

RADIO TEST REPORT

Test Report No. : 27BE0153-HO-B

Applicant : Panasonic Communications Co., Ltd.
Type of Equipment : Cordless Telephone (Base)
Model No. : KX-TG6051 (Base)
FCC ID : ACJ96NKX-TG6051
Test standard : FCC Part 15 Subpart C
Section 15.207, Section 15.247: 2006
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.
4. The test results in this report are traceable to the national or international standards.

Date of test:

October 2 to 12, 2006

Tested by:



Kenichi Adachi
EMC Services



Motoya Imura
EMC Services

Approved by :



Hironobu Shimoji
Group Leader of EMC Services



NVLAP LAB CODE: 200572-0

This laboratory is accredited by the NVLAP LAB CODE 200572-0, U.S.A. The tests reported herein have been performed in accordance with its terms of accreditation.

*As for the range of Accreditation in NVLAP, you may refer to the WEB address, <http://ulapex.jp/emc/nvlap.htm>

UL Apex Co., Ltd.

Head Office EMC Lab.

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MF060b(14.06.06)

CONTENTS	PAGE
SECTION 1: Client information	3
SECTION 2: Equipment under test (E.U.T.).....	3
SECTION 3: Test specification, procedures & results.....	4
SECTION 4: Operation of E.U.T. during testing	8
SECTION 5: Conducted Emission.....	9
SECTION 6: Spurious Emission	10
SECTION 7: Bandwidth	11
SECTION 8: Maximum Peak Output Power	11
SECTION 9: Carrier Frequency Separation	11
SECTION 10: Number of Hopping Frequency	11
SECTION 11: Dwell time	11
APPENDIX 1: Photographs of test setup	12
Conducted Emission	12
Spurious Emission (Radiated).....	14
Worst Case Position (Horizontal: Y-axis/ Vertical:X-axis).....	15
APPENDIX 2: Data of EMI test.....	16
Conducted Emission	16
Carrier Frequency Separation.....	23
20dB Bandwidth	25
Number of Hopping Frequency	27
Dwell time	29
Maximum Peak Output Power	31
Radiated Spurious Emission (below 1GHz).....	32
Radiated Spurious Emission (above 1GHz).....	35
Conducted Spurious Emission	38
99% Occupied Bandwidth.....	45
APPENDIX 3:Test instruments	46

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	Cordless Telephone (Base)
Model No.	KX-TG6051(Base)
Serial No.	2 and 3 for Radiated Emission and Conducted emission test 1 for Antenna Terminal Conducted test
Country of Manufacture	Japan
Rating	AC120V / 60Hz (AC Adaptor: PQLV203)
Condition of EUT	Engineering prototype (Not for sale: This sample is equivalent to mass-produced items.)
Operation Clock	Main clock : 13.824 MHz
Receipt Date of Sample	September 29, 2006
Modification of EUT	No modification by the test lab.

2.2 Product Description

Equipment Type	Transceiver
Frequency band	Lower Channel : 5759.702MHz Upper Channel : 5838.187MHz
Bandwidth & Channel spacing	Bandwidth: 79MHz Channel spacing: 892kHz
Type of Modulation	FHSS
Antenna Type	5/8 lambda Pattern-Antenna
Antenna Gain	3dBi Typ.
Power Supply (RF Part)	DC4V
Method of Frequency Generation	Synthesizer

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SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification	:	FCC Part15 Subpart C : 2006
Title	:	FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators Section 15.207 Conducted limits : 2006 Section 15.247 Operation within the bands 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz : 2006

FCC 15.31 (e)

This EUT provides stable voltage(DC4V) constantly to RF Module regardless of input voltage. Therefore, this EUT complies with the requirement.

FCC Part 15.203 Antenna requirement

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

3.2 Procedures and results

[FHSS]

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst Margin*0)	Results
1	Conducted emission	FCC: ANSI C63.4:2003 7. AC powerline conducted emission measurements	FCC: Section 15.207	-	N/A	14.2dB, AV 4.04370MHz Phase L	Complied
2	Carrier Frequency Separation	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators	FCC: Section 15.247(a)(1)	Conducted	N/A	See data.	Complied
3	20dB Bandwidth	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators	FCC: Section 15.247(a)(1)	Conducted	N/A		Complied
4	Number of Hopping Frequency	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators	FCC: Section 15.247(a)(1)(ii)	Conducted	N/A		Complied
5	Dwell time	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators	FCC: Section 15.247(a)(1)(ii)	Conducted	N/A		Complied
6	Maximum Peak Output Power	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators	FCC: Section 15.247(b)(1)	Conducted	N/A		Complied
7	Band Edge Compliance	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators	FCC: Section 15.247(d)	Conducted	N/A		Complied
8	Spurious Emission	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators	FCC: Section 15.247(d)	Conducted/ Radiated	N/A	(Tx 5798.053MHz) 7.5 dB, 17394.16 MHz, Horizontal, PK	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.

*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 Uncertainty

Conducted Emission

The measurement uncertainty (with a 95% confidence level) for this test is $\pm 2.66\text{dB}$.
The data listed in this test report has enough margin, more than the site margin.

Spurious Emission (Radiated)

The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is $\pm 4.59\text{dB}(3\text{m}) / \pm 4.58\text{dB}(10\text{m})$.
The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is $\pm 4.62\text{dB}(3\text{m}) / \pm 4.60\text{dB}(10\text{m})$.
The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is $\pm 5.27\text{dB}$.
The data listed in this test report has enough margin, more than the site margin.

Other test except Conducted Emission and Spurious Emission (Radiated)

The measurement uncertainty (with a 95% confidence level) for this test is $\pm 3.0\text{dB}$.

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3.5 Test Location

UL Apex Co., Ltd. Head Office EMC Lab. *NVLAP Lab. code: 200572-0

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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	IC4247A	19.2 x 11.2 x 7.7m	7.0 x 6.0m	Preparation room
No.2 semi-anechoic chamber	655103	IC4247A-2	7.5 x 5.8 x 5.2m	4.0 x 4.0m	-
No.3 semi-anechoic chamber	148738	IC4247A-3	12.0 x 8.5 x 5.9m	6.8 x 5.75m	
No.3 shielded room	-	-	4.0 x 6.0 x 2.7m	N/A	-
No.4 semi-anechoic chamber	134570	IC4247A-4	12.0 x 8.5 x 5.9m	6.8 x 5.75m	-
No.4 shielded room	-	-	4.0 x 6.0 x 2.7m	N/A	-
No.5 semi-anechoic chamber	-	-	6.0 x 6.0 x 3.9m	N/A	-
No.6 shielded room	-	-	4.0 x 4.5 x 2.7m	2.0 x 2.0 m	-
No.6 measurement room	-	-	4.75 x 5.4 x 3.0m	4.75 x 5.4 m	-
No.7 shielded room	-	-	4.7 x 7.5 x 2.7m	4.7 x 7.5m	-
No.8 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, No.2, No.3 and No.4 semi-anechoic chambers and No.7 shielded room.

3.6 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

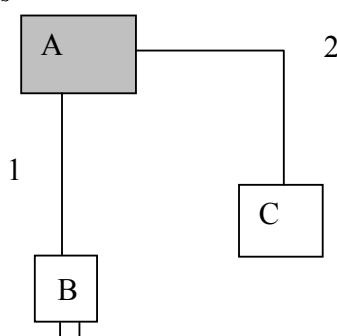
The mode is used : Transmitting mode
Low Channel : 5759.702MHz
Mid Channel : 5798.053MHz
High Channel : 5838.187MHz

[Remarks]

This EUT has 2 antennas (Antenna 1 and 2). The Antenna 1 is used for Radiated emission test since Antenna 1 has higher output power level than Antenna 2.

The Antenna 2 is used for the antenna terminal test. As for Conducted emission test, both Antenna 1 and 2 were used.

4.2 Configuration and peripherals



AC120V/60Hz

* Cabling and setup were 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	Remarks
A	Cordless Telephone (Base)	KX-TG6051	1*1), 2 and 3 *2)	Panasonic Communications Co., Ltd.	EUT *3)
B	AC Adapter	PQLV203	0624R (for Radiated and Conducted emissions), 0538R (for Antenna terminal conducted emissions)	Panasonic Communications Co., Ltd.	-
C	Facsimile Equipment	FQ-70	17104455	Sharp	-

*1) Used for Antenna terminal tests

*2) Used for Conducted and Radiated emissions

*3) As for the Conducted emission test, the test was made without Handset of Cordless Telephone since there is no difference in noise level in the test with or without the Handset.

List of cables used

No.	Name	Length (m)	Shield	
			Cable	Connector
1	DC Cable	2.0	Unshielded	Unshielded
2	Tel Code	1.8	Unshielded	Unshielded

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SECTION 5: Conducted Emission

Test Procedure and conditions

EUT was placed on a urethane 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.

For the tests on EUT with other peripherals (as a whole system)

I/O cable and AC cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 30cm to 40cm long and were hanged at a 40cm height to the ground plane. 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 2
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 2

Test result : Pass

[Radiated]

Test Procedure

EUT was placed on a urethane platform of nominal size, 1.0m by 1.0m, raised 80cm above the conducting ground plane.

The Radiated Electric Field Strength intensity has been measured in a Semi Anechoic Chamber with a ground plane and at a distance of 3m(Below 10GHz) and 1m(Upper 10GHz).

The height of the measuring varied between 1 and 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.

The measurements were performed for both vertical and horizontal antenna polarization with the Test Receiver, or the Spectrum Analyzer (in linear mode).

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

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

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

20dBc was applied to the frequency over the limit of FCC 15.209 and outside the restricted band of FCC15.205.

Frequency	Below 1GHz	Above 1GHz
Instrument used	Test Receiver / Spectrum Analyzer	Spectrum Analyzer
Detector	QP: BW 120kHz(T/R)	PK: RBW:1MHz/VBW: 1MHz
IF Bandwidth	20dBc : RBW: 100kHz VBW: 300kHz (S/A)	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 axes 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 2

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 2
Test result	: Pass

SECTION 8: Maximum Peak Output Power

Test Procedure

The Maximum Peak Output Power was measured with a power meter (tested bandwidth: 50MHz) connected to the antenna port.

Test data	: APPENDIX 2
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 2
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 2
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 2
Test result	: Pass

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APPENDIX 1: Photographs of test setup

Conducted Emission

(without Battery charge for Hand set)

This page has been submitted in a separate sheet.

Conducted Emission
(with Battery charge for Hand set)

This page has been submitted in a separate sheet.

Spurious Emission (Radiated)

This page has been submitted in a separate sheet.

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

This page has been submitted in a separate sheet.

APPENDIX 2: Data of EMI test

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Shielded Room
Date : 2006/10/12 04:10:53

Applicant : Panasonic Communications Co., Ltd.

Kind of EUT : Cordless Telephone (Base)

Model No. : KX-TG6051 (Base)

Serial No. : 3

Report No. : 27BE0153-HO

Power : AC 120V / 60Hz

Temp./Humi. : 24 deg.C / 57 %

Operator : Motoya Imura

Mode / Remarks : Tx 5759.702MHz : Ant1,

LIMIT : FCC15C § 15.207
FCC15C § 15.207

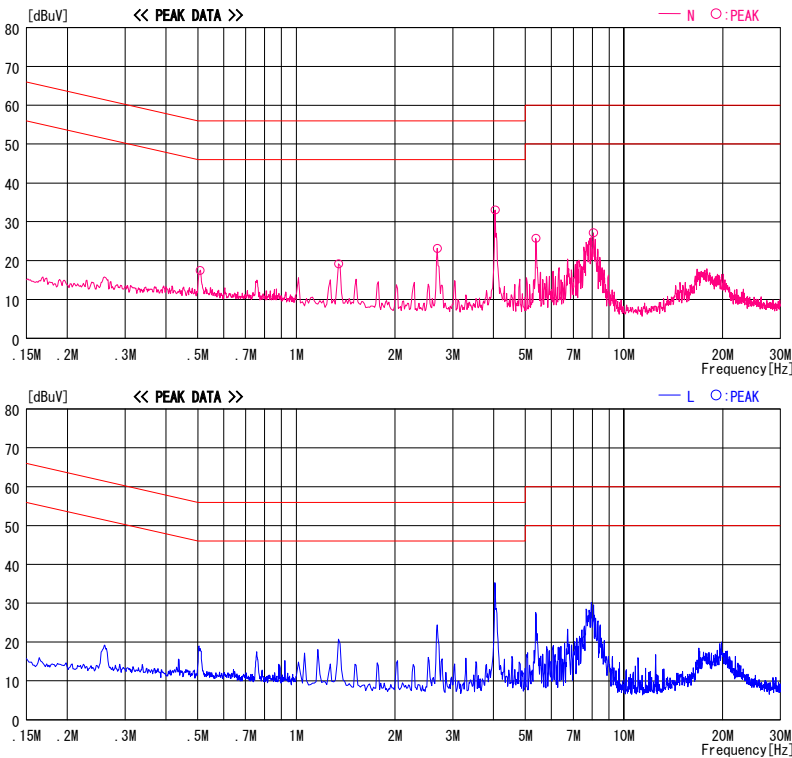


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

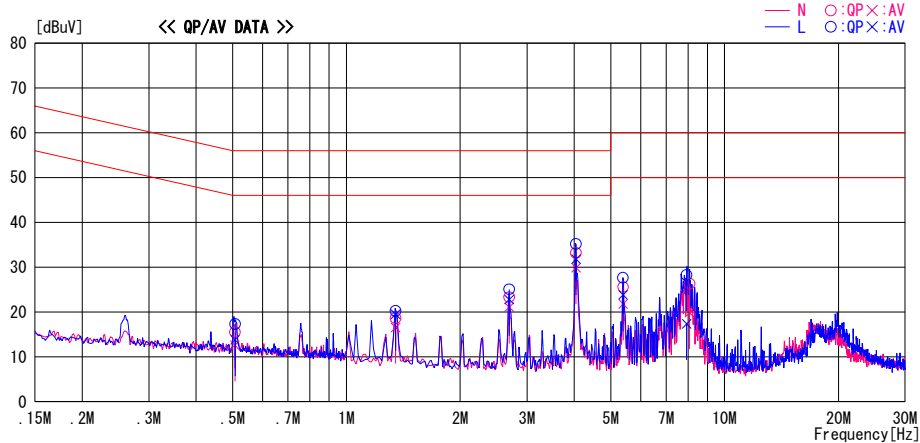
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Shielded Room
Date : 2006/10/12 04:10:53

