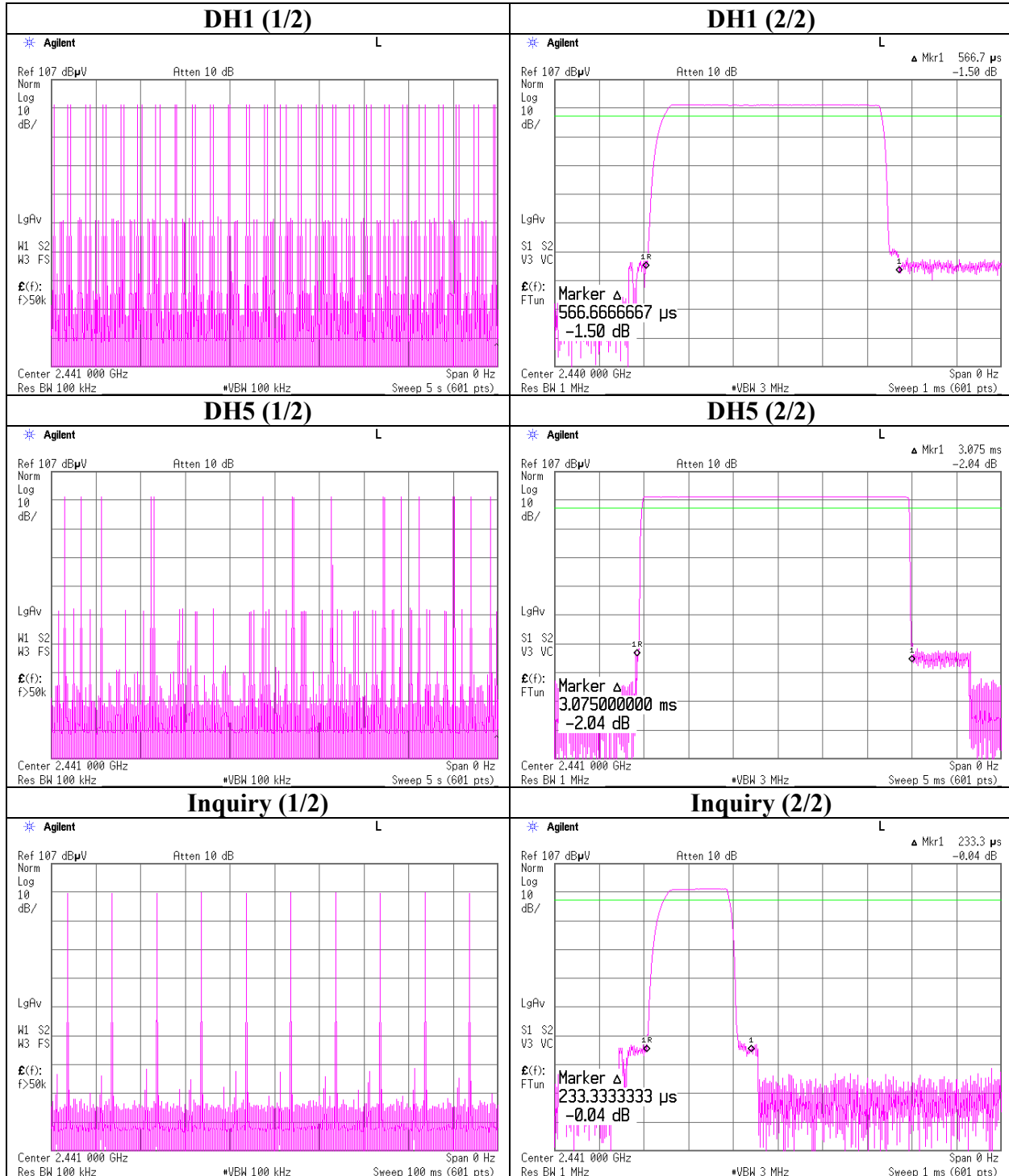
Mode	Number of transmission in a 31.6(79 Hopping x 0.4) / 12.8(32 Hopping x 0.4)second period	Length of transmission time [msec]	Result [msec]	Limit [msec]
DH1	51 times /5sec. x 31.6 = 322.32 times	0.567	183	400
DH5	16 times / 5 sec. x 31.6 = 101.12 times	3.075	311	400
Inquiry	10 times / 0.1sec. x 12.8 = 1280 times	0.233	299	400

Mode1, AFH on

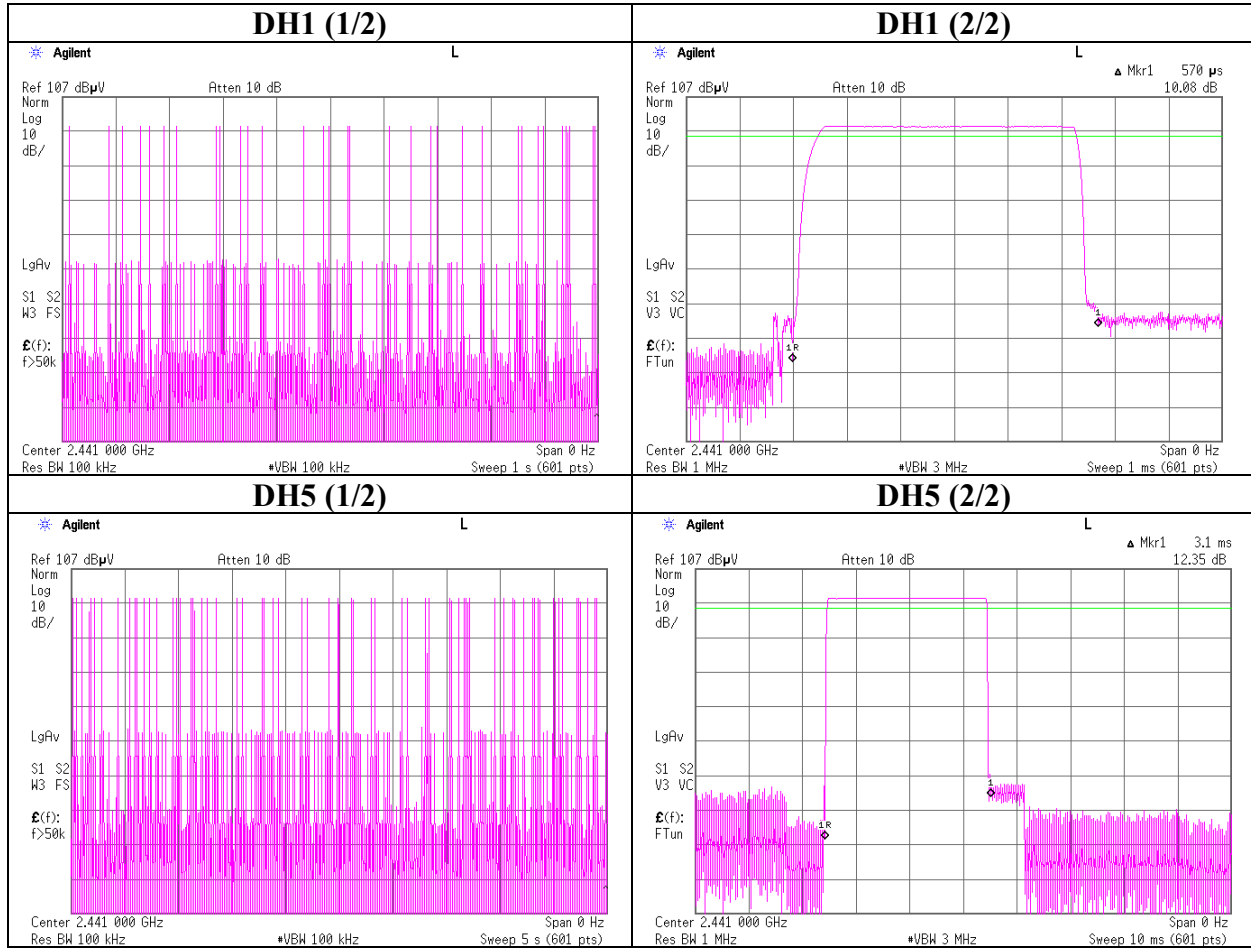
Mode	Number of transmission in a 8(20 Hopping x 0.4) second period	Length of transmission time [msec]	Result [msec]	Limit [msec]
DH1	33 times /1sec. x 8 = 264.0 times	0.570	150	400
DH5	66 times / 5sec. x 8 = 105.6 times	3.100	327	400

Dwell Factor calculation for Spurious emissions : $= 20 \times \log ((3.1 [\text{ms}] \times (66 / (5[\text{s}] / 0.100 [\text{s}]))) / 100 [\text{ms}]) = -27.8 \text{ dB}$

Dwell Time [Mode 1]
AFH off



Dwell Time [Mode 1]
AFH on



Maximum Peak Output Power [Mode 1]

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 USB Adaptor	TEST DISTANCE	: -
MODEL	: KX-THA14	DATE	: 05/20/2005
S/ N	: 0080F080132C	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz (EUT input: DC5V)	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	-6.60	0.00	20.00	13.40	20.96	7.56
Mid	2441.0	-6.93	0.00	20.00	13.07	20.96	7.89
High	2480.0	-6.68	0.00	20.00	13.32	20.96	7.64
Inquiry	2441.0	-6.74	0.00	20.00	13.26	20.96	7.70

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.

Radiated Spurious Emission [Mode 1]

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

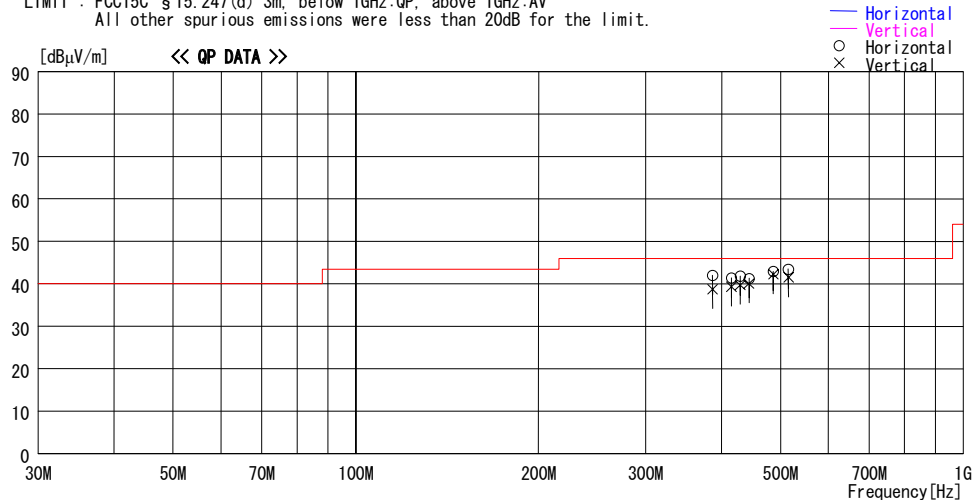
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/05/30 21:29:18

Applicant : Panasonic Communications Co., Ltd. Report No. : 251E0110-HO
Kind of EUT : Wireless USB Adaptor Power : AC 120V / 60Hz (EUT input: DC5V)
Model No. : KX-THA14 Temp./Humi. : 23deg. C / 41%
Serial No. : 0080F080132D Operator : Kenichi Adachi

Mode / Remarks : Mode 1, Tx2441MHz / EUT-max-Axis(Hor.:X, Ver.:Z)

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV
All other spurious emissions were less than 20dB for the limit.



