RADIO TEST REPORT

Test Report No. : 27BE0153-HO-A

Applicant	:	**Panasonic Communications Co., Ltd.**
Type of Equipment	:	**Cordless Telephone (Handset)**
Model No.	:	**KX-TGA600 (Handset)**
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

Shinya Watanabe
EMC Services

Approved by :

Hironobu Shimoji
Group Leader of EMC Services

NVLAP®
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.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8116
Facsimile : +81 596 24 8124

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SECTION 1: Client information

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

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

2.1 Identification of E.U.T.

Type of Equipment	Cordless Telephone (Handset)
Model No.	KX-TGA600(Handset)
Serial No.	1, 2
Country of Manufacture	Japan
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	4dBi Typ.
Power Supply (RF Part)	DC3.6V
Method of Frequency Generation	Synthesizer

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(DC3.6V) 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	30.3dB, AV 4.48001MHz Phase N	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:** Section15.247(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 5759.702MHz) 5.7dB, 69.130MHz, 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.

*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.

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 ±2.66dB.
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 ±4.59dB(3m)/ ±4.58dB(10m).
The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is ±4.62dB(3m)/ ±4.60dB(10m).
The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is ±5.27dB.
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 ±3.0dB.

3.5 Test Location

UL Apex Co., Ltd. Head Office EMC Lab. *NVLAP Lab. code: 200572-0
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8116 Facsimile : +81 596 24 8124

	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

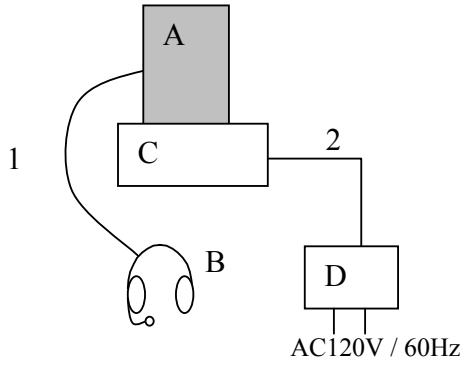
4.1 Operating Modes

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

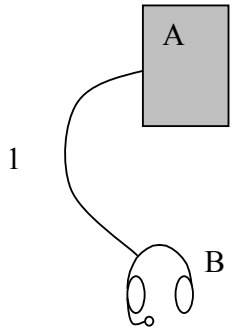
[Remarks]
This EUT has 2 antennas (Antenna 1 and 2). The Antenna 2 is used for the antenna terminal tests and Radiated emission test since Antenna 2 has higher output power level than Antenna 1. As for Conducted emission test, both Antenna 1 and 2 were used.

4.2 Configuration and peripherals

[for Conducted emission test]



[for Other test]



* 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 (Handset)	KX-TGA600 (Handset)	1 *1), 2 *2)	Panasonic Communications Co., Ltd.	EUT
B	Headphone	KX-TCA88	-	Panasonic Communications Co., Ltd.	-
C	Battery Charger	PQLV30050ZA	-	Panasonic Communications Co., Ltd.	- *3)
D	AC Adapter	PQLV213	0628E	Panasonic Communications Co., Ltd.	- *3)

*1) Used for Antenna Terminal tests
*2) Used for Conducted and Radiated emission tests
*3) The test was made without Battery charger in Radiated emission test since the test result (EUT without Battery charger) has a higher output power level.

List of cables used

No.	Name	Length (m)	Shield	
			Cable	Connector
1	Headset Cable	1.8	Unshielded	Unshielded
2	DC Cable *3)	1.8	Unshielded	Unshielded

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**

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) and 0.5m (Upper 26.5GHz) and 0.2m (Upper 30GHz).
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 IF Bandwidth	QP: BW 120kHz(T/R) 20dBc : RBW: 100kHz VBW: 300kHz (S/A)	PK: RBW:1MHz/VBW: 1MHz AV: RBW:1MHz/VBW:10Hz 20dBc : RBW:100kHz/VBW:300kHz

- 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

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**

APPENDIX 1: Photographs of test setup

Conducted Emission

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: Z-axis/ Vertical:Y-axis)

This page has been submitted in a separate sheet.