Applicant : Panasonic Communications Co., Ltd. Report No. : 27BE0153-HO
Kind of EUT : Cordless Telephone (Base) Power : AC 120V / 60Hz
Model No. : KX-TG6051 (Base) Temp./Humi. : 24 deg. C. / 57 %
Serial No. : 3 Operator : Motoya Imura

Mode / Remarks : Tx 5759.702MHz : Ant1,

LIMIT : FCC15C § 15.207
FCC15C § 15.207



Frequency [MHz]	Reading Level		Corr. Factor [dB]	Results		Limit		Margin		Phase
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]	
0.50750	16.9	13.4	0.4	17.3	13.8	56.0	46.0	38.7	32.2	L
1.34810	19.7	19.0	0.5	20.2	19.5	56.0	46.0	35.8	26.5	L
2.69500	24.6	22.3	0.5	25.1	22.8	56.0	46.0	30.9	23.2	L
4.04370	34.4	31.1	0.7	35.1	31.8	56.0	46.0	20.9	14.2	L
5.38630	26.9	23.0	0.8	27.7	23.8	60.0	50.0	32.4	26.2	L
7.93320	27.2	16.3	1.1	28.3	17.4	60.0	50.0	31.7	32.6	L
0.50720	15.1	12.2	0.4	15.5	12.6	56.0	46.0	40.5	33.4	N
1.34770	18.1	16.1	0.5	18.6	16.6	56.0	46.0	37.4	29.5	N
2.69500	22.8	20.6	0.5	23.3	21.1	56.0	46.0	32.7	24.9	N
4.04470	32.5	29.2	0.7	33.2	29.9	56.0	46.0	22.8	16.1	N
5.39270	24.8	21.0	0.8	25.6	21.8	60.0	50.0	34.4	28.3	N
8.07900	25.3	18.7	1.1	26.4	19.8	60.0	50.0	33.7	30.2	N

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.

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Shielded Room
Date : 2006/10/12 04:33:08

Applicant

Kind of EUT

Model No.

Serial No.

: Panasonic Communications Co., Ltd.

: Cordless Telephone (Base)

: KX-TG6051 (Base)

: 3

Report No.

Power

Temp./Humi.

Operator

: 27BE0153-HO

: AC 120V / 60Hz

: 24 deg.C / 57 %

: Motoya Imura

Mode / Remarks

LIMIT : FCC15C § 15.207

FCC15C § 15.207

: Tx 5759.702MHz : Ant 2.

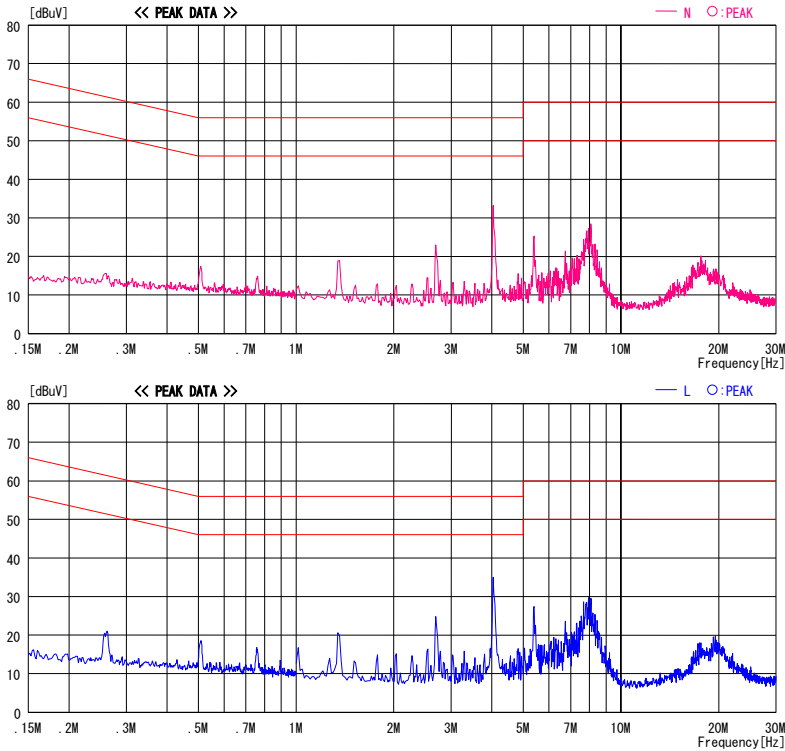


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C.F (LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Shielded Room
Date : 2006/10/12 03:53:54

Applicant : Panasonic Communications Co., Ltd. Report No. : 27BE0153-HO
Kind of EUT : Cordless Telephone (Base) Power : AC 120V / 60Hz
Model No. : KX-TG6051 (Base) Temp./Humi. : 24 deg. C. / 57 %
Serial No. : 3 Operator : Motoya Imura

Mode / Remarks : Tx 5798.053MHz : Ant1.

LIMIT : FCC15C § 15.207
FCC15C § 15.207

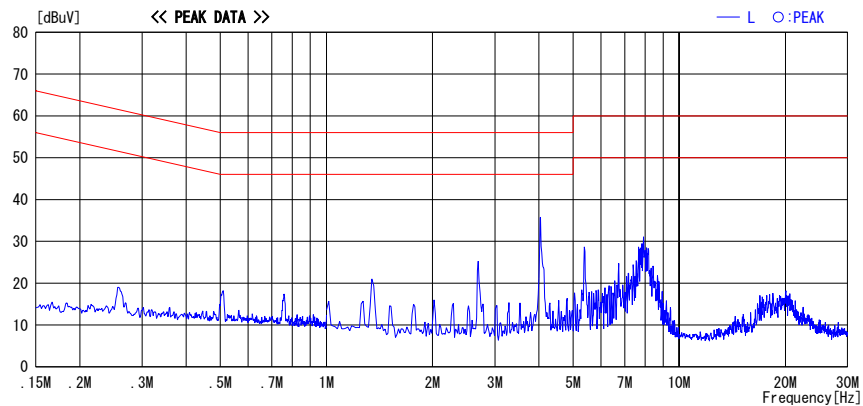
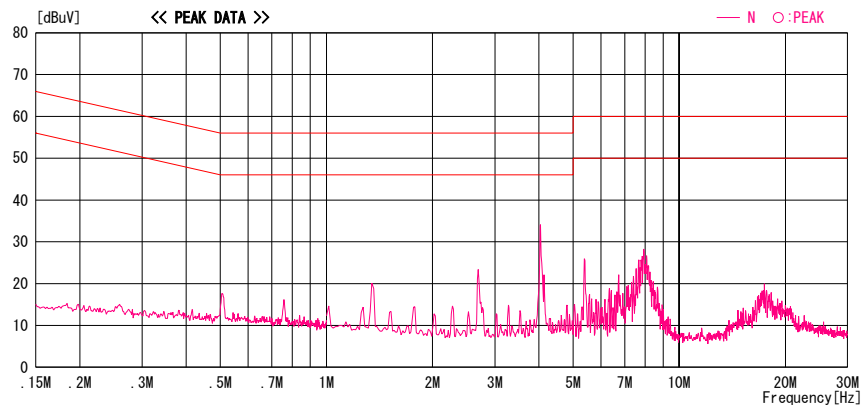


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Shielded Room
Date : 2006/10/12 04:28:01

Applicant

Kind of EUT

Model No.

Serial No.

: Panasonic Communications Co., Ltd.

: Cordless Telephone (Base)

: KX-TG6051 (Base)

: 3

Report No.

Power

Temp./Humi.

Operator

: 27BE0153-H0

: AC 120V / 60Hz

: 24 deg. C. / 57 %

: Motoya Imura

Mode / Remarks : Tx 5798.053MHz : Ant2,

LIMIT : FCC15C § 15.207
FCC15C § 15.207

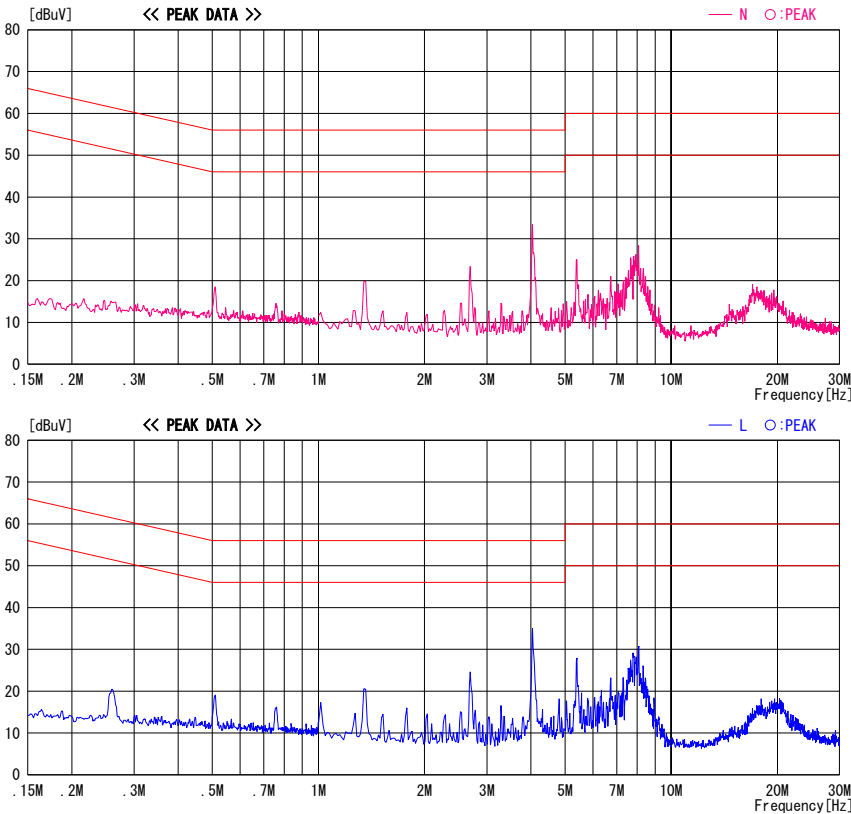


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F (LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Shielded Room
Date : 2006/10/12 03:05:00

Applicant : Panasonic Communications Co., Ltd. Report No. : 27BE0153-HO
Kind of EUT : Cordless Telephone (Base) Power : AC 120V / 60Hz
Model No. : KX-TG6051 (Base) Temp./Humi. : 24 deg.C. / 57 %
Serial No. : 3 Operator : Motoya Imura

Mode / Remarks : Tx 5838.187MHz : Ant 1.