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
----- Horizontal -----										
1	386.576	41.6	17.5	10.6	27.7	42.0	46.0	4.0	100	324
2	415.212	40.4	18.1	10.8	27.9	41.4	46.0	4.6	100	313
3	429.531	40.7	18.2	10.9	28.0	41.8	46.0	4.2	100	321
4	443.850	40.3	18.3	10.9	28.2	41.3	46.0	4.7	100	307
5	486.806	41.6	18.5	11.1	28.3	42.9	46.0	3.1	100	301
6	515.443	41.9	18.8	11.3	28.5	43.5	46.0	2.5	100	302
----- Vertical -----										
7	386.577	38.3	17.5	10.6	27.7	38.7	46.0	7.3	126	277
8	415.214	38.3	18.1	10.8	27.9	39.3	46.0	6.7	116	91
9	429.530	38.6	18.2	10.9	28.0	39.7	46.0	6.3	110	86
10	443.852	39.1	18.3	10.9	28.2	40.1	46.0	5.9	110	93
11	486.808	40.9	18.5	11.1	28.3	42.2	46.0	3.8	100	99
12	515.434	39.9	18.8	11.3	28.5	41.5	46.0	4.5	100	175

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.

UL Apex Co., Ltd.

Head Office EMC Lab.

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

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Facsimile : +81 596 24 8124

MF060b(01.06.05)

Radiated Spurious Emission [Mode 1]

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

Company : Panasonic Communications Co.,Ltd.

Equipment : Wireless USB Adaptor

Model : KX-THA14

Sample No. : 0080F080132D

Power : AC 120 V / 60 Hz (EUT input: DC5V)

Mode : Mode 1, Tx 2402MHz

Remarks : EUT max-axis (Hor: X-axis + Ant 5deg., Ver: Z-axis + Ant 5deg.)

REPORT NO : 25IE0110-HO

REGULATION : Fcc Part15 Subpart C 15.247(d)

TEST DISTANCE : 3/1m

DATE : 05/26/2005

05/27/2005

TEMPERATURE : 23deg.C

23deg.C

HUMIDITY : 41%

41%

ENGINEER : Kenichi Adachi

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]						[dBuV/m]	[dBuV/m]		[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	1145.3	53.7	53.6	22.9	39.9	1.8	0.0	0.0	38.5	38.4	74.0	35.5	35.6
2	2389.9	51.2	50.4	31.0	39.9	2.6	0.0	0.0	44.9	44.1	74.0	29.1	29.9
3*	2400.0	95.3	88.0	30.9	39.9	2.6	0.0	0.0	88.9	81.6	74.0	-	-
4	4804.1	59.3	58.5	34.9	41.2	3.9	1.0	0.0	57.9	57.1	74.0	16.1	16.9
5*	7206.0	60.1	57.3	37.6	40.4	4.8	0.4	0.0	62.5	59.7	74.0	11.5	14.3
6	8592.8	53.0	54.7	36.9	39.5	5.2	0.1	0.0	55.7	57.4	74.0	18.3	16.6
7	9607.5	46.6	49.7	36.3	39.5	5.6	0.1	0.0	49.1	52.2	74.0	24.9	21.8
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
8	12010.0	48.6	48.6	41.4	39.6	6.6	0.1	0.0	47.6	47.6	74.0	26.4	26.4
9	14412.0	49.6	48.2	41.7	41.0	6.7	0.2	0.0	47.7	46.3	74.0	26.3	27.7
10	16814.0	47.9	47.6	44.7	41.7	7.1	1.1	0.0	49.6	49.3	74.0	24.4	24.7
11	19216.0	46.3	46.3	40.1	40.3	7.6	0.0	0.0	44.2	44.2	74.0	29.8	29.8
12	21618.0	46.7	45.6	39.8	35.4	8.2	0.0	0.0	49.8	48.7	74.0	24.2	25.3
13	24020.0	45.2	45.7	40.4	32.9	8.2	0.0	0.0	51.4	51.9	74.0	22.6	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]						[dBuV/m]	[dBuV/m]		[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	1145.3	45.3	37.8	22.9	39.9	1.8	0.0	0.0	30.1	22.6	54.0	23.9	31.4
2	2389.9	37.8	36.8	31.0	39.9	2.6	0.0	0.0	31.5	30.5	54.0	22.5	23.5
3*	2400.0	79.7	73.2	30.9	39.9	2.6	0.0	-27.8	45.5	39.0	54.0	-	-
4	4804.1	51.2	50.6	34.9	41.2	3.9	1.0	-27.8	22.0	21.4	54.0	32.0	32.6
5*	7206.0	52.6	48.9	37.6	40.4	4.8	0.4	-27.8	27.2	23.5	54.0	26.8	30.5
6	8592.8	45.2	47.6	36.9	39.5	5.2	0.1	-27.8	20.1	22.5	54.0	33.9	31.5
7	9607.5	33.6	38.4	36.3	39.5	5.6	0.1	-27.8	8.3	13.1	54.0	45.7	40.9
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
8	12010.0	35.6	36.1	41.4	39.6	6.6	0.1	-27.8	6.8	7.3	54.0	47.2	46.7
9	14412.0	36.9	35.5	41.7	41.0	6.7	0.2	-27.8	7.2	5.8	54.0	46.8	48.2
10	16814.0	34.9	34.7	44.7	41.7	7.1	1.1	-27.8	8.8	8.6	54.0	45.2	45.4
11	19216.0	32.5	32.2	40.1	40.3	7.6	0.0	-27.8	2.6	2.3	54.0	51.4	51.7
12	21618.0	32.7	32.7	39.8	35.4	8.2	0.0	-27.8	8.0	8.0	54.0	46.0	46.0
13	24020.0	32.1	32.1	40.4	32.9	8.2	0.0	-27.8	10.5	10.5	54.0	43.5	43.5

* 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 or ATT [dB]	Dwell Factor [dB]	RESULT		Limit 20dBc [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]	[dBuV]						[dBuV/m]	[dBuV/m]		[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
0	2401.8	119.5	116.8	30.9	39.9	2.6	0.0	0.0	113.1	110.4	-	-	-
3	2400.0	61.6	56.9	30.9	39.9	2.6	0.0	0.0	55.2	50.5	Funda-20dB	37.9	39.9
5	7206.0	58.7	50.5	37.6	40.4	4.8	0.4	0.0	61.1	52.9	Funda-20dB	32.0	37.5

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 x log ((3.1 [ms] x (66 / (5[s] / 0.100 [s]))) / 100 [ms]) = -27.8 dB

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MF060b(01.06.05)

Radiated Spurious Emission [Mode 1]

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

Company : Panasonic Communications Co.,Ltd. Equipment : Wireless USB Adaptor Model : KX-THA14 Sample No. : 0080F080132D Power : AC 120 V / 60 Hz (EUT input: DC5V) Mode : Mode 1, Tx 2441MHz Remarks : EUT max-axis (Hor: X-axis + Ant 5deg., Ver: Z-axis + Ant 5deg.)	REPORT NO : 25IE0110-HO REGULATION : Fcc Part15 Subpart C 15.247(d) TEST DISTANCE : 3/1m DATE : 05/26/2005 05/27/2005 TEMPERATURE : 23deg.C 23deg.C HUMIDITY : 41% 41% ENGINEER : Kenichi Adachi Kenichi Adachi
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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			
		[dBuV]										[dBuV/m]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	1145.6	52.5	52.0	22.9	39.9	1.8	0.0	0.0	37.3	36.8	74.0	36.7	37.2
2	4882.2	59.1	53.3	35.3	41.2	3.9	1.0	0.0	58.1	52.3	74.0	15.9	21.7
3	7323.5	58.2	58.3	37.8	40.4	4.8	0.5	0.0	60.9	61.0	74.0	13.1	13.0
4	8602.0	52.1	55.9	36.9	39.5	5.2	0.1	0.0	54.8	58.6	74.0	19.2	15.4
5	9764.0	46.7	52.6	36.2	39.6	5.6	0.2	0.0	49.1	55.0	74.0	24.9	19.0
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
6	12205.0	50.4	49.5	41.5	39.8	6.6	0.3	0.0	49.5	48.6	74.0	24.5	25.4
7	14646.0	49.7	48.0	42.2	40.9	6.7	0.2	0.0	48.4	46.7	74.0	25.6	27.3
8	17087.0	48.7	48.6	44.5	41.8	7.1	1.1	0.0	50.1	50.0	74.0	23.9	24.0
9	19528.0	46.1	45.0	40.3	39.8	7.9	0.0	0.0	45.0	43.9	74.0	29.0	30.1
10	21969.0	47.6	47.7	39.8	35.9	8.2	0.0	0.0	50.2	50.3	74.0	23.8	23.7
11	24410.0	44.6	44.8	40.4	33.8	8.4	0.0	0.0	50.1	50.3	74.0	23.9	23.7

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	1145.6	40.0	37.7	22.9	39.9	1.8	0.0	0.0	24.8	22.5	54.0	29.2	31.5
2	4882.2	51.1	44.3	35.3	41.2	3.9	1.0	-27.8	22.3	15.5	54.0	31.7	38.5
3	7323.5	48.2	48.3	37.8	40.4	4.8	0.5	-27.8	23.1	23.2	54.0	30.9	30.8
4	8602.0	43.5	48.5	36.9	39.5	5.2	0.1	-27.8	18.4	23.4	54.0	35.6	30.6
5	9764.0	34.4	41.1	36.2	39.6	5.6	0.2	-27.8	9.0	15.7	54.0	45.0	38.3
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
6	12205.0	37.7	35.4	41.5	39.8	6.6	0.3	-27.8	9.0	6.7	54.0	45.0	47.3
7	14646.0	35.6	35.1	42.2	40.9	6.7	0.2	-27.8	6.5	6.0	54.0	47.5	48.0
8	17087.0	35.1	35.0	44.5	41.8	7.1	1.1	-27.8	8.7	8.6	54.0	45.3	45.4
9	19528.0	31.9	31.9	40.3	39.8	7.9	0.0	-27.8	3.0	3.0	54.0	51.0	51.0
10	21969.0	34.6	34.7	39.8	35.9	8.2	0.0	-27.8	9.4	9.5	54.0	44.6	44.5
11	24410.0	31.9	31.9	40.4	33.8	8.4	0.0	-27.8	9.6	9.6	54.0	44.4	44.4

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 Filter was not used for spur 0.0dB of the above table.

*Dwell Factor calculation for Spurious emissions : = 20 x log ((3.1 [ms] x (66 / (5[s] / 0.100 [s]))) / 100 [ms]) = -27.8 dB

Radiated Spurious Emission [Mode 1]

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

Company : Panasonic Communications Co.,Ltd.
Equipment : Wireless USB Adaptor
Model : KX-THA14
Sample No. : 0080F080132D
Power : AC 120 V / 60 Hz (EUT input: DC5V)
Mode : Mode 1, Tx 2480MHz
Remarks : EUT max-axis (Hor: X-axis + Ant 5deg., Ver: Z-axis + Ant 5deg.)