APPENDIX 2: Data of EMI test

Conducted Emission

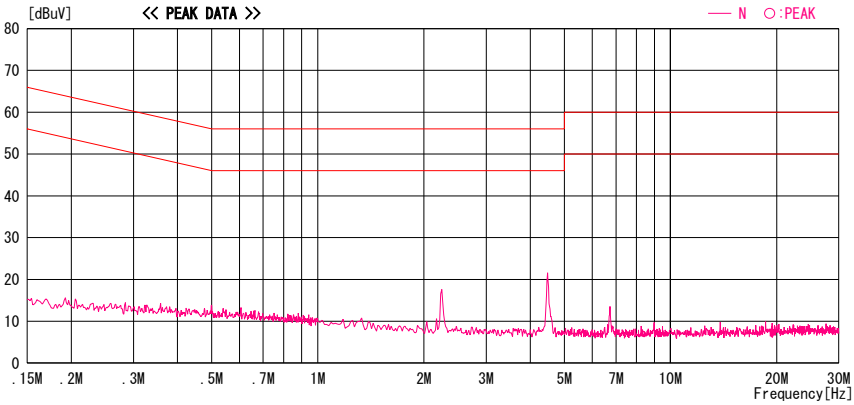
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Shielded Room
Date : 2006/10/12 05:37:08

Applicant	: Panasonic Communications Co., Ltd.	Report No.	: 27BE0153-HO
Kind of EUT	: Cordless Telephone (Handset)	Power	: AC 120V / 60Hz
Model No.	: KX-TGA600 (Handset)	Temp./Humi.	: 24 deg.C. / 57 %
Serial No.	: 2	Operator	: Motoya Imura

Mode / Remarks : Tx 5759.702MHz : Ant 1,

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



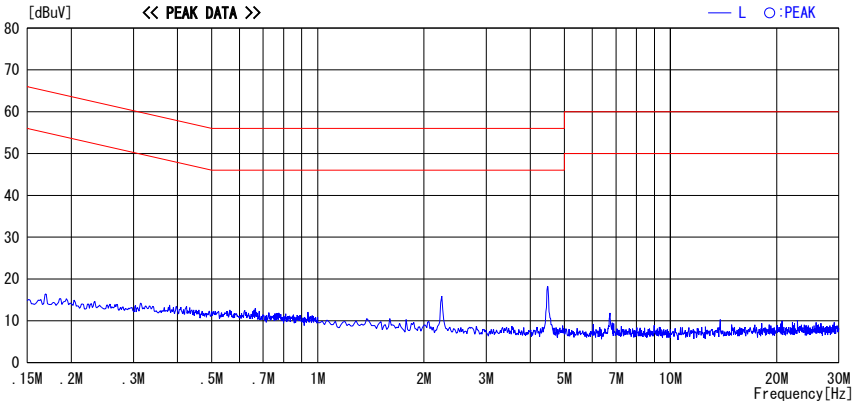


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

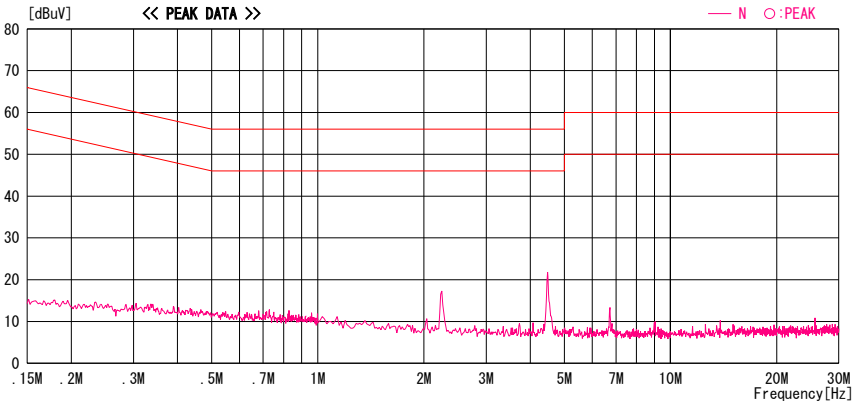
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Shielded Room
Date : 2006/10/12 06:22:33

Applicant	: Panasonic Communications Co., Ltd.	Report No.	: 27BE0153-HO
Kind of EUT	: Cordless Telephone (Handset)	Power	: AC 120V / 60Hz
Model No.	: KX-TGA600 (Handset)	Temp./Humi.	: 24 deg.C. / 57 %
Serial No.	: 2	Operator	: Motoya Imura