LIMIT : FCC15C § 15.207
FCC15C § 15.207

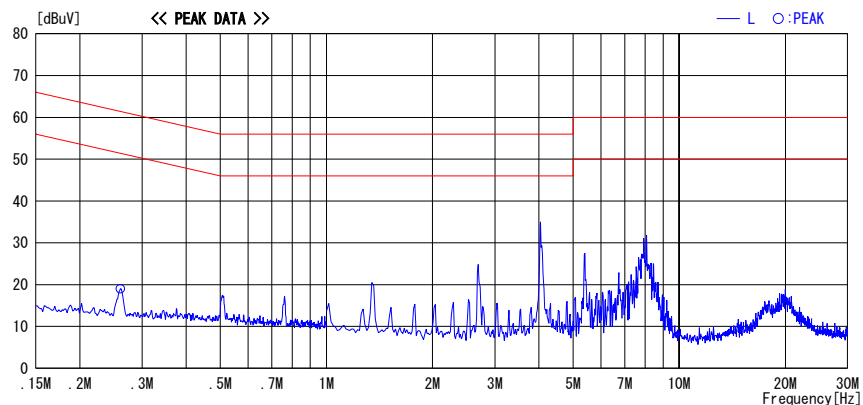
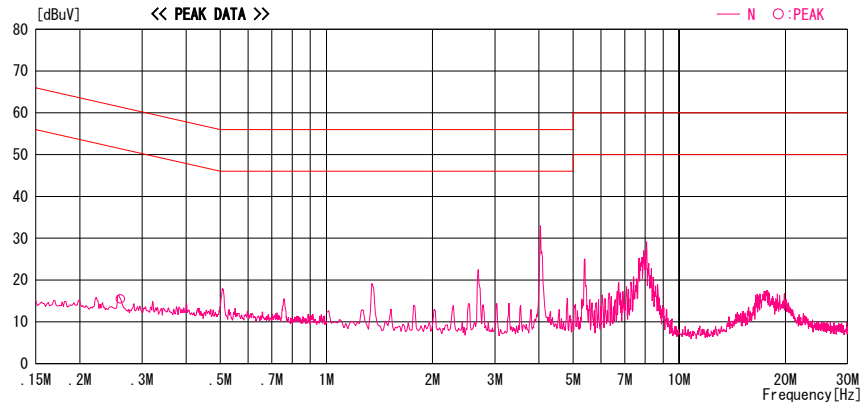


CHART:WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C.F (LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Shielded Room
Date : 2006/10/12 04:31:14

Applicant : Panasonic Communications Co., Ltd. Report No. : 27BE0153-HO
Kind of EUT : Cordless Telephone (Base) Power : AC 120V / 60Hz
Model No. : KX-TG6051 (Base) Temp./Humi. : 24 deg.C. / 57 %
Serial No. : 3 Operator : Motoya Imura

Mode / Remarks : Tx 5838.197MHz : Ant2,

LIMIT : FCC15C § 15.207
FCC15C § 15.207

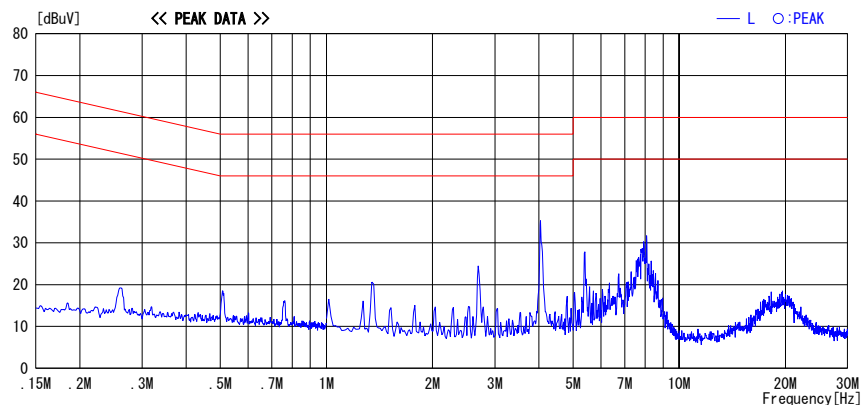
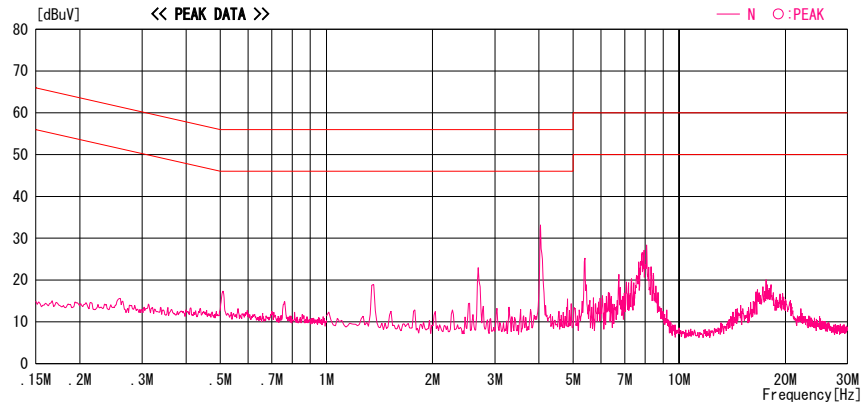


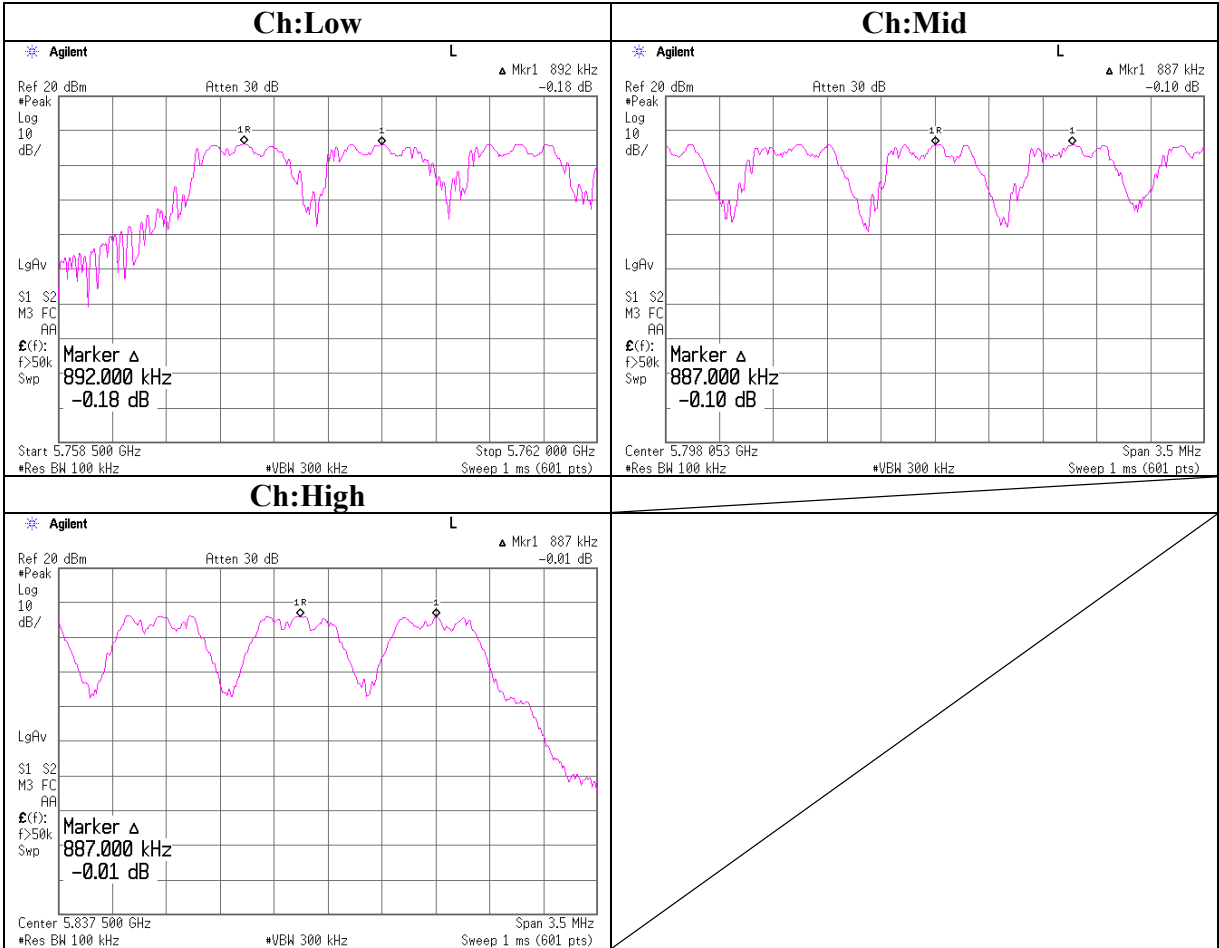
CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F (LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Carrier Frequency Separation

Company	: Panasonic Communications Co., Ltd.	UL-Apex Co.,Ltd.
Equipment	: Cordless Telephone (Base)	Head Office EMC Lab. No.7 Shielded Room
Model	: KX-TG6051 (Base)	Regulation : FCC 15.247(a)(1)(ii)
S/N	: 1	Test Distance : -
Power	: AC120V / 60Hz	Date : 10/12/2006
Mode	: Tx (Hopping on)	Temperature : 26 deg.C.
		Humidity : 53 %
		Engineer : Kenichi Adachi

Ch	Freq. [MHz]	Channel separation [MHz]	Limit
Low	5759.702	0.892	> 0.688MHz (20dB Bandwidth) or 0.025MHz (whichever is greater)
Mid	5798.053	0.887	> 0.649MHz (20dB Bandwidth) or 0.025MHz (whichever is greater)
High	5838.187	0.887	> 0.639MHz (20dB Bandwidth) or 0.025MHz (whichever is greater)

Carrier Frequency Separation

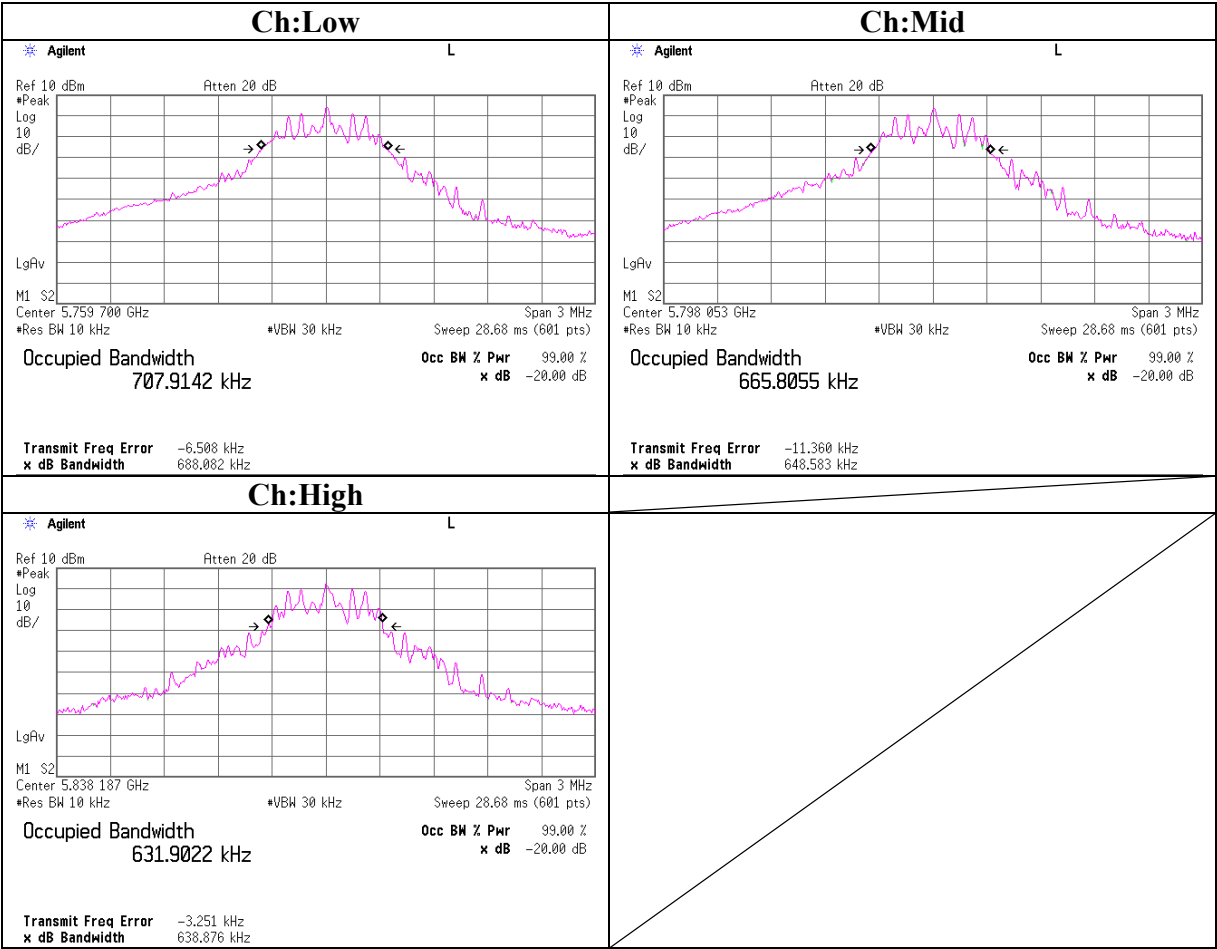


20dB Bandwidth

Company	: Panasonic Communications Co., Ltd.	UL-Apex Co.,Ltd.
Equipment	: Cordless Telephone (Base)	Head Office EMC Lab. No.7 Shielded Room
Model	: KX-TG6051 (Base)	Regulation : FCC15.247(a)(1)
S/N	: 1	Test Distance : -
Power	: AC120V / 60Hz	Date : 10/12/2006
Mode	: Tx (Hopping off)	Temperature : 26 deg.C.
		Humidity : 53 %
		Engineer : Kenichi Adachi