REPORT NO : 25IE0110-HO
REGULATION : Fcc Part15 Subpart C 15.247(d)
TEST DISTANCE : 3/1m
DATE : 05/26/2005 05/27/2005
TEMPERATURE : 23deg.C 23deg.C
HUMIDITY : 41% 41%
ENGINEER : Kenichi Adachi 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*	2483.5	71.2	70.3	30.8	40.0	2.5	0.0	0.0	64.5	63.6	74.0	9.5	10.4
2	4959.7	57.4	52.5	35.8	41.3	4.0	1.0	0.0	56.9	52.0	74.0	17.1	22.0
3	7440.5	55.8	58.3	37.9	40.3	5.1	0.4	0.0	58.9	61.4	74.0	15.1	12.6
4	8599.9	51.5	54.6	36.9	39.5	5.2	0.1	0.0	54.2	57.3	74.0	19.8	16.7
5	9920.4	48.6	51.5	36.2	39.6	6.0	0.1	0.0	51.3	54.2	74.0	22.7	19.8
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfacc													
6	12400.0	50.0	48.7	41.6	40.0	6.6	0.4	0.0	49.1	47.8	74.0	24.9	26.2
7	14880.0	48.3	48.9	42.6	40.9	6.9	0.5	0.0	47.9	48.5	74.0	26.1	25.5
8	17360.0	50.0	48.5	44.4	41.6	7.1	0.9	0.0	51.3	49.8	74.0	22.7	24.2
9	19840.0	44.8	45.4	40.4	39.4	8.0	0.0	0.0	44.3	44.9	74.0	29.7	29.1
10	22320.0	47.4	44.9	39.8	35.3	8.2	0.0	0.0	50.6	48.1	74.0	23.4	25.9
11	24800.0	46.5	46.7	40.7	34.6	8.6	0.0	0.0	51.7	51.9	74.0	22.3	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]			[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1*	2483.5	61.3	60.8	30.8	40.0	2.5	0.0	-27.8	26.8	26.3	54.0	27.2	27.7
2	4959.7	49.2	42.9	35.8	41.3	4.0	1.0	-27.8	20.9	14.6	54.0	33.1	39.4
3	7440.5	45.0	48.8	37.9	40.3	5.1	0.4	-27.8	20.3	24.1	54.0	33.7	29.9
4	8599.9	42.7	47.2	36.9	39.5	5.2	0.1	-27.8	17.6	22.1	54.0	36.4	31.9
5	9920.4	36.1	40.9	36.2	39.6	6.0	0.1	-27.8	11.0	15.8	54.0	43.0	38.2
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfacc													
6	12400.0	36.8	36.0	41.6	40.0	6.6	0.4	-27.8	8.1	7.3	54.0	45.9	46.7
7	14880.0	35.2	34.9	42.6	40.9	6.9	0.5	-27.8	7.0	6.7	54.0	47.0	47.3
8	17360.0	35.4	35.1	44.4	41.6	7.1	0.9	-27.8	8.9	8.6	54.0	45.1	45.4
9	19840.0	31.6	31.9	40.4	39.4	8.0	0.0	-27.8	3.3	3.6	54.0	50.7	50.4
10	22320.0	34.0	31.9	39.8	35.3	8.2	0.0	-27.8	9.4	7.3	54.0	44.6	46.7
11	24800.0	33.1	33.2	40.7	34.6	8.6	0.0	-27.8	10.5	10.6	54.0	43.5	43.4

* Reference data

Marker-Delta Method (Delta chart: RBW:50kHz (= SPAN / 100), VBW: 200kHz, SPAN: 5MHz)

No.	FREQ [MHz]	Carrier Level - delta S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATT LOSS [dB]	Dwell Factor [dB]	RESULT		Limit [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]							[dBuV/m]			[dB]	
Test distance 3meters RESULT=Carrier Reading - Delta + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	2483.5	55.6	55.2	30.8	40.0	2.5	0.0	0.0	48.9	48.5	74.0	25.1	25.5
AV DETECT													
1	2483.5	45.0	45.3	30.8	40.0	2.5	0.0	0.0	38.3	38.6	54.0	15.7	15.4

Test Distance 1.0m : Distance Factor(Dfacc) = 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 x log ((3.1 [ms] x (66 / (5[s] / 0.100 [s]))) / 100 [ms]) = -27.8 dB

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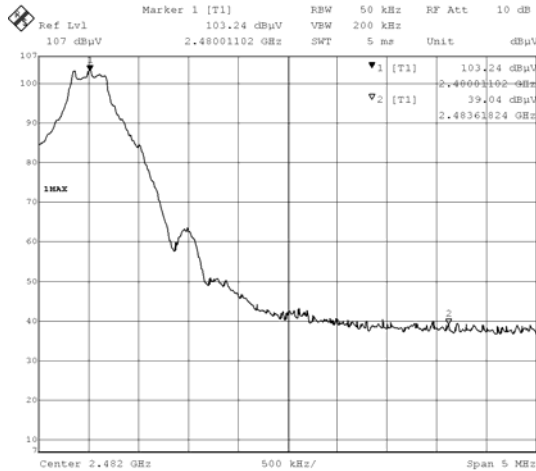
MF060b(01.06.05)

[Reference data]

Delta marker chart

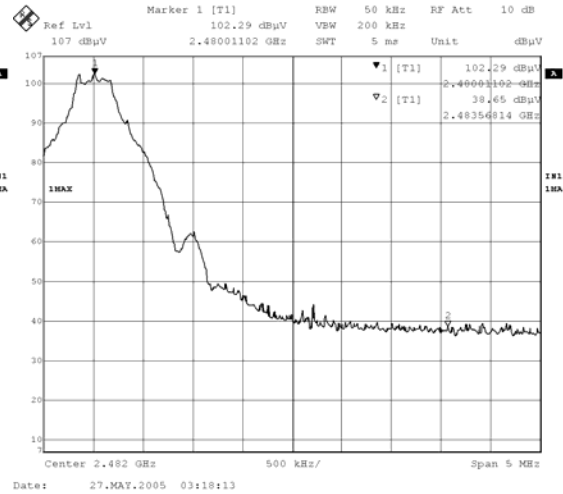
KX-THA14, Mode 1, Tx2480MHz, Hor.,

KX-THA14, Mode 1, Tx2480MHz, Ver.,



$RBW = \text{span } 5\text{MHz} / 100 = 50\text{kHz}$
 $VBW = RBW \times 3 = 150\text{kHz} \rightarrow 200\text{kHz}$

Carrier read to 2483.61824MHz read
-64.2dB

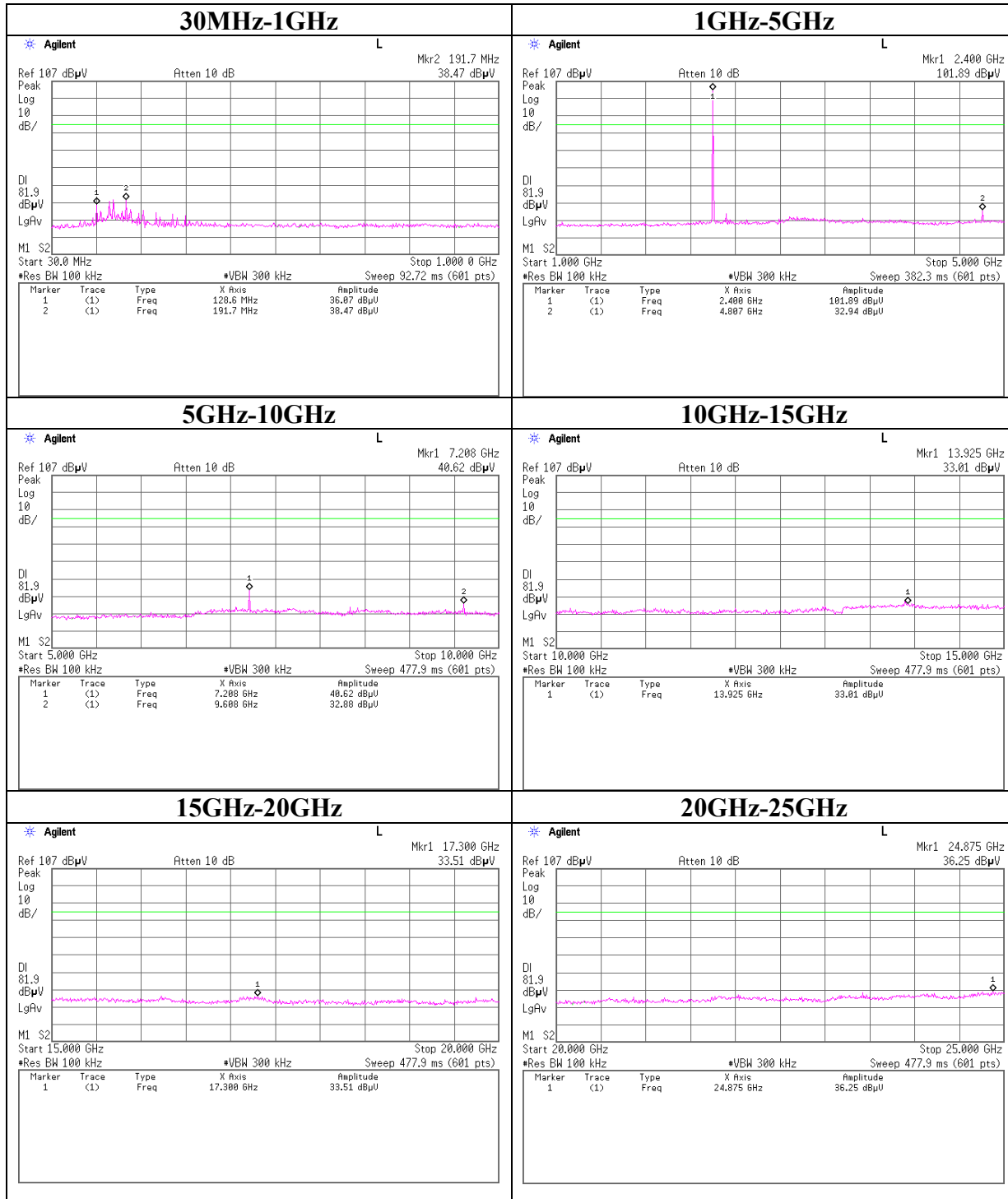


$RBW = \text{span } 5\text{MHz} / 100 = 50\text{kHz}$
 $VBW = RBW \times 3 = 150\text{kHz} \rightarrow 200\text{kHz}$

Carrier read to 2483.56814MHz read
-63.64dB

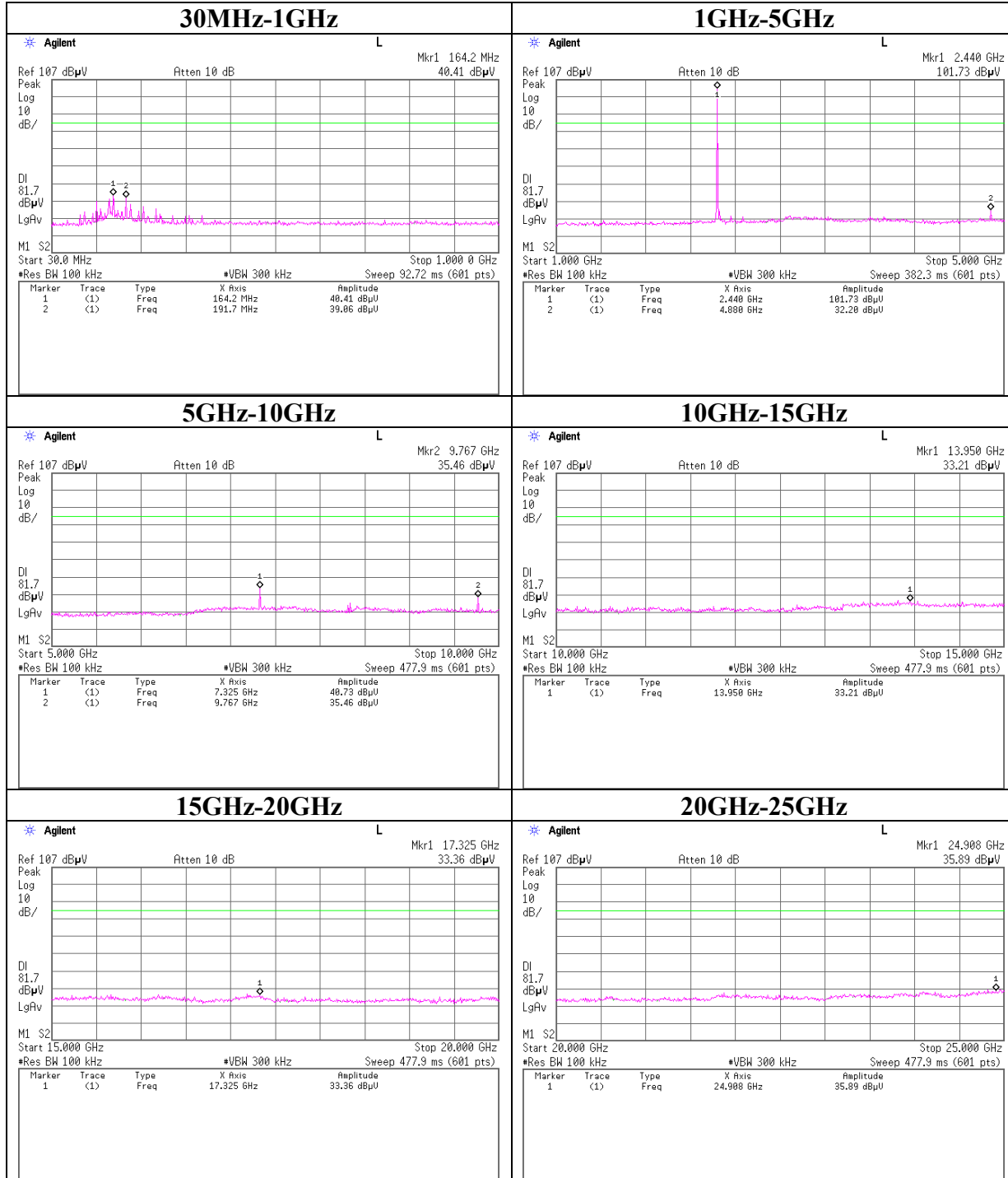
Conducted Spurious Emission [Mode 1]