Mode / Remarks : Tx 5759.702MHz : Ant 2,

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



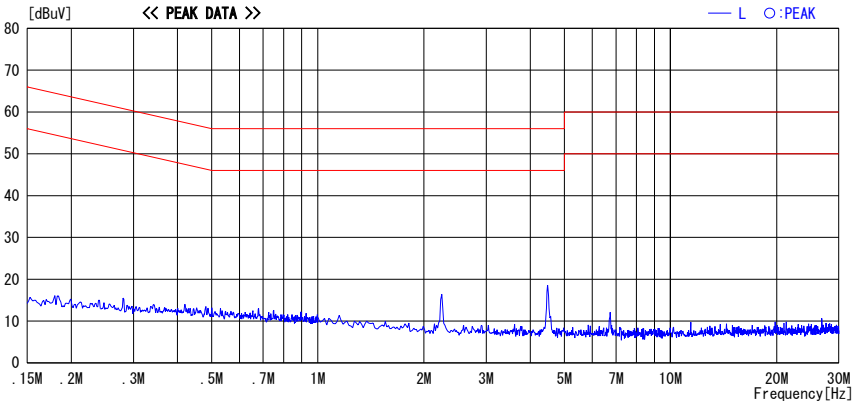


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

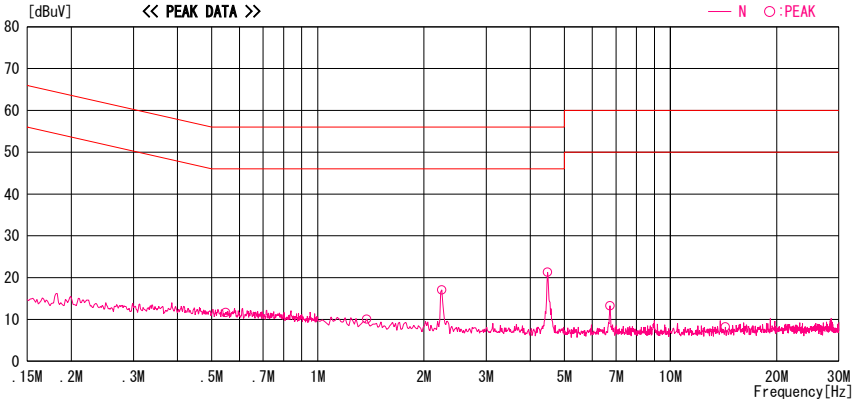
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Shielded Room
Date : 2006/10/12 05:47:24

Applicant	: Panasonic Communications Co., Ltd.	Report No.	: 27BE0153-HO
Kind of EUT	: Cordless Telephone (Handset)	Power	: AC 120V / 60Hz
Model No.	: KX-TGA600 (Handset)	Temp./Humi.	: 24 deg.C. / 57 %
Serial No.	: 2	Operator	: Motoya Imura

Mode / Remarks : Tx 5798.053MHz : Ant 1,

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



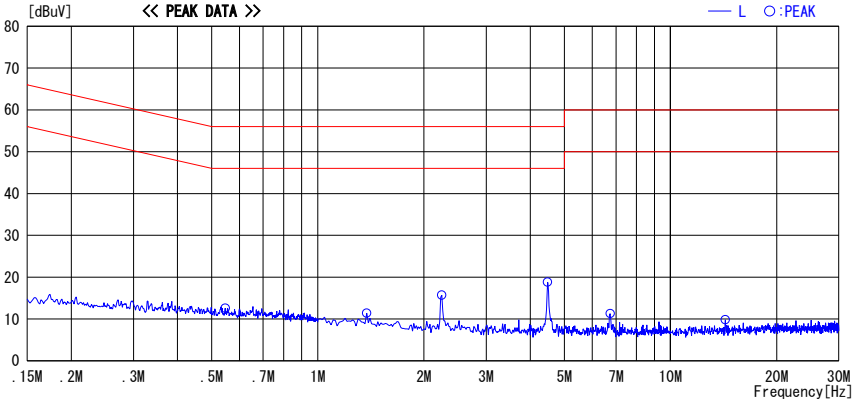


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

DATA OF CONDUCTED EMISSION TEST

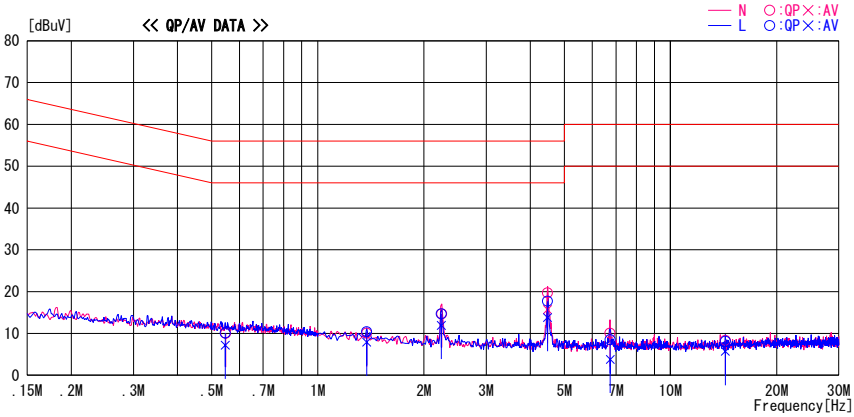
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Shielded Room
Date : 2006/10/12 05:47:24