Ch	Freq. [MHz]	20dB Bandwidth [MHz]	Limit [MHz]
Low	5759.702	0.688	-
Mid	5798.053	0.649	-
High	5838.187	0.639	-

20dB Bandwidth



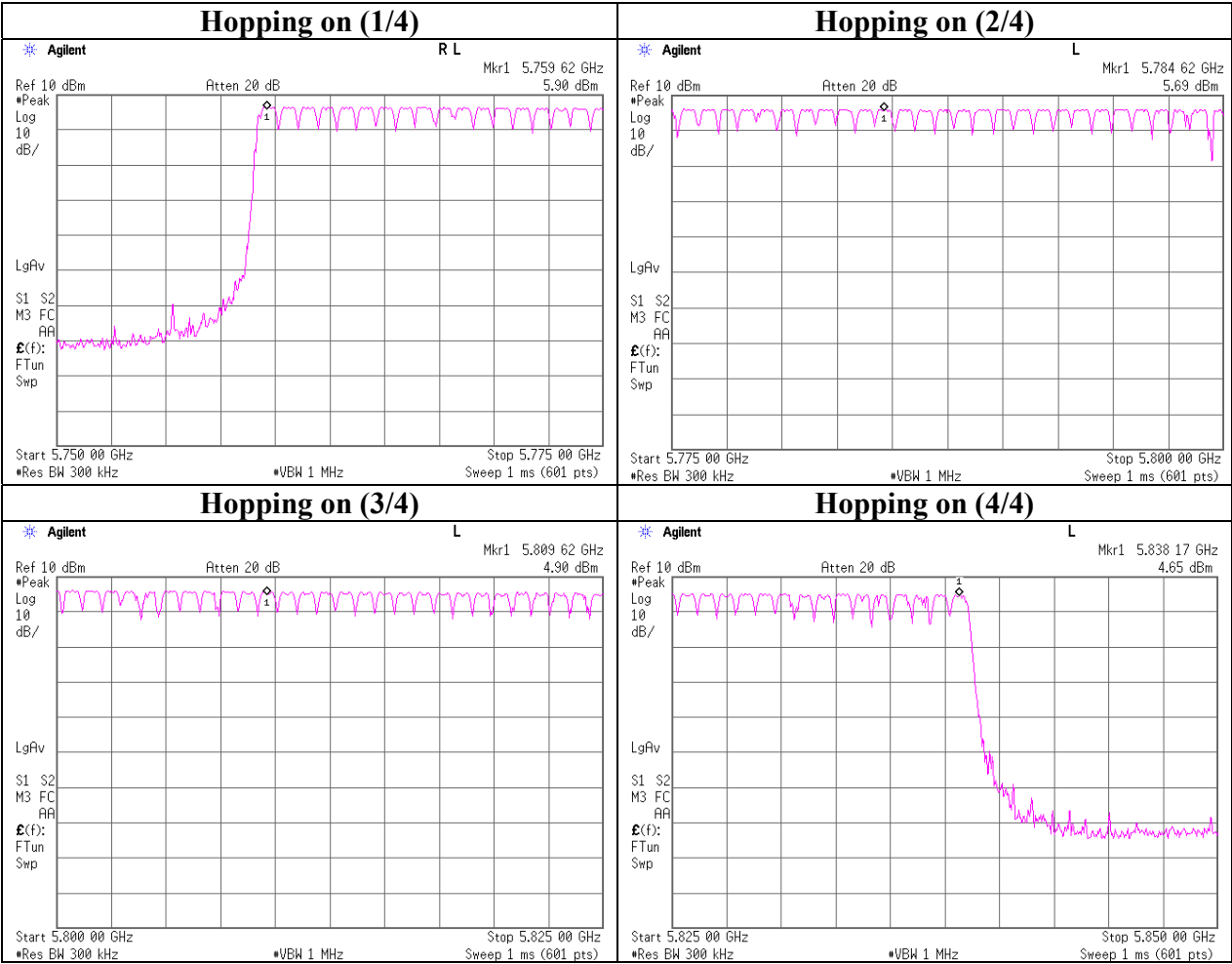
Number of Hopping Frequency

Company : Panasonic Communications Co., Ltd.
Equipment : Cordless Telephone (Base)
Model : KX-TG6051 (Base)
S/N : 1
Power : AC120V / 60Hz
Mode : Tx (Hopping on)

UL-Apex Co.,Ltd.
Head Office EMC Lab. No.7 Shielded Room
Regulation : FCC15.247(a)(1)(ii)
Test Distance : -
Date : 10/12/2006
Temperature : 26 deg.C.
Humidity : 53 %
Engineer : Kenichi Adachi

Mode	Number of channel [time]	Limit [time]
Tx(Hoppng on)	89	≥ 75

Number of Hopping Frequency



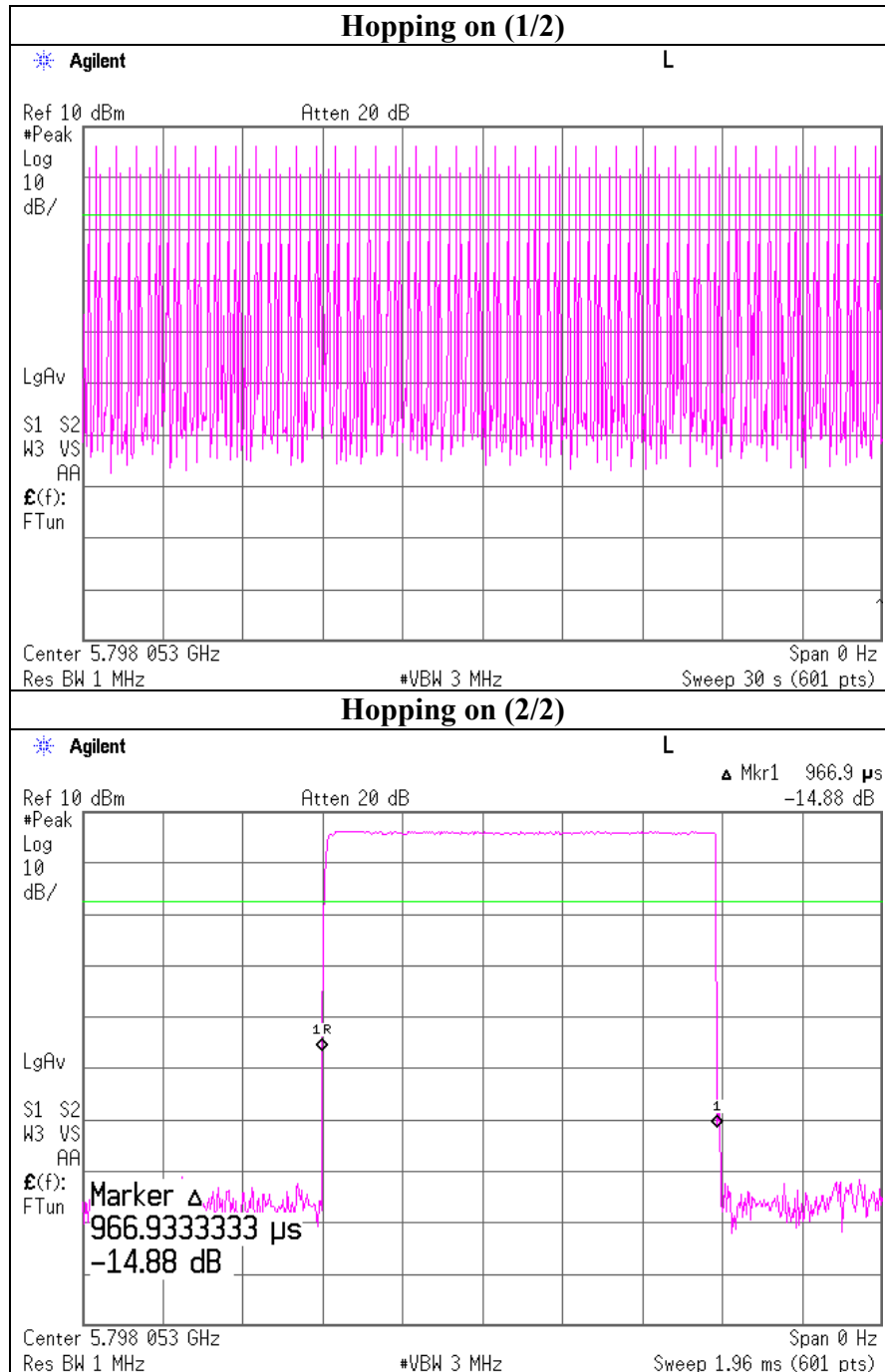
Dwell time

Company : Panasonic Communications Co., Ltd.
Equipment : Cordless Telephone (Base)
Model : KX-TG6051 (Base)
S/N : 1
Power : AC120V / 60Hz
Mode : Tx (Hopping on)

UL-Apex Co.,Ltd.
Head Office EMC Lab. No.7 Shielded Room
Regulation : FCC15.247(a)(1)(ii)
Test Distance : -
Date : 10/12/2006
Temperature : 26 deg.C.
Humidity : 53 %
Engineer : Kenichi Adachi

Mode	Number of transmission in a 30 second period	Length of transmission time [msec]	Result [msec]	Limit [msec]
Tx (Hopping on)	121 times / 30 sec. x 30.0 sec. = 121 times	0.967	117	400

Dwell time



Maximum Peak Output Power

Company : Panasonic Communications Co., Ltd.
Equipment : Cordless Telephone (Base)
Model : KX-TG6051 (Base)
S/N : 1
Power : AC120V / 60Hz
Mode : Tx (Hopping on)

UL-Apex Co.,Ltd.
Head Office EMC Lab. No.6 Shielded Room
Regulation : FCC15.247(b)(1)
Test Distance : -
Date : 10/04/2006
Temperature : 26 deg.C.
Humidity : 57 %
Engineer : Kenichi Adachi

Ant 2 (Worst)

Ch	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result		Limit		Margin
					[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5759.702	9.72	0.00	10.14	19.86	96.83	30.00	1000	10.14
Mid	5798.053	9.71	0.00	10.13	19.84	96.38	30.00	1000	10.16
High	5838.187	9.31	0.00	10.13	19.44	87.90	30.00	1000	10.56

Sample Calculation:

Result = Reading + Cable Loss + Attenuator

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

Ant 1

Ch	Freq. [MHz]	P/M (PK) Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result		Limit		Margin
					[dBm]	[mW]	[dBm]	[mW]	[dB]
Low	5759.702	7.54	0.00	10.14	17.68	58.61	30.00	1000	12.32
Mid	5798.053	7.51	0.00	10.13	17.64	58.08	30.00	1000	12.36
High	5838.187	7.17	0.00	10.13	17.30	53.70	30.00	1000	12.70

Sample Calculation:

Result = Reading + Cable Loss + 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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Facsimile : +81 596 24 8124

MF060b(14.06.06)

Radiated Spurious Emission (below 1GHz)

Tx, Low

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

DATA OF RADIATED EMISSION TEST

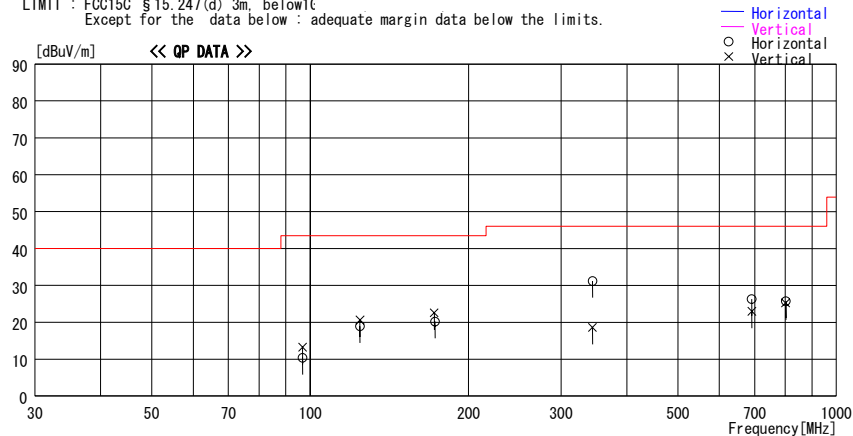
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2006/10/11 01:59:51

Company : Panasonic Communications Co.,Ltd. Report No. : 27BE0153-HO
Kind of EUT : Base of Cordless Phone Power : DC 3.6V
Model No. : KX-TG6051 Temp./Humi. : 25deg.C / 60%
Serial No. : 3 Operator : Motoya Imura