Ch:Low



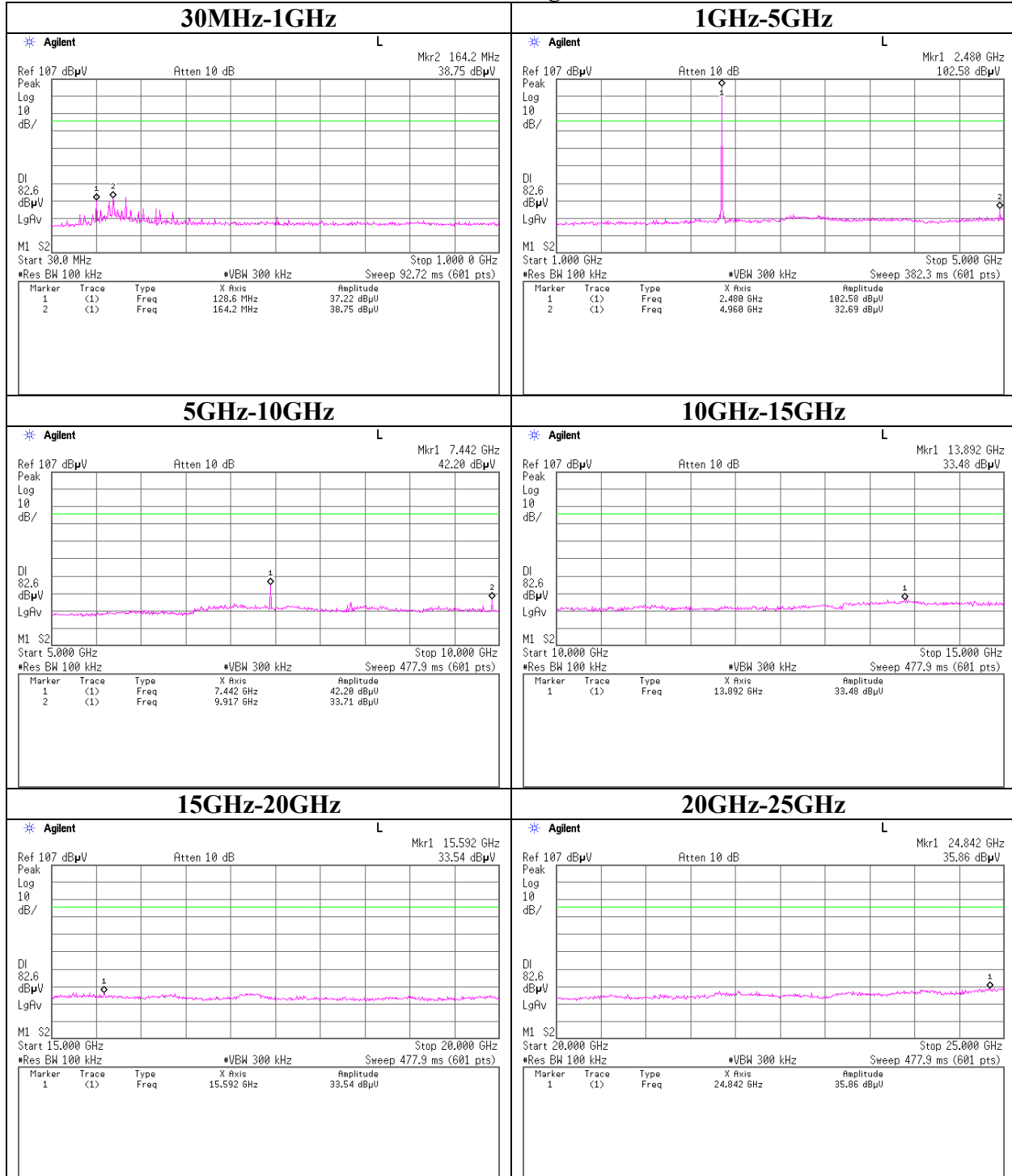
Conducted Spurious Emission [Mode 1]

Ch:Mid

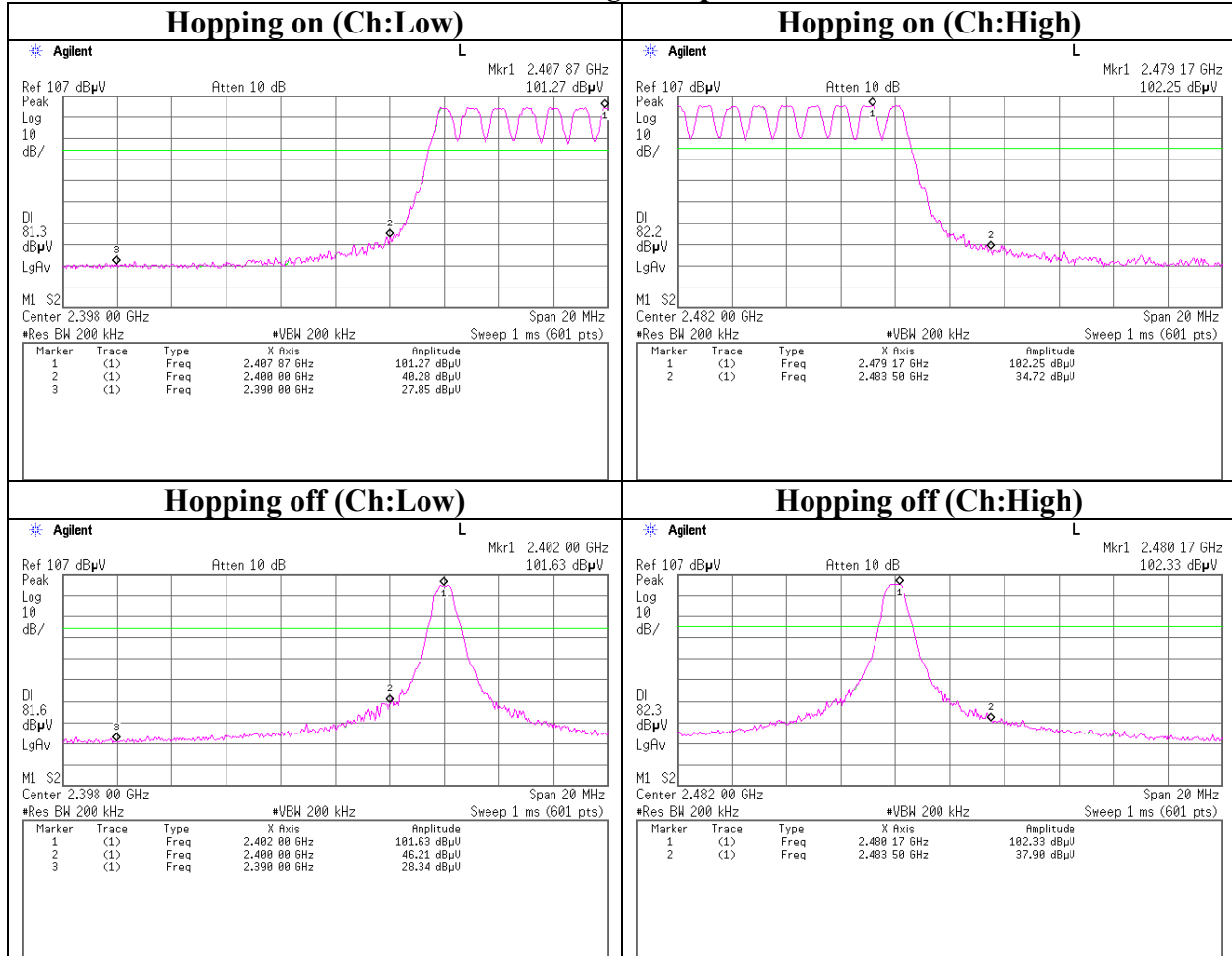


Conducted Spurious Emission [Mode 1]

Ch:High



Conducted Spurious Emission [Mode 1]
Band Edge compliance



[Mode 2]

Carrier Frequency Separation [Mode 2]

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 USB Adaptor	TEST DISTANCE	: -
MODEL	: KX-THA14	DATE	: 05/20/2005
S/N	: 0080F080132C	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz (EUT input: DC5V)	HUMIDITY	: 35%
MODE	: Tx(Hopping on)	ENGINEER	: Mitsuru Fujimura

Ch	Freq. [MHz]	Channel separation [MHz]	Limit
Low	2402.0	2.010	> two-thirds of 20dB Bandwidth or 25[kHz]
Mid	2440.0	2.000	> two-thirds of 20dB Bandwidth or 25[kHz]
High	2480.0	1.990	> two-thirds of 20dB Bandwidth or 25[kHz]

Carrier Frequency Separation [Mode 2]