Applicant : Panasonic Communications Co., Ltd.
Kind of EUT : Cordless Telephone (Handset)
Model No. : KX-TGA600 (Handset)
Serial No. : 2

Report No. : 27BE0153-HO
Power : AC 120V / 60Hz
Temp./Humi. : 24 deg.C. / 57 %
Operator : Motoya Imura

Mode / Remarks : Tx 5798.053MHz : Ant 1,

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



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase
	QP	AV	Factor	QP	AV	QP	AV	QP	AV	
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]	
0.54667	9.7	6.8	0.4	10.1	7.2	56.0	46.0	45.9	38.8	L
0.54808	9.6	----	0.4	10.0	----	56.0	----	46.0	----	N
1.37500	9.6	----	0.5	10.1	----	56.0	----	45.9	----	N
1.37500	9.9	7.4	0.5	10.4	7.9	56.0	46.0	45.6	38.1	L
2.24000	14.2	11.4	0.5	14.7	11.9	56.0	46.0	41.3	34.1	L
2.24500	14.2	----	0.5	14.7	----	56.0	----	41.3	----	N
4.47970	16.9	13.0	0.8	17.7	13.8	56.0	46.0	38.3	32.2	L
4.48001	18.9	14.9	0.8	19.7	15.7	56.0	46.0	36.3	30.3	N
6.72999	9.1	----	1.0	10.1	----	60.0	----	49.9	----	N
6.74499	7.5	2.8	1.0	8.5	3.8	60.0	50.0	51.5	46.2	L
14.30006	6.6	4.2	1.5	8.1	5.7	60.0	50.0	51.9	44.3	L
14.30006	6.8	----	1.5	8.3	----	60.0	----	51.7	----	N

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.

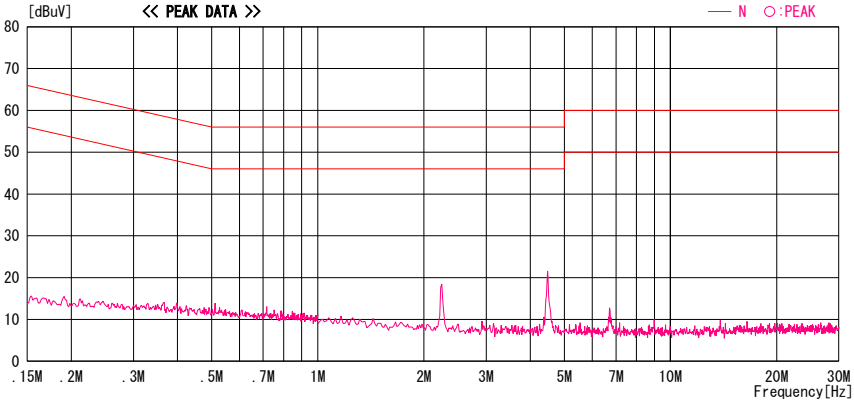
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Shielded Room
Date : 2006/10/12 06:17:09

Applicant	: Panasonic Communications Co., Ltd.	Report No.	: 27BE0153-HO
Kind of EUT	: Cordless Telephone (Handset)	Power	: AC 120V / 60Hz
Model No.	: KX-TGA600 (Handset)	Temp./Humi.	: 24 deg.C. / 57 %
Serial No.	: 2	Operator	: Motoya Imura