Mode / Remarks : Tx 5759.702MHz, EUT-max-axis(H: Z, V: Y), Worst-Ant: Ant1,

LIMIT : FCC15C §15.247(d) 3m, below1C

Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
96.768	22.3	QP	9.3	-21.2	10.4	220	160	Hori.	43.5	33.1	
96.768	25.1	QP	9.3	-21.2	13.2	20	100	Vert.	43.5	30.3	
124.419	28.2	QP	13.2	-20.8	20.6	349	100	Vert.	43.5	22.9	
124.420	26.5	QP	13.2	-20.8	18.9	10	129	Hori.	43.5	24.6	
172.290	27.0	QP	16.0	-20.4	22.6	150	100	Vert.	43.5	20.9	
172.830	24.5	QP	16.1	-20.4	20.2	90	150	Hori.	43.5	23.3	
344.060	34.6	QP	16.1	-19.5	31.2	176	155	Hori.	46.0	14.8	
344.060	22.0	QP	16.1	-19.5	18.6	65	100	Vert.	46.0	27.4	noise floor
691.200	25.1	QP	20.2	-19.0	26.3	171	155	Hori.	46.0	19.7	noise floor
691.200	21.7	QP	20.2	-19.0	22.9	220	100	Vert.	46.0	23.1	noise floor
801.792	21.4	QP	22.0	-18.2	25.2	0	100	Vert.	46.0	20.8	noise floor
801.792	21.9	QP	22.0	-18.2	25.7	171	155	Hori.	46.0	20.3	noise floor

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

Radiated Spurious Emission (below 1GHz)

Tx, Mid

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

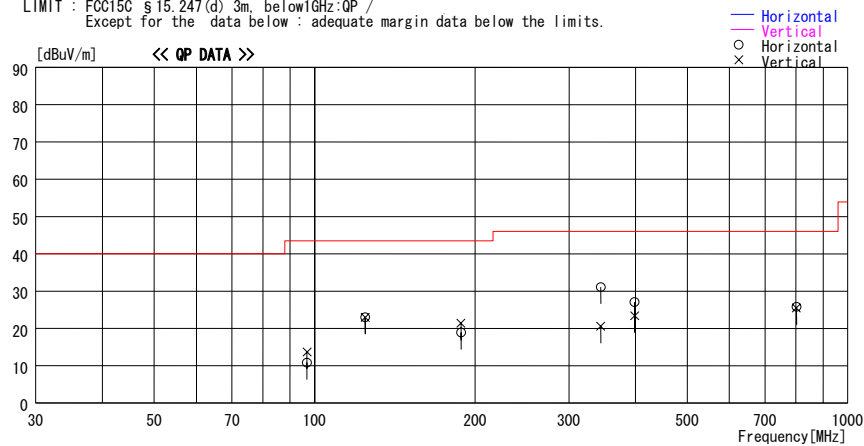
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber
Date : 2006/10/11 02:29:46

Company : Panasonic Communications Co., Ltd. Report No. : 27BE0153-HO
Kind of EUT : Base of Cordless Phone Power : DC 3.6V
Model No. : KX-TG6051 Temp./Humi. : 25deg. C / 60%
Serial No. : 3 Operator : Motoya Imura

Mode / Remarks : Tx 5798.053MHz, EUT-max-axis(H: Z, V: Y), Worst-Ant: Ant1.

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



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
			Factor [dB/m]	Loss & Gain [dB]							
96.768	22.7	QP	9.3	-21.2	10.8	350	300	Hori.	43.5	32.7	
96.768	25.6	QP	9.3	-21.2	13.7	161	100	Vert.	43.5	29.8	
124.420	30.6	QP	13.2	-20.8	23.0	20	104	Vert.	43.5	20.5	
124.420	30.6	QP	13.2	-20.8	23.0	220	150	Hori.	43.5	20.5	
188.220	22.3	QP	16.9	-20.3	18.9	351	300	Hori.	43.5	24.6	
188.300	24.8	QP	16.9	-20.3	21.4	20	100	Vert.	43.5	22.1	
344.060	24.0	QP	16.1	-19.5	20.6	0	100	Vert.	46.0	25.4	
344.060	34.5	QP	16.1	-19.5	31.1	189	143	Hori.	46.0	14.9	
398.622	25.3	QP	17.9	-19.8	23.4	27	100	Vert.	46.0	22.6	
398.702	29.0	QP	17.9	-19.8	27.1	348	120	Hori.	46.0	18.9	
801.792	22.0	QP	22.0	-18.2	25.8	220	100	Hori.	46.0	20.2	
801.792	21.7	QP	22.0	-18.2	25.5	120	100	Vert.	46.0	20.5	

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

Radiated Spurious Emission (below 1GHz)

Tx, High

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

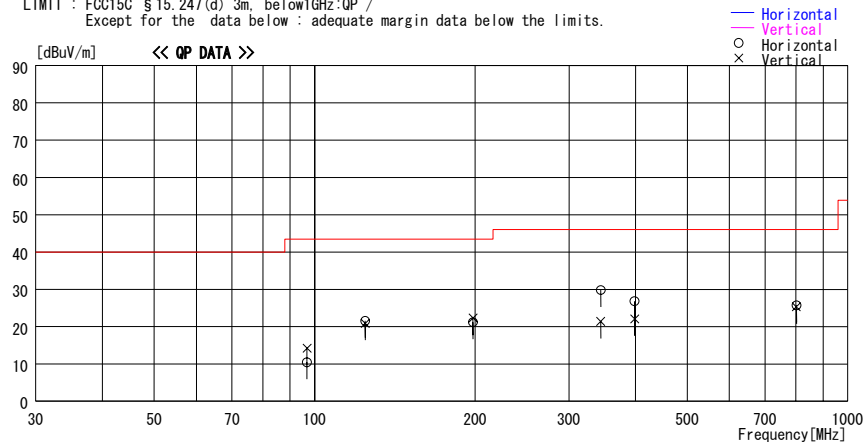
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber
Date : 2006/10/11 04:48:35

Company : Panasonic Communications Co., Ltd. Report No. : 27BE0153-HO
Kind of EUT : Base of Cordless Phone Power : DC 3.6V
Model No. : KX-TG6051 Temp./Humi. : 25deg. C / 60%
Serial No. : 3 Operator : Motoya Imura

Mode / Remarks : Tx 5838.187MHz, EUT-max-axis(H: Z, V: Y), Worst-Ant: Ant1

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



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
			Factor [dB/m]	Loss&Gain [dB]							
96.768	22.4	QP	9.3	-21.2	10.5	228	160	Hori.	43.5	33.0	
96.768	26.1	QP	9.3	-21.2	14.2	11	100	Vert.	43.5	29.3	
124.420	29.2	QP	13.2	-20.8	21.6	220	170	Hori.	43.5	21.9	
124.420	28.5	QP	13.2	-20.8	20.9	18	100	Vert.	43.5	22.6	
198.210	24.0	QP	17.3	-20.1	21.2	20	150	Hori.	43.5	22.3	
198.280	25.1	QP	17.3	-20.1	22.3	130	100	Vert.	43.5	21.2	
344.060	33.2	QP	16.1	-19.5	29.8	175	100	Hori.	46.0	16.2	
344.060	24.8	QP	16.1	-19.5	21.4	306	100	Vert.	46.0	24.6	
398.665	24.0	QP	17.9	-19.8	22.1	308	100	Vert.	46.0	23.9	
398.665	28.7	QP	17.9	-19.8	26.8	155	100	Hori.	46.0	19.2	
801.792	21.5	QP	22.0	-18.2	25.3	153	100	Vert.	46.0	20.7	
801.792	21.9	QP	22.0	-18.2	25.7	179	100	Hori.	46.0	20.3	

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

Radiated Spurious Emission (above 1GHz)

Company : Panasonic Communications Co., Ltd.
Equipment : Cordless Telephone (Base)
Model : KX-TG6051 (Base)
S/N : 2 (1G-18GHz), 3 (18G-40GHz)
Power : AC 120V / 60Hz
Mode : Tx 5759.702MHz
Position : H: Y-axis, V: X-axis, Worst Ant: Ant1

UL-Apex Co.,Ltd.
Head Office EMC Lab. No.3 and No.2 Semi Anechoic Chamber
Regulation : FCC15.247(d)
Test Distance : 3m / 1m / 0.5m
Date : 10/02/2006 , 10/10/2006 , 10/12/2006
Temperature : 24 deg.C. , 25deg.C. , 24deg.C.
Humidity : 62 % , 60% , 57%
Engineer : Kenichi Adachi, Motoya Imura

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 [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	5150.00	42.7	42.8	33.8	31.6	3.6	0.0	48.5	48.6	74.0	25.5	25.4	
2	5398.68	42.1	42.6	33.9	31.7	3.7	9.9	57.9	58.4	74.0	16.1	15.6	
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
3	11519.40	52.6	50.1	40.7	33.1	5.6	0.8	57.1	54.6	74.0	16.9	19.4	
4	17279.11	53.5	49.1	42.3	31.9	6.9	0.6	61.9	57.5	74.0	12.1	16.5	
5	23038.81	48.8	49.3	39.8	30.7	9.7	0.5	58.6	59.1	74.0	15.4	14.9	
Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
6	28798.50	42.7	40.1	44.5	24.3	7.3	0.0	54.6	52.0	74.0	19.4	22.0	
7	34558.20	45.2	45.5	42.2	24.6	8.2	0.0	55.4	55.7	74.0	18.6	18.3	

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 [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER			
		[dBuV]									[dBuV/m]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
1	5150.00	29.0	29.3	33.8	31.6	3.6	0.0	34.8	35.1	54.0	19.2	18.9
2	5398.68	26.3	26.7	33.9	31.7	3.7	9.9	42.1	42.5	54.0	11.9	11.5
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
3	11519.40	35.0	33.4	40.7	33.1	5.6	0.8	39.5	37.9	54.0	14.5	16.1
4	17279.11	35.5	33.9	42.3	31.9	6.9	0.6	43.9	42.3	54.0	10.1	11.7
5	23038.81	31.8	31.6	39.8	30.7	9.7	0.5	41.6	41.4	54.0	12.4	12.6
Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
6	28798.50	25.2	24.4	44.5	24.3	7.3	0.0	37.1	36.3	54.0	16.9	17.7
7	34558.20	29.9	29.3	42.2	24.6	8.2	0.0	40.1	39.5	54.0	13.9	14.5

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.54 dB

Test Distance 0.5m : Distance Factor(Dfac) = 20log(3/0.5) = 15.56 dB

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

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

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

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MF060b(14.06.06)

Radiated Spurious Emission (above 1GHz)

UL-Apex Co.,Ltd.

Head Office EMC Lab. No.3 and No.2 Semi Anechoic Chamber

Company : Panasonic Communications Co., Ltd.
Equipment : Cordless Telephone (Base)
Model : KX-TG6051 (Base)
S/N : 2 (1G-26GHz), 3 (26G-40GHz)
Power : AC 120V / 60Hz
Mode : Tx 5798.053MHz
Position : H: Y-axis, V: X-axis, Worst Ant: Ant1

Regulation : FCC15.247(d)
Test Distance : 3m / 1m / 0.5m
Date : 10/02/2006 , 10/10/2006 , 10/12/2006
Temperature : 24 deg.C. , 25deg.C. , 24deg.C.
Humidity : 62 % , 60%, 57%
Engineer : Kenichi Adachi, Motoya Imura

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 [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	5150.00	42.7	42.9	33.8	31.6	3.6	0.0	48.5	48.7	74.0	25.5	25.3
2	5383.40	45.6	46.3	33.9	31.7	3.7	9.9	61.4	62.1	74.0	12.6	11.9
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
3	11596.11	54.3	51.4	40.7	33.1	5.7	0.7	58.8	55.9	74.0	15.2	18.1
4	17394.16	57.5	51.0	42.9	31.9	6.9	0.6	66.5	60.0	74.0	7.5	14.0
5	23120.00	44.2	45.7	40.2	31.9	6.4	0.6	50.0	51.5	74.0	24.0	22.5
6 *	23192.21	66.3	67.4	40.1	31.8	6.4	0.6	72.1	73.2	74.0	-	-
Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
7	28990.27	43.2	46.6	44.5	24.4	7.4	0.0	55.1	58.5	74.0	18.9	15.5
8	34788.32	47.7	45.2	43.3	24.5	8.3	0.0	59.2	56.7	74.0	14.8	17.3

* Reference data

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 [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	5150.00	29.3	29.3	33.8	31.6	3.6	0.0	35.1	35.1	54.0	18.9	18.9
2	5383.40	27.1	27.4	33.9	31.7	3.7	9.9	42.9	43.2	54.0	11.1	10.8
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
3	11596.11	35.3	33.8	40.7	33.1	5.7	0.7	39.8	38.3	54.0	14.2	15.7
4	17394.16	36.5	34.5	42.9	31.9	6.9	0.6	45.5	43.5	54.0	8.5	10.5
5	23120.00	31.2	31.2	40.2	31.9	6.4	0.6	37.0	37.0	54.0	17.0	17.0
6 *	23192.21	38.5	39.4	40.1	31.8	6.4	0.6	44.3	45.2	54.0	-	-
Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
7	28990.27	25.2	25.2	44.5	24.4	7.4	0.0	37.1	37.1	54.0	16.9	16.9
8	34788.32	28.8	29.1	43.3	24.5	8.3	0.0	40.3	40.6	54.0	13.7	13.4

* Reference data

20dBc(Fundamental 5798.053 MHz) (RBW: 100kHz, VBW: 300kHz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter [dB]	RESULT		Limit 20dBc [dBuV/m]	MARGIN	
		HOR	VER					HOR [dBuV/m]	VER [dB]			
		[dBuV]										
Test distance 1meters(0) /3meters(6) RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
0	5798.05	102.9	103.6	33.9	31.9	3.8	9.9	118.6	119.3	-	-	-
6	23192.21	65.6	66.9	40.1	31.8	6.4	0.6	71.4	72.7	Funda-20dB	27.2	26.6

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.54 dB

Test Distance 0.5m : Distance Factor(Dfac) = 20log(3/0.5) = 15.56 dB

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

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

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

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MF060b(14.06.06)

Radiated Spurious Emission (above 1GHz)

UL-Apex Co.,Ltd.