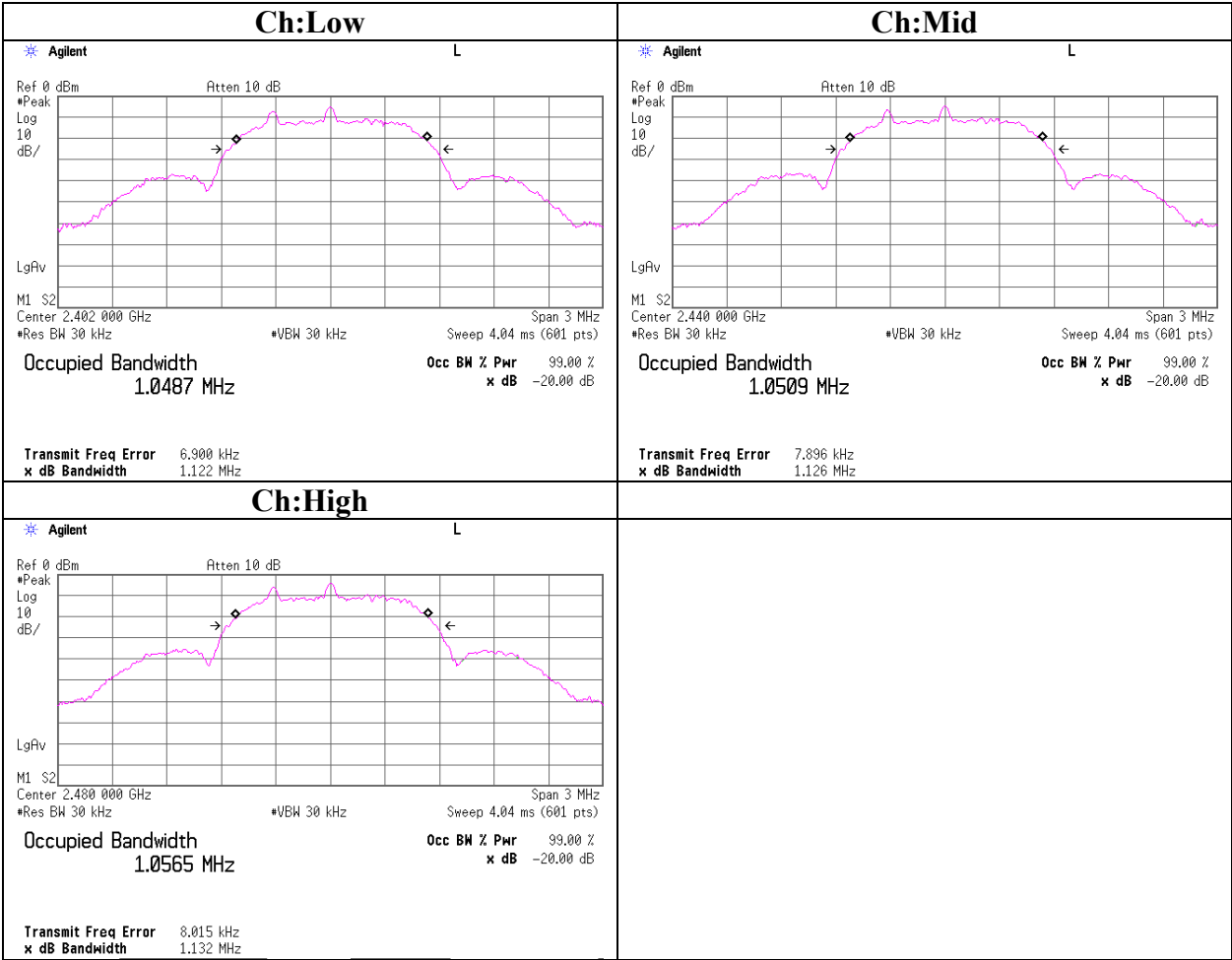
20dB Bandwidth [Mode 2]

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 USB Adaptor	TEST DISTANCE	: -
MODEL	: KX-THA14	DATE	: 05/20/2005
S/ N	: 0080F080132C	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz (EUT input: DC5V)	HUMIDITY	: 35%
MODE	: Tx (Hopping off)	ENGINEER	: Mitsuru Fujimura

Ch	Freq. [MHz]	20dB Bandwidth [MHz]	Limit [MHz]
Low	2402.0	1.122	-
Mid	2441.0	1.126	-
High	2480.0	1.132	-

20dB Bandwidth [Mode 2]



Number of Hopping Frequency [Mode 2]

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)(iii)
EQUIPMENT	: Wireless USB Adaptor	TEST DISTANCE	: -
MODEL	: KX-THA14	DATE	: 05/20/2005
S/ N	: 0080F080132C	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz (EUT input: DC5V)	HUMIDITY	: 35%
MODE	: Tx (Hopping on)	ENGINEER	: Mitsuru Fujimura

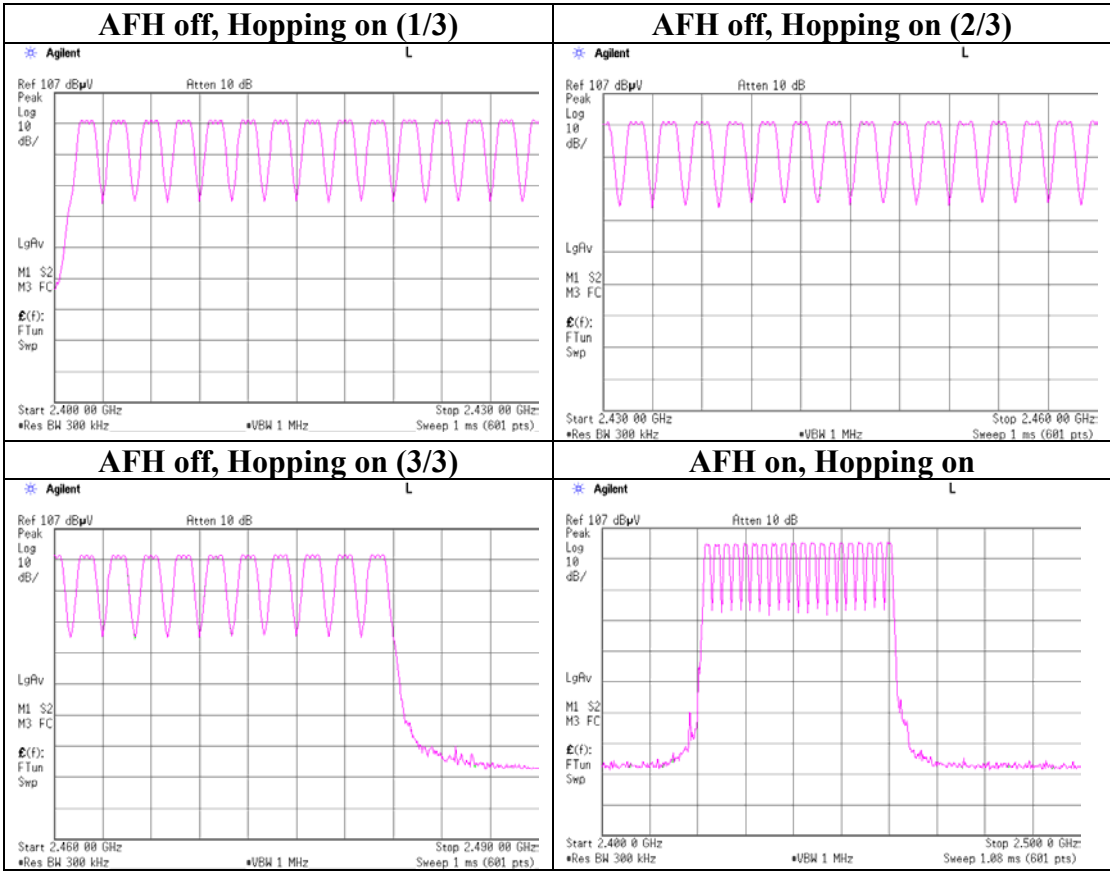
Mode 2, AFH off

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 [Mode 2]



Dwell Time [Mode 2]

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)(iii)
EQUIPMENT	: Home Communication System	TEST DISTANCE	: -
MODEL	: KX-THA14	DATE	: 05/20/2005
S/ N	: 0080F080132C	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz (EUT input: DC5V)	HUMIDITY	: 35%
MODE	: Tx (Hopping on)	ENGINEER	: Mitsuru Fujimura

Mode 2, AFH off

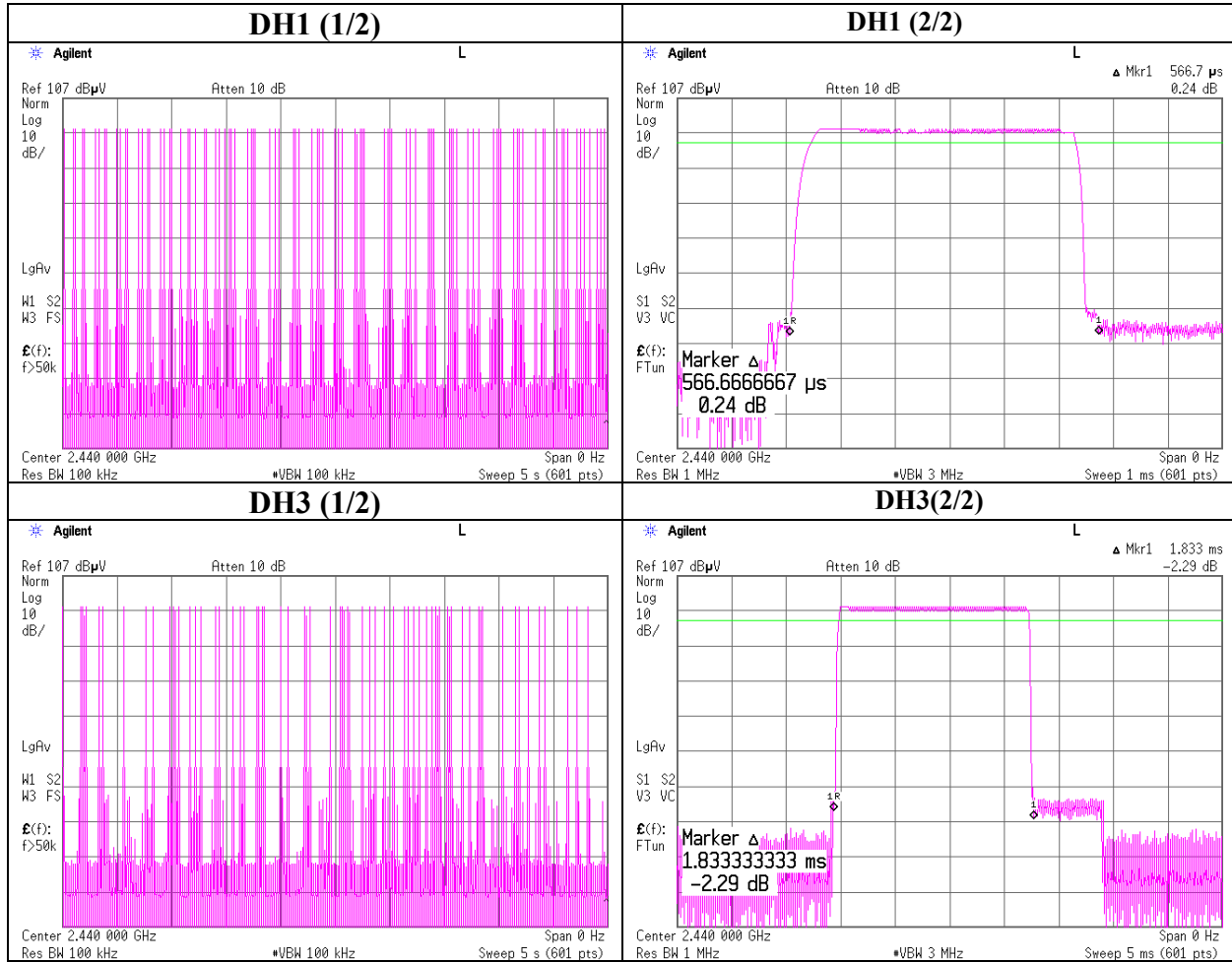
Mode	Number of transmission in a 16(40 Hopping x 0.4) second period	Length of transmission time [msec]	Result [msec]	Limit [msec]
DH1	98 times /5sec. x 16 = 313.6 times	0.567	178	400
DH3	67 times /5 sec. x 16 = 214.4 times	1.833	393	400

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	45 times /1sec. x 8 = 360.0 times	0.567	204	400
DH3	129 times /5 sec. x 8 = 206.4 times	1.817	375	400