Mode / Remarks : Tx 5798.053MHz : Ant 2,

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



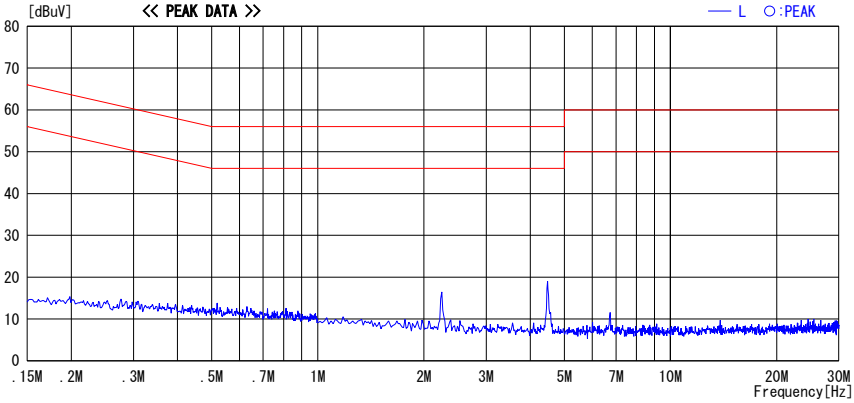


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

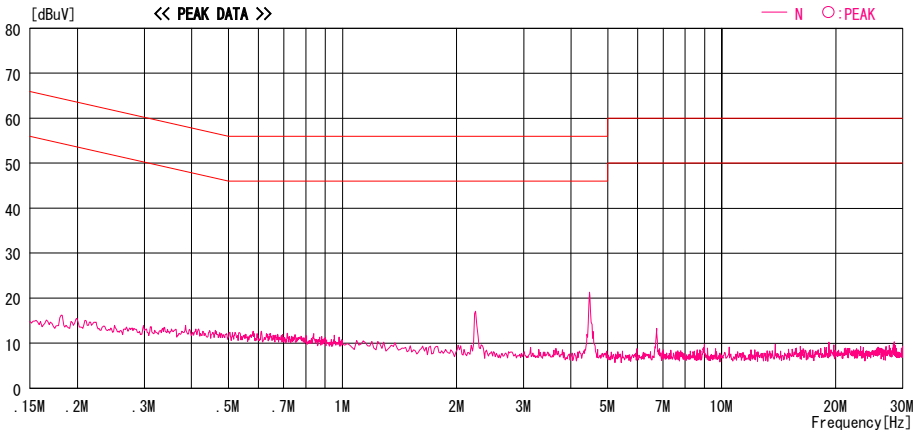
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Shielded Room
Date : 2006/10/12 05:47:24

Applicant	: Panasonic Communications Co., Ltd.	Report No.	: 27BE0153-HO
Kind of EUT	: Cordless Telephone (Handset)	Power	: AC 120V / 60Hz
Model No.	: KX-TG6051 (Handset)	Temp./Humi.	: 24 deg.C. / 57 %
Serial No.	: 2	Operator	: Kenichi Adachi

Mode / Remarks : Tx5838.187MHz : Ant 1

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



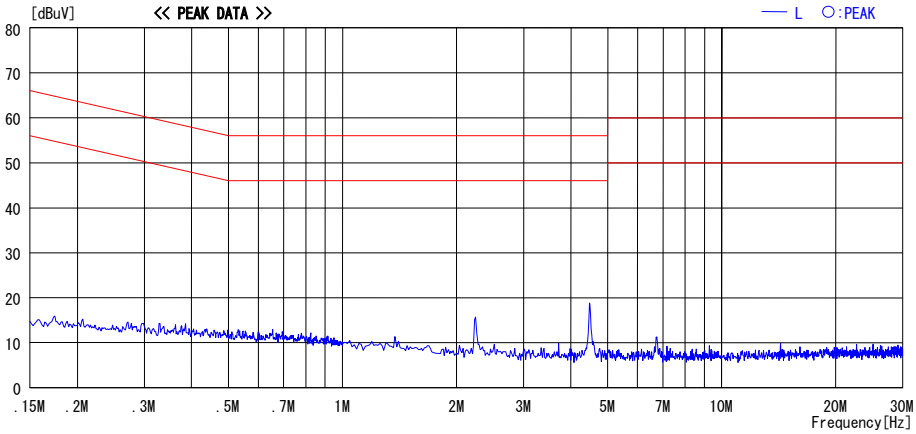


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

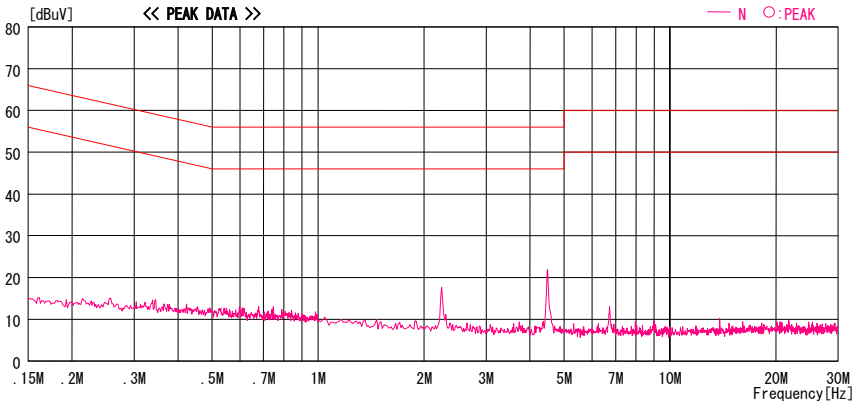
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Shielded Room
Date : 2006/10/12 05:43:29