Head Office EMC Lab. No.3 and No.2 Semi Anechoic Chamber

Company : Panasonic Communications Co., Ltd.
Equipment : Cordless Telephone (Base)
Model : KX-TG6051 (Base)
S/N : 2 (1G-26GHz), 3 (26G-40GHz)
Power : AC 120V / 60Hz
Mode : Tx 5838.187MHz
Position : H: Y-axis, V: X-axis, Worst Ant: Ant1

Regulation : FCC15.247(d)
Test Distance : 3m / 1m / 0.5m
Date : 10/02/2006 , 10/10/2006 , 10/12/2006
Temperature : 24 deg.C. , 25deg.C. , 24deg.C.
Humidity : 62 % , 60% , 57%
Engineer : Kenichi Adachi, Motoya Imura

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 [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	5150.00	42.8	42.9	33.8	31.6	3.6	0.0	48.6	48.7	74.0	25.4	25.3
2	5368.20	47.5	49.5	33.9	31.7	3.7	9.9	63.3	65.3	74.0	10.7	8.7
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
3	11676.37	54.3	49.8	40.7	33.1	5.7	0.7	58.8	54.3	74.0	15.2	19.7
4	17514.56	52.4	45.4	43.5	31.8	6.9	0.5	62.0	55.0	74.0	12.0	19.0
5 *	23352.75	64.9	64.0	40.0	31.8	6.4	0.6	70.6	69.7	74.0	-	-
Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
6	29190.90	41.6	38.5	44.5	24.4	7.4	0.0	53.5	50.4	74.0	20.5	23.6
7	35029.30	39.9	40.0	44.4	24.4	8.4	0.0	52.7	52.8	74.0	21.3	21.2

* Reference data

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 [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]										
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
1	5150.00	29.5	29.3	33.8	31.6	3.6	0.0	35.3	35.1	54.0	18.7	18.9
2	5368.20	27.3	27.9	33.9	31.7	3.7	9.9	43.1	43.7	54.0	10.9	10.3
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
3	11676.37	34.3	33.7	40.7	33.1	5.7	0.7	38.8	38.2	54.0	15.2	15.8
4	17514.56	34.4	31.9	43.5	31.8	6.9	0.5	44.0	41.5	54.0	10.0	12.5
5 *	23352.75	38.6	37.8	40.0	31.8	6.4	0.6	44.3	43.5	54.0	-	-
Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
6	29190.90	25.3	25.8	44.5	24.4	7.4	0.0	37.2	37.7	54.0	16.8	16.3
7	35029.30	28.9	28.9	44.4	24.4	8.4	0.0	41.7	41.7	54.0	12.3	12.3

* Reference data

20dBc(Fundamental 5838.187 MHz) (RBW: 100kHz, VBW: 300kHz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter [dB]	RESULT		Limit 20dBc [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]						[dBuV/m]			[dB]	[dB]
Test distance 1meters(0)/3meters(5) RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
0	5838.19	102.4	102.8	33.9	31.9	3.9	9.9	118.2	118.6	-	-	-
5	23352.75	63.4	61.8	40.0	31.8	6.4	0.6	69.1	67.5	Funda-20dB	29.1	31.1

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.54 dB

Test Distance 0.5m : Distance Factor(Dfac) = 20log(3/0.5) = 15.56 dB

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

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

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

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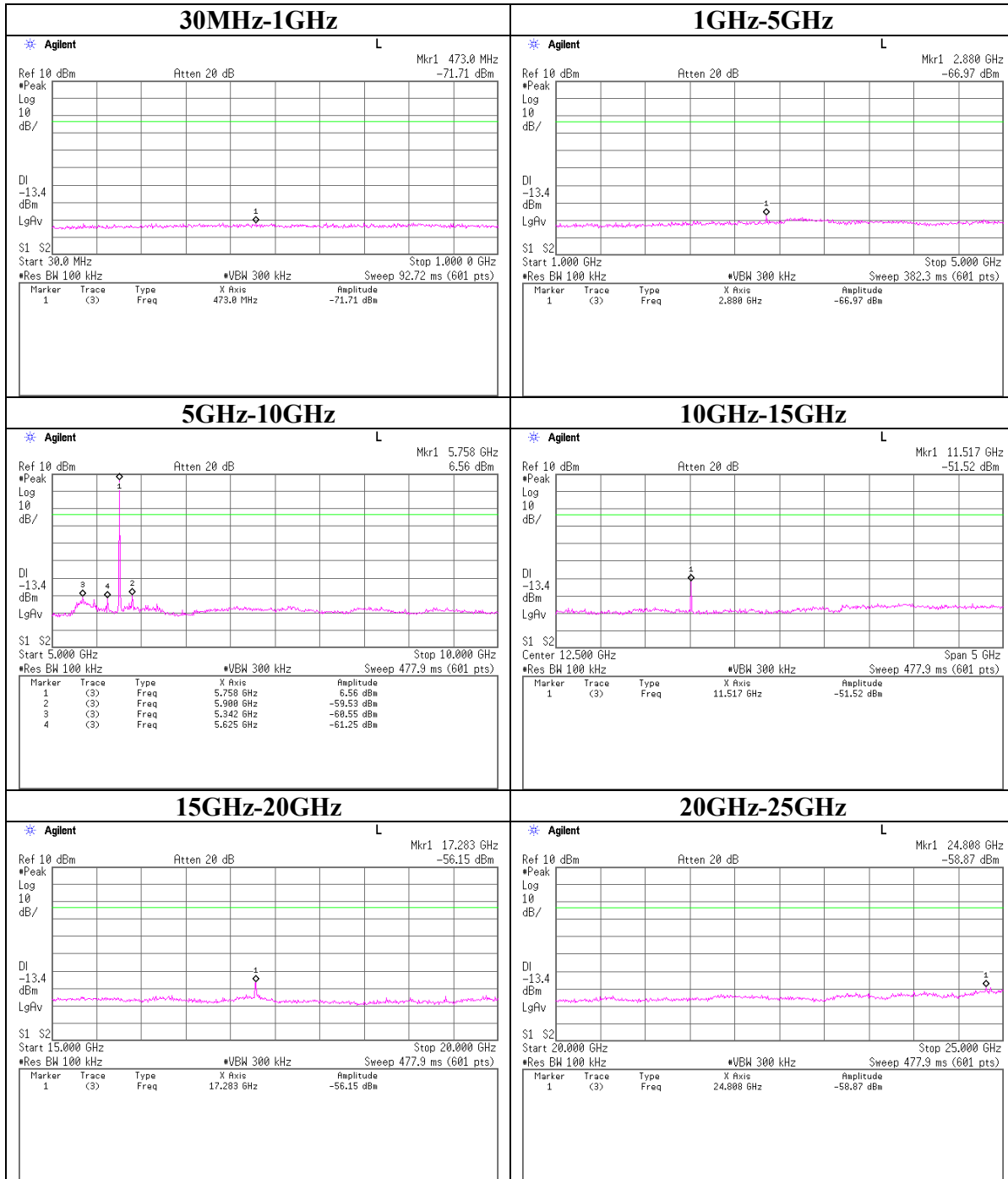
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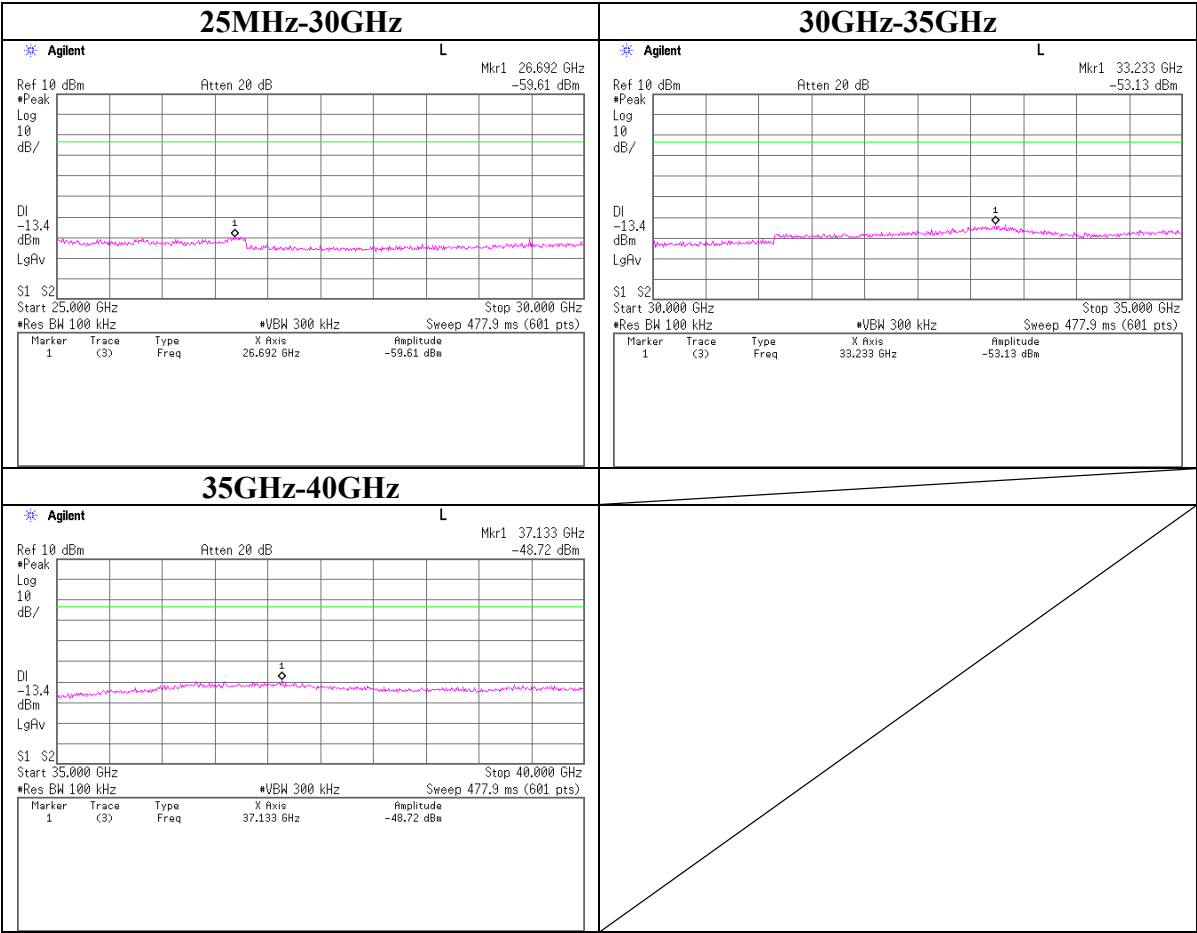
MF060b(14.06.06)