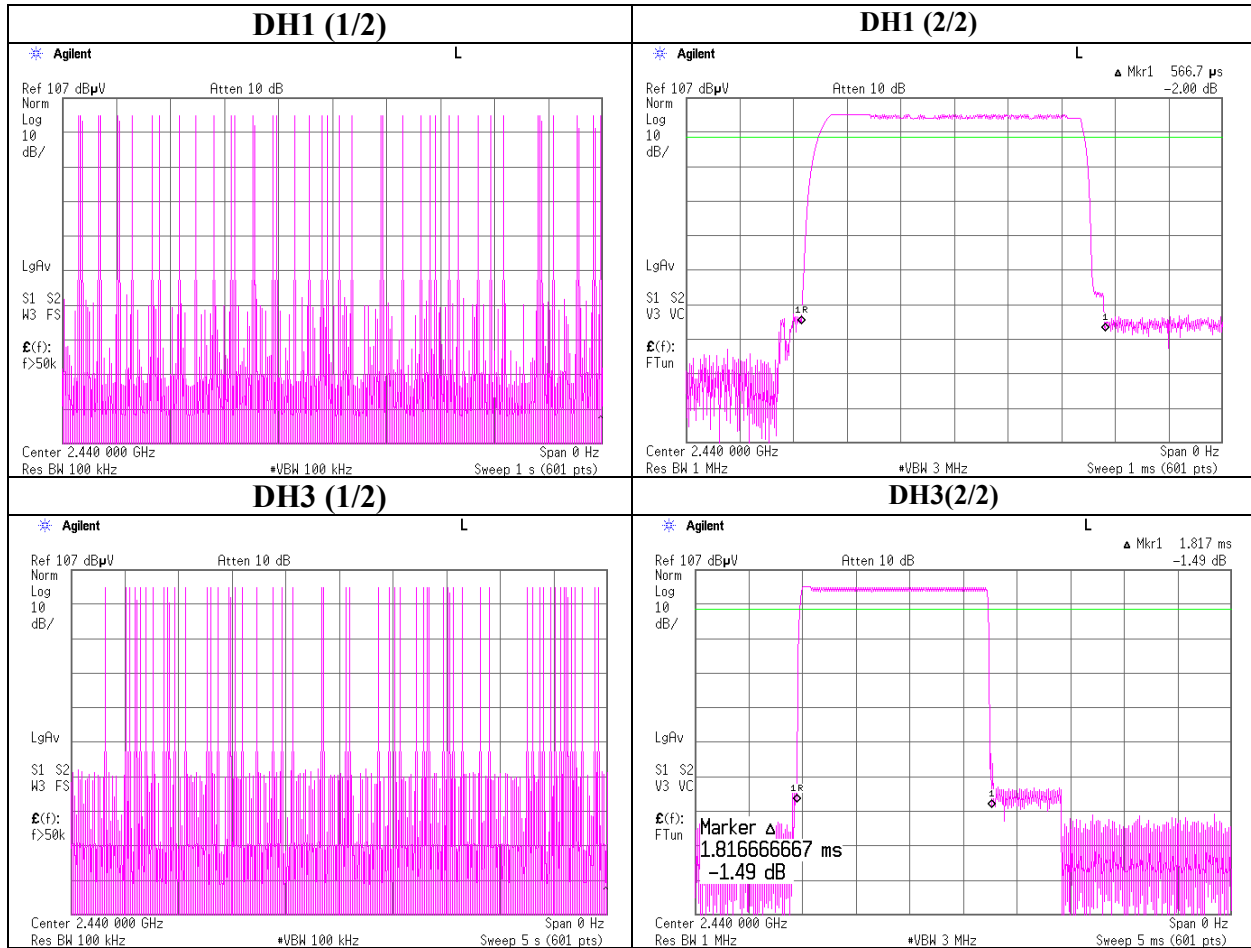
*Dwell Factor calculation for Spurious emissions : $= 20 \times \log \left(\left(1.817 [\text{ms}] \times \left(129 / \left(5[\text{s}] / 0.100 [\text{s}] \right) \right) \right) / 100 [\text{ms}] \right) = -26.6 \text{ dB}$

Dwell Time [Mode 2]
AFH off



Dwell Time [Mode 2]

AFH on



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MF060b(01.06.05)

Maximum Peak Output Power [Mode 2]

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 USB Adaptor	TEST DISTANCE	: -
MODEL	: KX-THA14	DATE	: 05/20/2005
S/N	: 0080F080132C	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz (EUT input: DC5V)	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	-2.90	0.00	20.00	17.10	20.96	3.86
Mid	2440.0	-3.17	0.00	20.00	16.83	20.96	4.13
High	2480.0	-2.90	0.00	20.00	17.10	20.96	3.86

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 Spurious Emission [Mode 2]

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

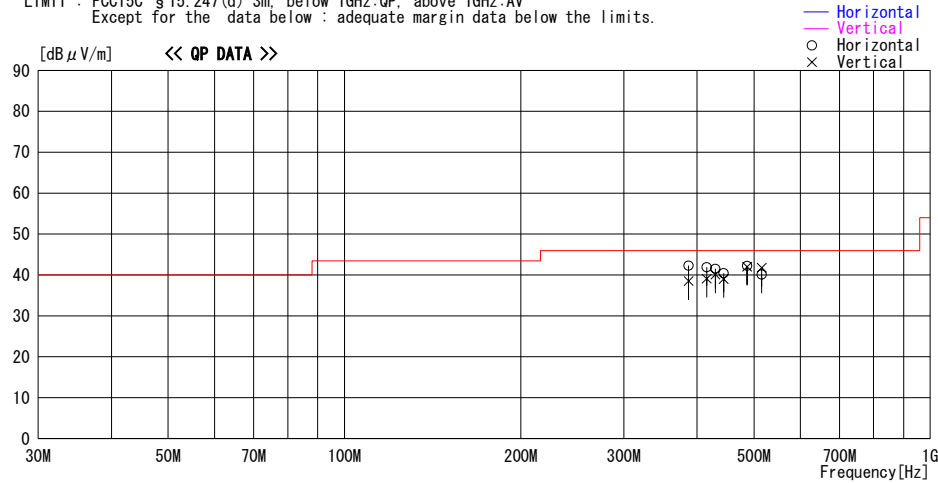
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/06/21 16:46:00

Applicant : Panasonic Communications Co., Ltd. Report No. : 251E0110-HO
Kind of EUT : Home Communication System Power : AC 120V / 60Hz (EUT input: DC5V)
Model No. : KX-THA14 (Wireless USB Adapter) Temp./Humi. : 23deg. C / 53%
Serial No. : 0080F080132D Operator : Kenichi Adachi

Mode / Remarks : Mode 2 Tx2440MHz / EUT-max-Axis (Hor.:X, Ver.:Z)

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 [dB μ V]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dB μ V/m]	LIMIT [dB μ V/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	386.582	41.9	17.5	10.6	27.7	42.3	46.0	3.7	100	321
2	415.223	40.9	18.1	10.8	27.9	41.9	46.0	4.1	100	198
3	429.543	40.4	18.2	10.9	28.0	41.5	46.0	4.5	100	322
4	443.860	39.4	18.3	10.9	28.2	40.4	46.0	5.6	100	319
5	486.812	40.9	18.5	11.1	28.3	42.2	46.0	3.8	100	312
6	515.446	38.5	18.8	11.3	28.5	40.1	46.0	5.9	100	307
----- Vertical -----										
7	386.582	38.1	17.5	10.6	27.7	38.5	46.0	7.5	131	264
8	415.223	38.1	18.1	10.8	27.9	39.1	46.0	6.9	123	86
9	429.538	39.0	18.2	10.9	28.0	40.1	46.0	5.9	106	111
10	443.859	38.0	18.3	10.9	28.2	39.0	46.0	7.0	111	96
11	486.810	40.7	18.5	11.1	28.3	42.0	46.0	4.0	100	76
12	515.450	40.2	18.8	11.3	28.5	41.8	46.0	4.2	100	154

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 Spurious Emission [Mode 2]

Company : Panasonic Communications Co.,Ltd.
Equipment : Wireless USB Adaptor
Model : KX-THA14
Sample No. : 0080F080132D
Power : AC 120 V / 60 Hz (EUT input: DC5V)
Mode : Mode 2, Tx 2402MHz
Remarks : EUT max-axis (Hor: X-axis + Ant 5deg., Ver: Z-axis + Ant 5deg.)

UL Apex Co., Ltd.
Head Office EMC Lab. No.1 Semi Anechoic Chamber
REPORT NO : 25IE0110-HO
REGULATION : Fcc Part15 Subpart C 15.247(d)
TEST DISTANCE : 3/1m
DATE : 05/26/2005 05/27/2005
TEMPERATURE : 23deg.C 23deg.C
HUMIDITY : 41% 41%
ENGINEER : Kenichi Adachi 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	1197.0	54.6	57.3	23.0	39.9	1.8	0.0	0.0	39.5	42.2	74.0	34.5	31.8
2	2389.8	54.3	55.3	31.0	39.9	2.6	0.0	0.0	48.0	49.0	74.0	26.0	25.0
3*	2400.0	100.0	100.4	30.9	39.9	2.6	0.0	0.0	93.6	94.0	74.0	-	-
4	4804.7	60.5	57.5	34.9	41.2	3.9	1.0	0.0	59.1	56.1	74.0	14.9	17.9
5	7206.8	64.5	58.3	37.6	40.4	4.8	0.4	0.0	66.9	60.7	74.0	7.1	13.3
6	8611.7	52.5	55.0	36.9	39.5	5.2	0.1	0.0	55.2	57.7	74.0	18.8	16.3
7	9609.3	55.3	58.3	36.3	39.5	5.6	0.1	0.0	57.8	60.8	74.0	16.2	13.2
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
8	12010.0	48.8	49.7	41.4	39.6	6.6	0.1	0.0	47.8	48.7	74.0	26.2	25.3
9	14412.0	50.2	51.0	41.7	41.0	6.7	0.2	0.0	48.3	49.1	74.0	25.7	24.9
10	16814.0	48.9	48.4	44.7	41.7	7.1	1.1	0.0	50.6	50.1	74.0	23.4	23.9
11	19216.0	45.0	44.7	40.1	40.3	7.6	0.0	0.0	42.9	42.6	74.0	31.1	31.4
12	21618.0	45.8	45.6	39.8	35.4	8.2	0.0	0.0	48.9	48.7	74.0	25.1	25.3
13	24020.0	45.7	46.0	40.4	32.9	8.2	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	1197.0	36.7	39.9	23.0	39.9	1.8	0.0	0.0	21.6	24.8	54.0	32.4	29.2
2	2389.8	38.7	38.6	31.0	39.9	2.6	0.0	-26.6	5.8	5.7	54.0	48.2	48.3
3*	2400.0	69.3	69.5	30.9	39.9	2.6	0.0	-26.6	36.3	36.5	54.0	-	-
4	4804.7	47.8	47.4	34.9	41.2	3.9	1.0	-26.6	19.8	19.4	54.0	34.2	34.6
5	7206.8	49.5	45.5	37.6	40.4	4.8	0.4	-26.6	25.3	21.3	54.0	28.7	32.7
6	8611.7	42.3	45.4	36.9	39.5	5.2	0.1	-26.6	18.4	21.5	54.0	35.6	32.5
7	9609.3	39.8	41.7	36.3	39.5	5.6	0.1	-26.6	15.7	17.6	54.0	38.3	36.4
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
8	12010.0	36.4	35.9	41.4	39.6	6.6	0.1	-26.6	35.4	34.9	54.0	18.6	19.1
9	14412.0	36.7	35.5	41.7	41.0	6.7	0.2	-26.6	34.8	33.6	54.0	19.2	20.4
10	16814.0	35.2	35.1	44.7	41.7	7.1	1.1	-26.6	36.9	36.8	54.0	17.1	17.2
11	19216.0	32.4	32.3	40.1	40.3	7.6	0.0	-26.6	30.3	30.2	54.0	23.7	23.8
12	21618.0	32.7	32.7	39.8	35.4	8.2	0.0	-26.6	35.8	35.8	54.0	18.2	18.2
13	24020.0	31.9	32.2	40.4	32.9	8.2	0.0	-26.6	38.1	38.4	54.0	15.9	15.6