Applicant	: Panasonic Communications Co., Ltd.	Report No.	: 27BE0153-HO
Kind of EUT	: Cordless Telephone (Handset)	Power	: AC 120V / 60Hz
Model No.	: KX-TGA600 (Handset)	Temp./Humi.	: 24 deg.C. / 57 %
Serial No.	: 2	Operator	: Motoya Imura

Mode / Remarks : Tx 5838.187MHz : Ant 2,

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



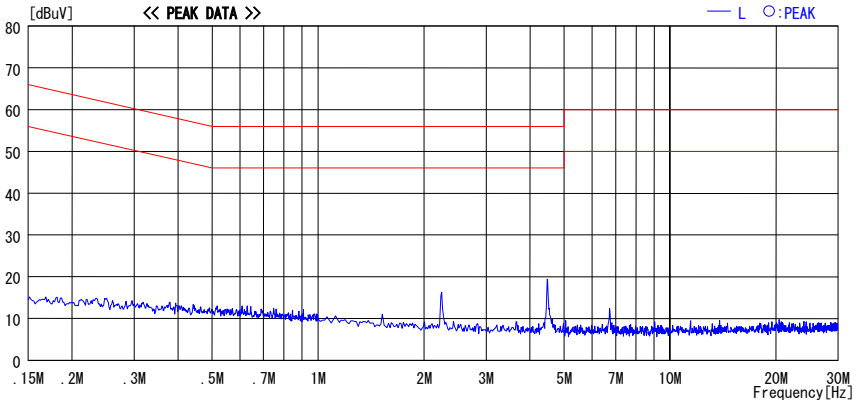


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Carrier Frequency Separation

UL-Apex Co.,Ltd.
Head Office EMC Lab. No.6 Shielded Room

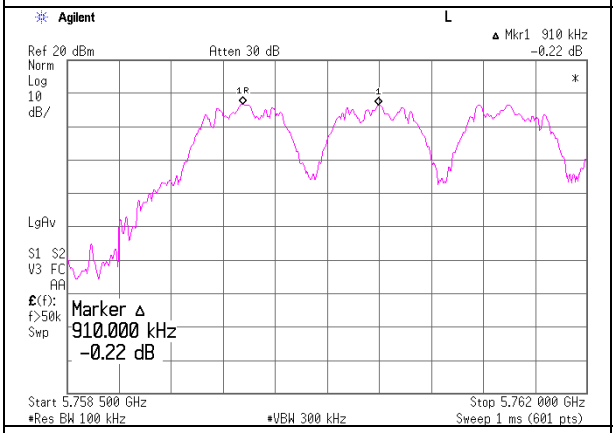
Company : Panasonic Communications Co., Ltd.
Equipment : Cordless Telephone (Handset)
Model : KX-TGA600 (Handset)
S/N : 1
Power : DC3.6V
Mode : Tx (Hopping on)

Regulation : FCC 15.247(a)(1)(ii)
Test Distance : -
Date : 10/04/2006
Temperature : 26 deg.C.
Humidity : 57 %
Engineer : Kenichi Adachi

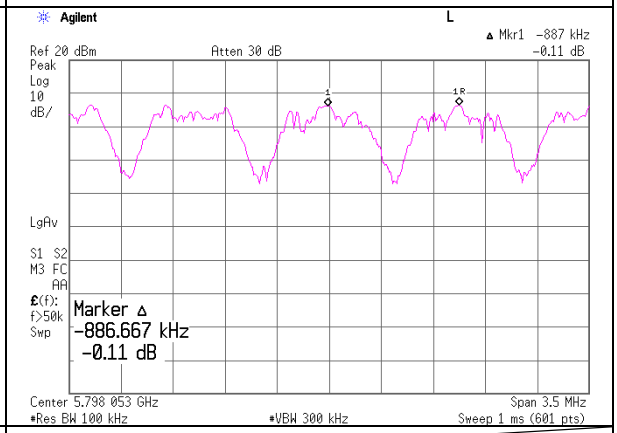
Ch	Freq. [MHz]	Channel separation [MHz]	Limit
Low	5759.702	0.910	> 0.616MHz (20dB Bandwidth) or 0.025MHz (whichever is greater)
Mid	5798.053	0.887	> 0.612MHz (20dB Bandwidth) or 0.025MHz (whichever is greater)
High	5838.187	0.846	> 0.622MHz (20dB Bandwidth) or 0.025MHz (whichever is greater)