Conducted Spurious Emission
Ch:Low

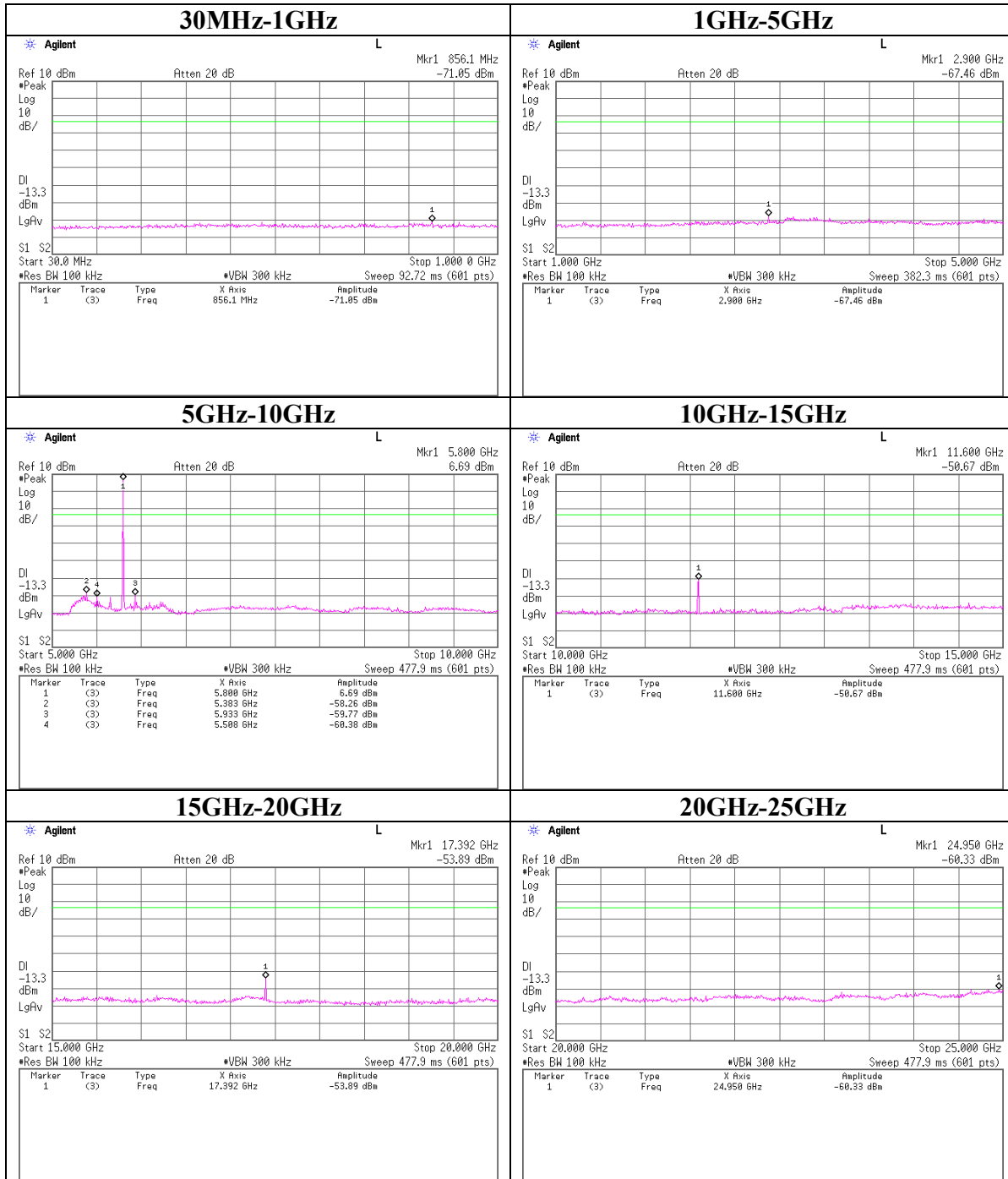


Conducted Spurious Emission

Ch:Low

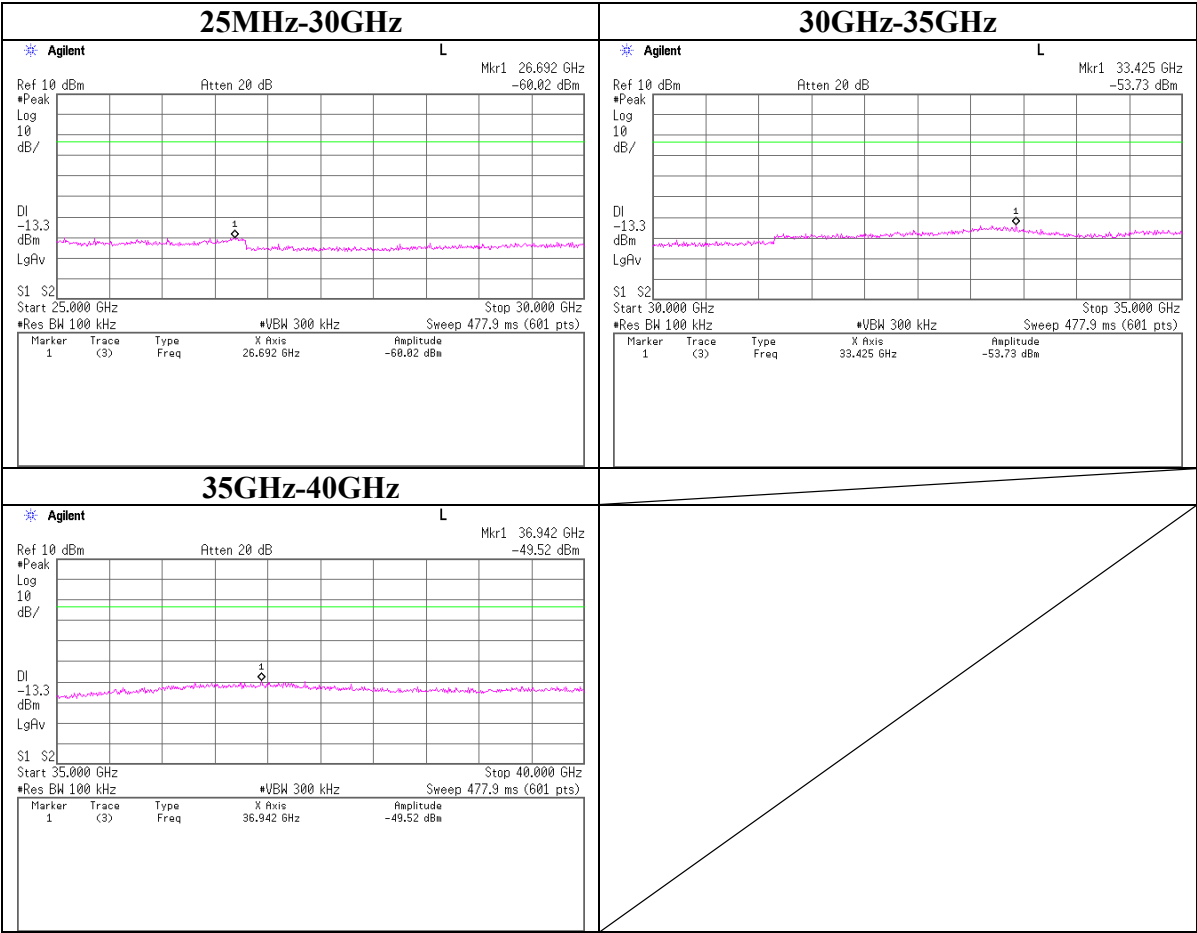


Conducted Spurious Emission
Ch:Mid



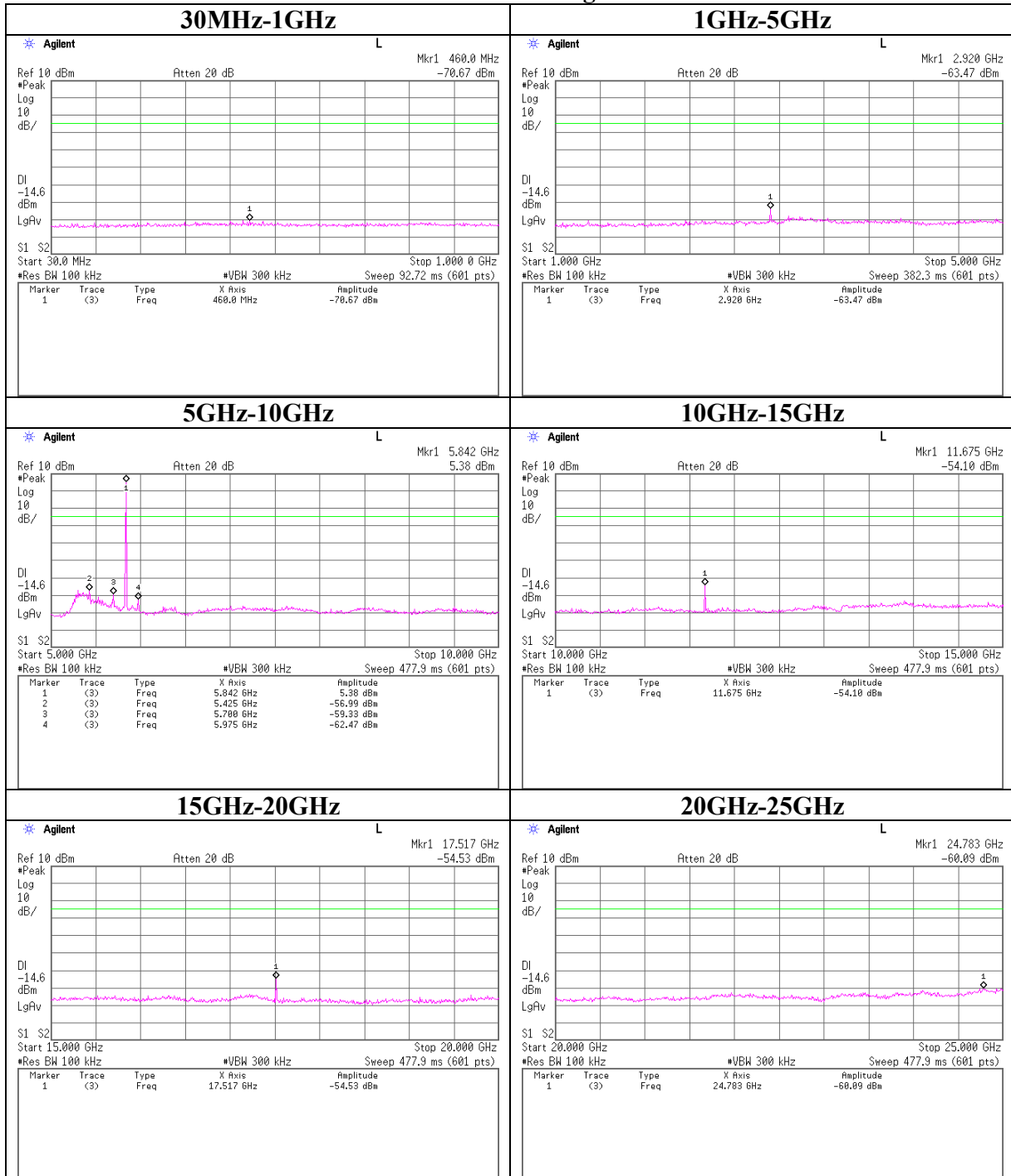
Conducted Spurious Emission

Ch:Mid



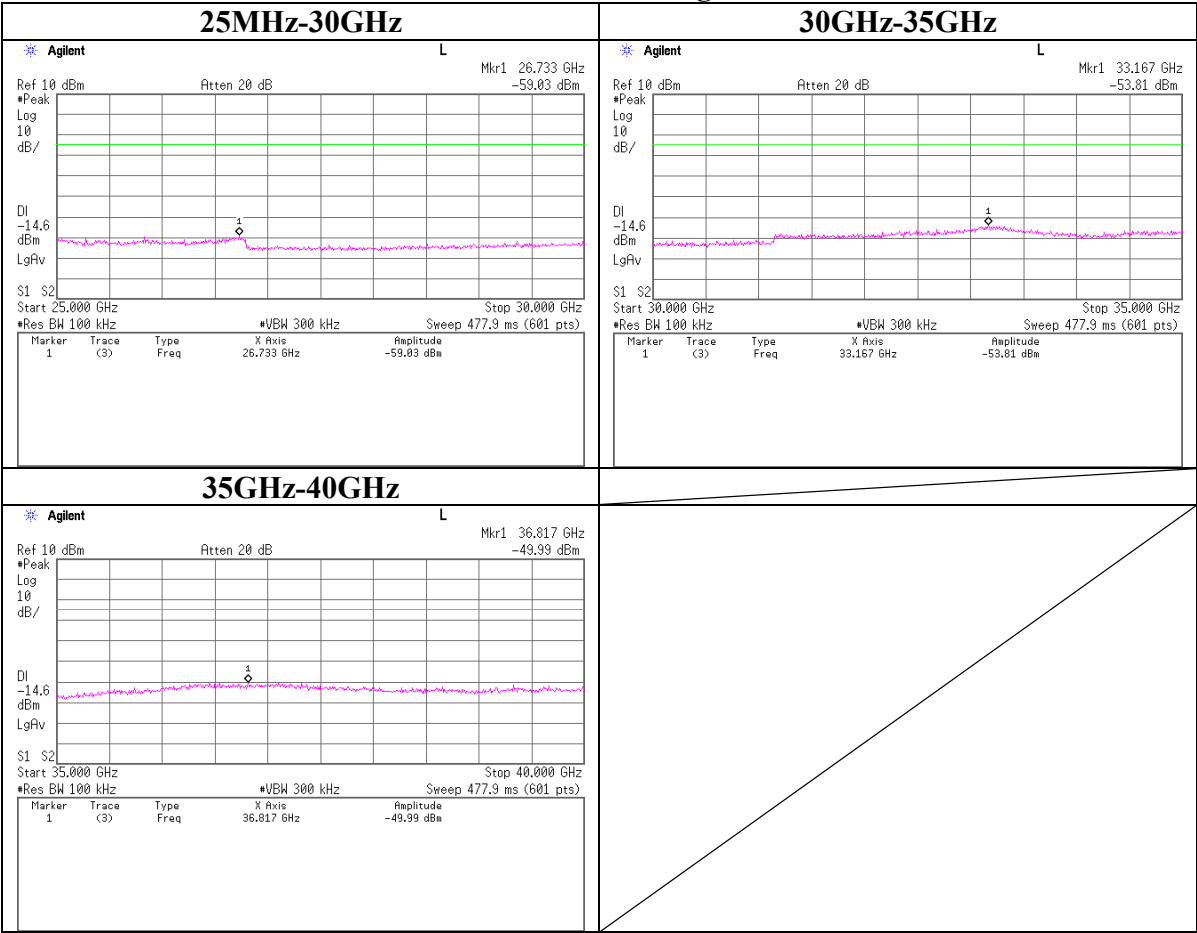
Conducted Spurious Emission

Ch:High

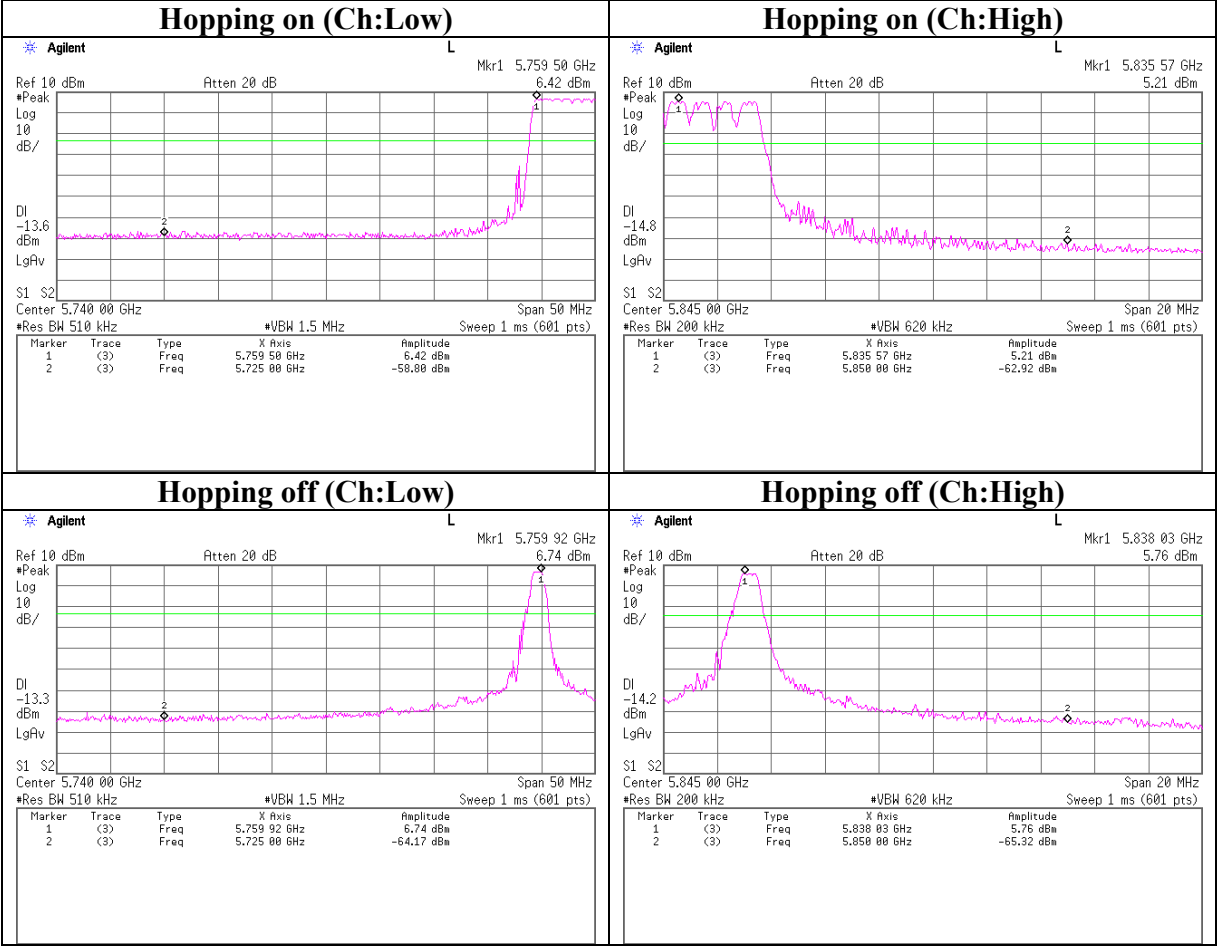


Conducted Spurious Emission

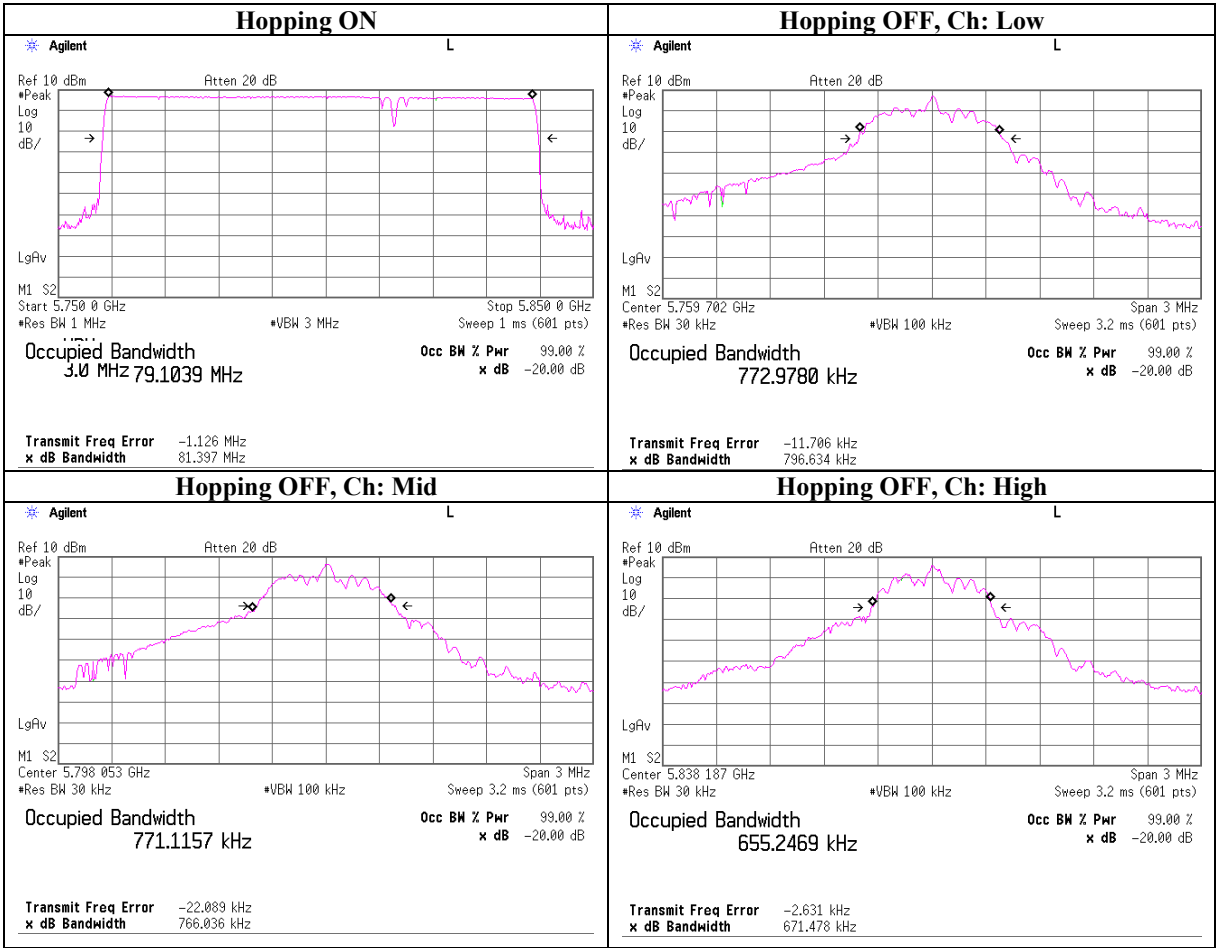
Ch:High



Conducted Spurious Emission
Band Edge compliance



99% Occupied Bandwidth



APPENDIX 3:Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
MTA-07	Terminator	MCL	BTRM-50	CE	2006/02/06 * 12
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	CE (AE)	2006/02/06 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	CE (EUT)	2006/02/06 * 12
MOS-02	Digital Humidity Indicator	N.T	NT-1800	CE	2004/11/25 * 24
MCC-13	Coaxial Cable	Fujikura/Agilent	-	CE	2006/02/23 * 12
MJG-51	Conversion adapter	-	101 21	CE	-
MAEC-03	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	RE	2006/03/03 * 12
MSA-04	Spectrum Analyzer	Agilent	E4448A	RE / CE / AT	2006/06/02 * 12
MCC-56	Microwave Cable	Suhner	SUCOFLEX104	RE	2006/04/15 * 12
MPA-11	MicroWave System Amplifier	Agilent	83017A	RE	2006/03/27 * 12
MAT-23	Attenuator(10dB) DC-18GHz	Orient Microwave	BX10-0476-00	RE	2006/03/18 * 12
MHA-20	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	RE	2006/04/06 * 12
MOS-12	Thermo-Hygrometer	Custom	CTH-180	RE / CE	2006/01/19 * 24
MSTW-14	EMI measurement program	TSJ	TEPTO-DV	RE / CE	-
MHF-11	High Pass Filter 7-30GHz	TOKIMEC	TF37NCCC	RE	2006/06/21 * 12
MHA-01	Horn Antenna 18-26.5G	EMCO	3160-09	RE	2006/01/09 * 12
MCC-63	Microwave Cable 1-40GHz	Suhner	SUCOFLEX102	RE	2006/09/22 * 12
MAT-25	Attenuator(10dB)(above1GHz)	Agilent	8493C	RE / AT	2006/06/02 * 12
MPA-03	Microwave System Power Amplifier	Agilent	83050A	RE	2006/05/16 * 12