* 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]	Hi-Pass Filter [dB]	Dwell Factor [dB]	RESULT		Limit 20dBc [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													
0	2402.0	119.2	119.0	30.9	39.9	2.7	0.0	0.0	112.9	112.7	-	-	-
3	2400.0	69.3	69.5	30.9	39.9	2.6	0.0	0.0	62.9	63.1	Funda-20dB	30.0	29.6

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 : $= 20 \times \log \left(\left(1.817 \text{ [ms]} \times \left(129 / \left(5 \text{ [s]} / 0.100 \text{ [s]} \right) \right) \right) / 100 \text{ [ms]} \right) = -26.6 \text{ dB}$

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Radiated Spurious Emission [Mode 2]

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

Company : Panasonic Communications Co.,Ltd. Equipment : Wireless USB Adaptor Model : KX-THA14 Sample No. : 0080F080132D Power : AC 120 V / 60 Hz (EUT input: DC5V) Mode : Mode 2, Tx 2440MHz Remarks : EUT max-axis (Hor: X-axis + Ant 5deg., Ver: Z-axis + Ant 5deg.)	REPORT NO : 25IE0110-HO REGULATION : Fcc Part15 Subpart C 15.247(d) TEST DISTANCE : 3/1m DATE : 05/26/2005 05/27/2005 TEMPERATURE : 23deg.C 23deg.C HUMIDITY : 41% 41% ENGINEER : Kenichi Adachi Kenichi Adachi
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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	4879.4	59.8	55.8	35.3	41.2	3.9	1.0	0.0	58.8	54.8	74.0	15.2	19.2
2	7320.1	61.5	59.3	37.8	40.4	4.8	0.5	0.0	64.2	62.0	74.0	9.8	12.0
3	8618.7	54.5	55.1	36.9	39.5	5.2	0.1	0.0	57.2	57.8	74.0	16.8	16.2
4	9758.8	52.9	56.3	36.2	39.6	5.6	0.2	0.0	55.3	58.7	74.0	18.7	15.3
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
5	12200.0	48.9	50.4	41.5	39.8	6.6	0.3	0.0	48.0	49.5	74.0	26.0	24.5
6	14640.0	50.3	50.0	42.2	40.9	6.7	0.2	0.0	49.0	48.7	74.0	25.0	25.3
7	17080.0	49.2	49.0	44.6	41.8	7.1	1.1	0.0	50.7	50.5	74.0	23.3	23.5
8	19520.0	44.5	45.4	40.3	39.8	7.8	0.0	0.0	43.3	44.2	74.0	30.7	29.8
9	22960.0	46.5	47.7	39.8	35.9	8.2	0.0	0.0	49.1	50.3	74.0	24.9	23.7
10	24400.0	44.4	44.8	40.4	33.7	8.4	0.0	0.0	50.0	50.4	74.0	24.0	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	4879.4	47.3	44.8	35.3	41.2	3.9	1.0	-26.6	19.7	17.2	54.0	34.3	36.8
2	7320.1	47.8	43.7	37.8	40.4	4.8	0.5	-26.6	23.9	19.8	54.0	30.1	34.2
3	8618.7	45.8	44.5	36.9	39.5	5.2	0.1	-26.6	21.9	20.6	54.0	32.1	33.4
4	9758.8	38.2	40.5	36.2	39.6	5.6	0.2	-26.6	14.0	16.3	54.0	40.0	37.7
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
5	12200.0	36.0	36.8	41.5	39.8	6.6	0.3	-26.6	8.5	9.3	54.0	45.5	44.7
6	14640.0	36.0	36.1	42.2	40.9	6.7	0.2	-26.6	8.1	8.2	54.0	45.9	45.8
7	17080.0	35.4	35.4	44.6	41.8	7.1	1.1	-26.6	10.3	10.3	54.0	43.7	43.7
8	19520.0	31.9	32.1	40.3	39.8	7.8	0.0	-26.6	4.1	4.3	54.0	49.9	49.7
9	22960.0	34.1	34.2	39.8	35.9	8.2	0.0	-26.6	10.1	10.2	54.0	43.9	43.8
10	24400.0	31.6	31.7	40.4	33.7	8.4	0.0	-26.6	10.6	10.7	54.0	43.4	43.3

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 x log ((1.817 [ms] x (129 / (5[s] / 0.100 [s]))) / 100 [ms]) = -26.6 dB

Radiated Spurious Emission [Mode 2]

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

Company : Panasonic Communications Co.,Ltd.
Equipment : Wireless USB Adaptor
Model : KX-THA14
Sample No. : 0080F080132D
Power : AC 120 V / 60 Hz (EUT input: DC5V)
Mode : Mode 2, Tx 2480MHz
Remarks : EUT max-axis (Hor: X-axis + Ant 5deg., Ver: Z-axis + Ant 5deg.)

REPORT NO : 25IE0110-HO
REGULATION : Fcc Part15 Subpart C 15.247(d)
TEST DISTANCE : 3/1m
DATE : 05/26/2005 05/27/2005
TEMPERATURE : 23deg.C 23deg.C
HUMIDITY : 41% 41%
ENGINEER : Kenichi Adachi 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*	2483.5	73.7	76.4	30.8	40.0	2.5	0.0	0.0	67.0	69.7	74.0	7.0	4.3
2	4960.7	54.9	54.8	35.8	41.3	4.0	1.0	0.0	54.4	54.3	74.0	19.6	19.7
3	7440.0	58.2	62.4	37.9	40.3	5.1	0.4	0.0	61.3	65.5	74.0	12.7	8.5
4	8608.7	52.9	54.7	36.9	39.5	5.2	0.1	0.0	55.6	57.4	74.0	18.4	16.6
5	9919.7	53.2	54.9	36.2	39.6	6.0	0.1	0.0	55.9	57.6	74.0	18.1	16.4
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfacc													
6	12400.0	50.5	50.0	41.6	40.0	6.6	0.4	0.0	49.6	49.1	74.0	24.4	24.9
7	14880.0	48.5	51.3	42.6	40.9	6.9	0.5	0.0	48.1	50.9	74.0	25.9	23.1
8	17360.0	49.8	48.8	44.4	41.6	7.1	0.9	0.0	51.1	50.1	74.0	22.9	23.9
9	19840.0	45.4	45.4	40.4	39.4	8.0	0.0	0.0	44.9	44.9	74.0	29.1	29.1
10	22320.0	46.9	46.7	39.8	35.3	8.2	0.0	0.0	50.1	49.9	74.0	23.9	24.1
11	24800.0	46.3	46.0	40.7	34.6	8.6	0.0	0.0	51.5	51.2	74.0	22.5	22.8

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*	2483.5	57.9	60.0	30.8	40.0	2.5	0.0	-26.6	24.6	26.7	54.0	29.4	27.3
2	4960.7	45.3	41.8	35.8	41.3	4.0	1.0	-26.6	18.2	14.7	54.0	35.8	39.3
3	7440.0	46.3	46.5	37.9	40.3	5.1	0.4	-26.6	22.8	23.0	54.0	31.2	31.0
4	8608.7	42.6	45.7	36.9	39.5	5.2	0.1	-26.6	18.7	21.8	54.0	35.3	32.2
5	9919.7	39.4	39.7	36.2	39.6	6.0	0.1	-26.6	15.5	15.8	54.0	38.5	38.2
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfacc													
6	12400.0	37.8	36.5	41.6	40.0	6.6	0.4	-26.6	10.3	9.0	54.0	43.7	45.0
7	14880.0	34.9	36.2	42.6	40.9	6.9	0.5	-26.6	7.9	9.2	54.0	46.1	44.8
8	17360.0	35.4	35.6	44.4	41.6	7.1	0.9	-26.6	10.1	10.3	54.0	43.9	43.7
9	19840.0	31.8	32.0	40.4	39.4	8.0	0.0	-26.6	4.7	4.9	54.0	49.3	49.1
10	22320.0	33.7	34.0	39.8	35.3	8.2	0.0	-26.6	10.3	10.6	54.0	43.7	43.4
11	24800.0	33.1	33.2	40.7	34.6	8.6	0.0	-26.6	11.7	11.8	54.0	42.3	42.2

* Reference data

Marker-Delta Method (Delta chart: RBW:50kHz (= SPAN / 100), VBW: 200kHz, SPAN: 5MHz)

No.	FREQ [MHz]	Carrier Level - delta S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATT LOSS [dB]	Dwell Factor [dB]	RESULT		Limit [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]							[dBuV/m]			[dB]	
Test distance 3meters RESULT=Carrier Reading - Delta + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	2483.5	55.4	56.4	30.8	40.0	2.5	0.0	0.0	48.7	49.7	74.0	25.3	24.3
AV DETECT													
1	2483.5	39.4	39.6	30.8	40.0	2.5	0.0	0.0	32.7	32.9	54.0	21.3	21.1

Test Distance 1.0m : Distance Factor(Dfacc) = 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 x log ((1.817 [ms] x (129 / (5[s] / 0.100 [s]))) / 100 [ms]) = -26.6 dB

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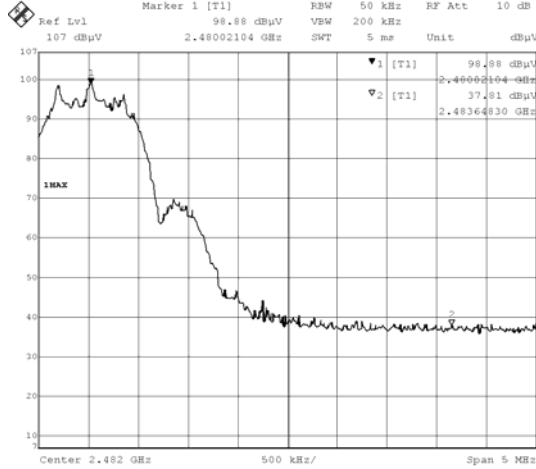
Facsimile : +81 596 24 8124

MF060b(01.06.05)

[Reference data]