Carrier Frequency Separation

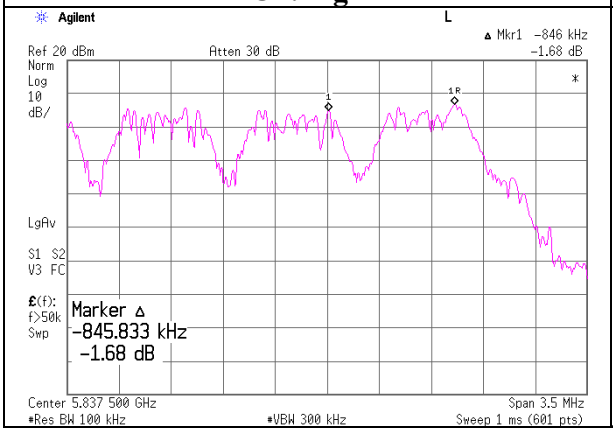
Ch:Low



Ch:Mid



Ch:High



20dB Bandwidth

UL-Apex Co.,Ltd.
Head Office EMC Lab. No.6 Shielded Room

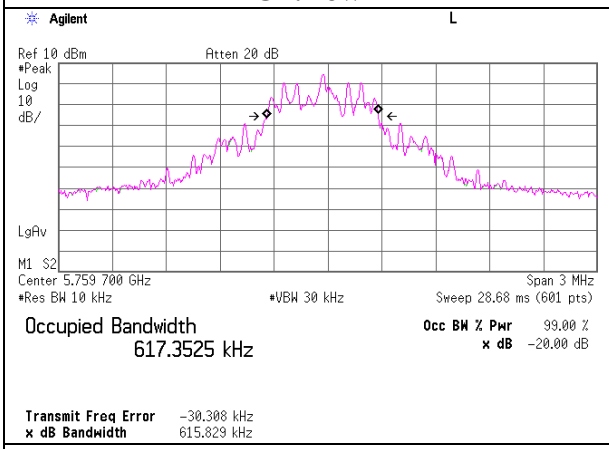
Company : Panasonic Communications Co., Ltd.
Equipment : Cordless Telephone (Handset)
Model : KX-TGA600 (Handset)
S/N : 1
Power : DC3.6V
Mode : Tx (Hopping off)

Regulation : FCC15.247(a)(1)
Test Distance : -
Date : 10/04/2006
Temperature : 26 deg.C.
Humidity : 57 %
Engineer : Kenichi Adachi

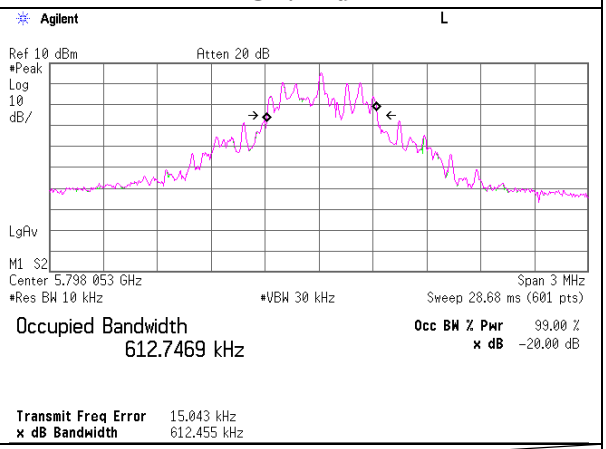
Ch	Freq. [MHz]	20dB Bandwidth [MHz]	Limit [MHz]
Low	5759.702	615.829	-
Mid	5798.053	612.455	-
High	5838.187	621.915	-