MHA-03	Horn Antenna 26.5-40GHz	EMCO	3160-10	RE	2006/01/09 * 12
MOS-14	Thermo-Hygrometer	Custom	CTH-180	AT	2006/01/19 * 24
MRENT-35	Power Meter	Anritsu	ML2496A	AT	2006/04/25 * 12
MRENT-34	Power sensor	Anritsu	MA2411B	AT	2006/04/25 * 12
MCC-26	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	AT	2006/08/29 * 12
MAEC-02	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	RE / CE	2006/04/10 * 12
MRENT-39	Spectrum Analyzer	Advantest	R3273	RE	2006/07/25 * 12
MSA-03	Spectrum Analyzer	Agilent	E4448A	RE	2006/09/13 * 12
MTR-03	Test Receiver	Rohde & Schwarz	ESCI	RE	2006/03/04 * 12
MBA-02	Biconical Antenna	Schwarzbeck	BBA9106	RE	2006/10/07 * 12
MLA-02	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2006/10/07 * 12
MHA-06	Horn Antenna	Schwarzbeck	BBHA9120D	RE	2006/01/09 * 12
MHA-02	Horn Antenna	EMCO	3160-09	RE	2006/01/09 * 12
MCC-25	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	RE	2006/08/29 * 12
MCC-47	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	RE	2006/08/29 * 12
MPA-09	Pre Amplifier	Agilent	8447D	RE	2006/09/07 * 12
MPA-10	Pre Amplifier	Agilent	8449B	RE	2006/09/11 * 12
MHF-09	High Pass Filter 7-30GHz	TOKIMEC	TF37NCCA	RE	2006/06/21 * 12
MHA-04	Horn Antenna	EMCO	3160-10	RE	2006/01/09 * 12
MAT-22	Attenuator(10dB) DC-18GHz	Orient Microwave	BX10-0476-00	RE	2006/03/18 * 12
MCC-22	Microwave Cable 1G-40GHz	Storm	421-011 (90-011-080)	AT	2006/05/12 * 12
MJM-06	Measure	PROMART	SEN1955	CE/RE	-

The expiration date of the calibration is the end of the expired month.

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

Test Item:

CE: AC Main Conducted Emission

RE: Radiated Spurious Emission

AT: Antenna Terminal Conducted Spurious Emission and Maximum Peak Output Power
And Carrier Frequency Separation[FHSS] and 20dB Bandwidth[FHSS]
And Number of Hopping Frequency[FHSS] and Dwell time[FHSS]

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