Delta marker chart

KX-THA14, Mode 2, Tx2480MHz, Hor.,

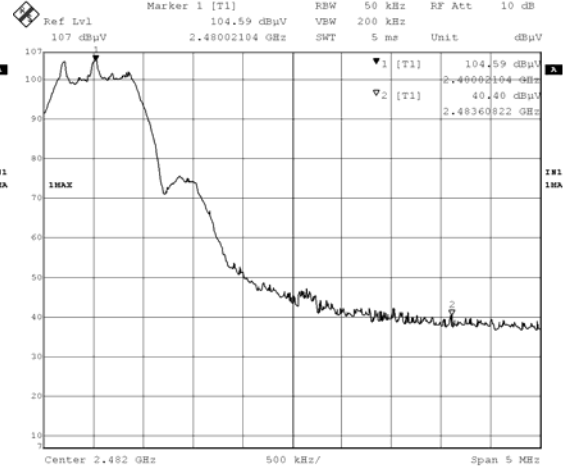


Date: 28.MAY.2005 00:20:48

RBW = span 5MHz / 100 = 50kHz
VBW = RBW x 3 = 150kHz -> 200kHz

Carrier read to 2483.64830MHz read
-61.07dB

KX-THA14, Mode 2, Tx2480MHz, Ver.,



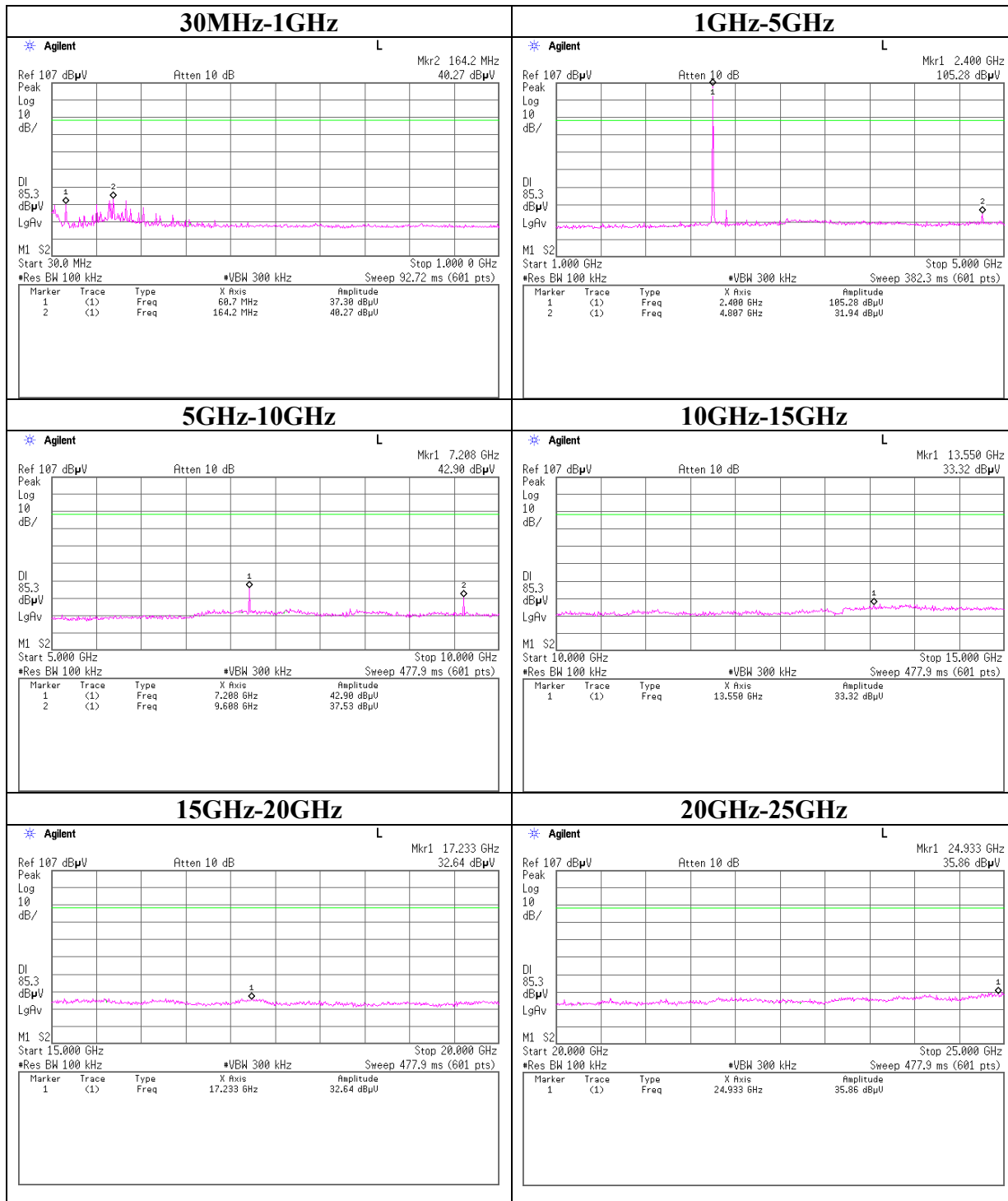
Date: 28.MAY.2005 01:23:22

RBW = span 5MHz / 100 = 50kHz
VBW = RBW x 3 = 150kHz -> 200kHz

Carrier read to 2483.60822MHz read
-64.19dB

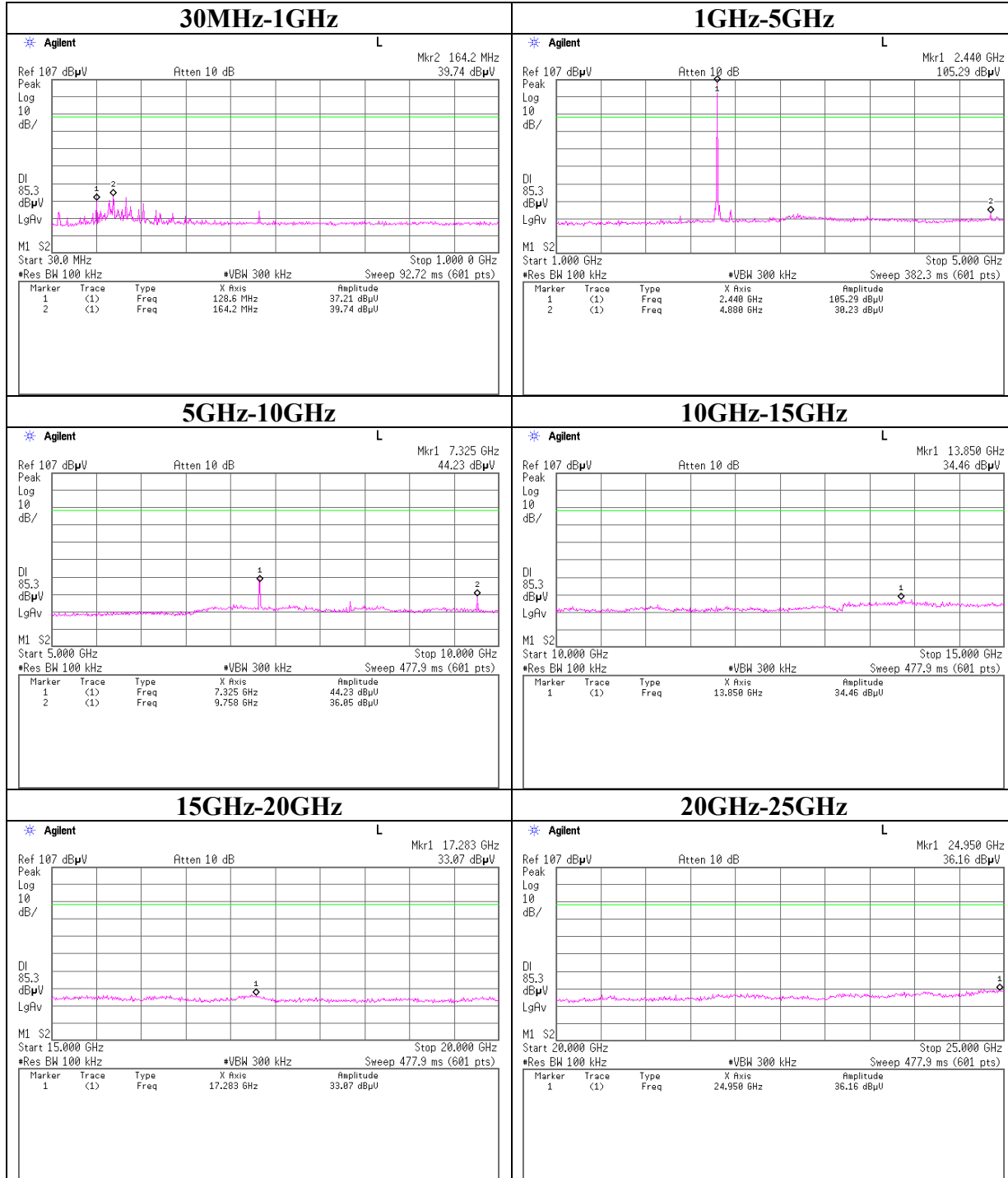
Conducted Spurious Emission [Mode 2]

Ch:Low

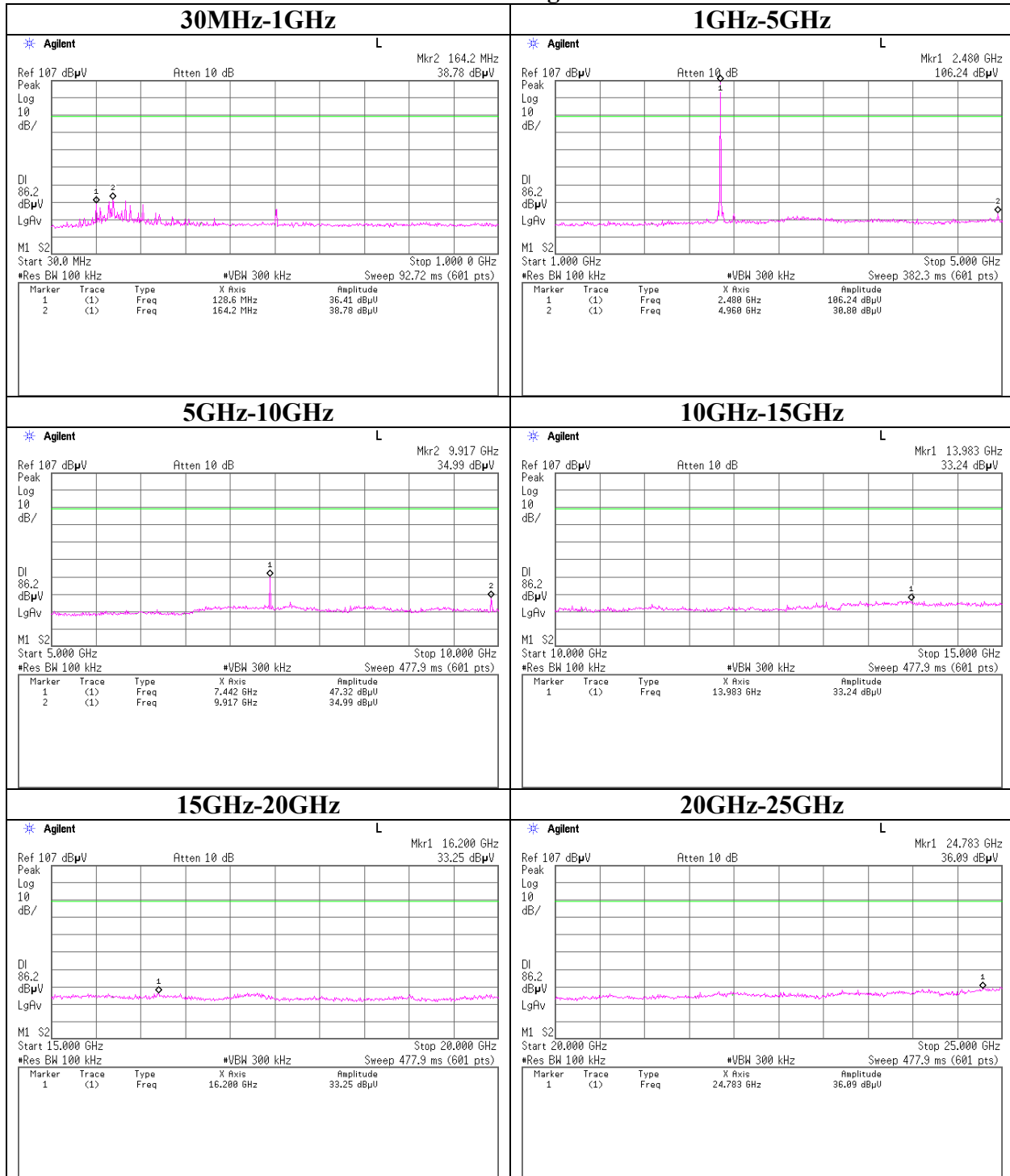


Conducted Spurious Emission [Mode 2]

Ch:Mid



Conducted Spurious Emission [Mode 2]
Ch:High



Conducted Spurious Emission [Mode 2]
Band Edge compliance