20dB Bandwidth

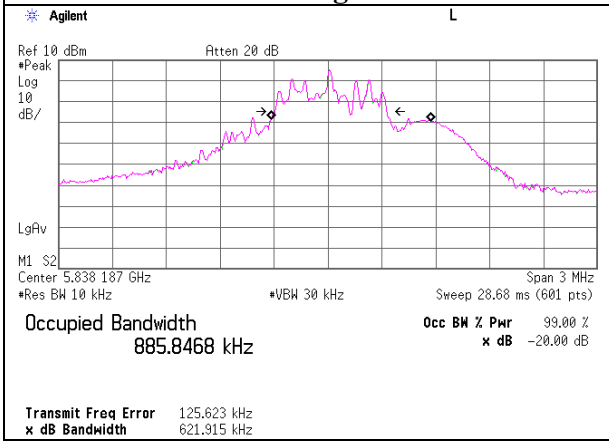
Ch:Low



Ch:Mid



Ch:High



Number of Hopping Frequency

UL-Apex Co.,Ltd.
Head Office EMC Lab. No.6 Shielded Room

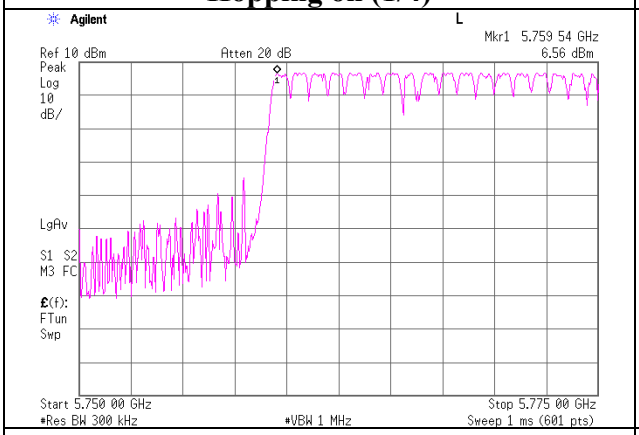
Company : Panasonic Communications Co., Ltd.
Equipment : Cordless Telephone (Handset)
Model : KX-TGA600 (Handset)
S/N : 1
Power : DC3.6V
Mode : Tx (Hopping on)

Regulation : FCC15.247(a)(1)(ii)
Test Distance : -
Date : 10/04/2006
Temperature : 26 deg.C.
Humidity : 57 %
Engineer : Kenichi Adachi

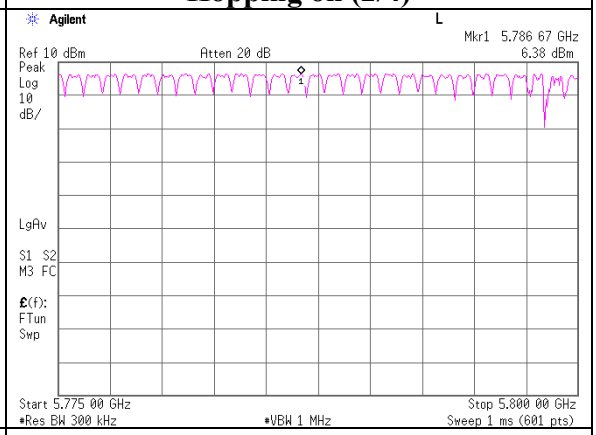
Mode	Number of channel [time]	Limit [time]
Tx(Hopping on)	89	≧75

Number of Hopping Frequency

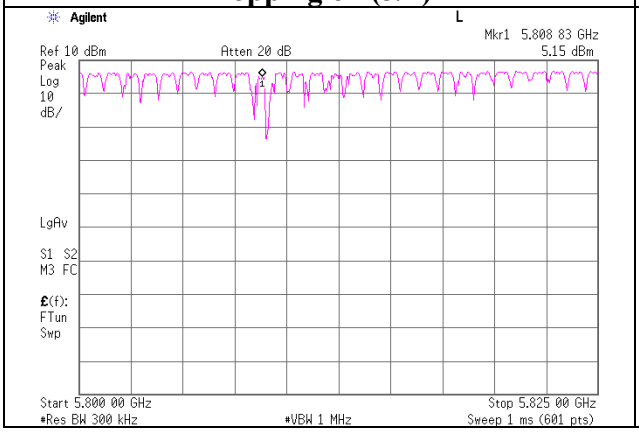
Hopping on (1/4)



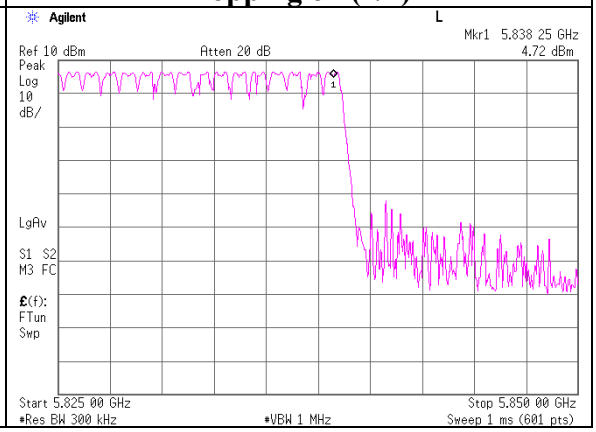
Hopping on (2/4)



Hopping on (3/4)



Hopping on (4/4)



Dwell time

UL-Apex Co.,Ltd.
Head Office EMC Lab. No.6 Shielded Room

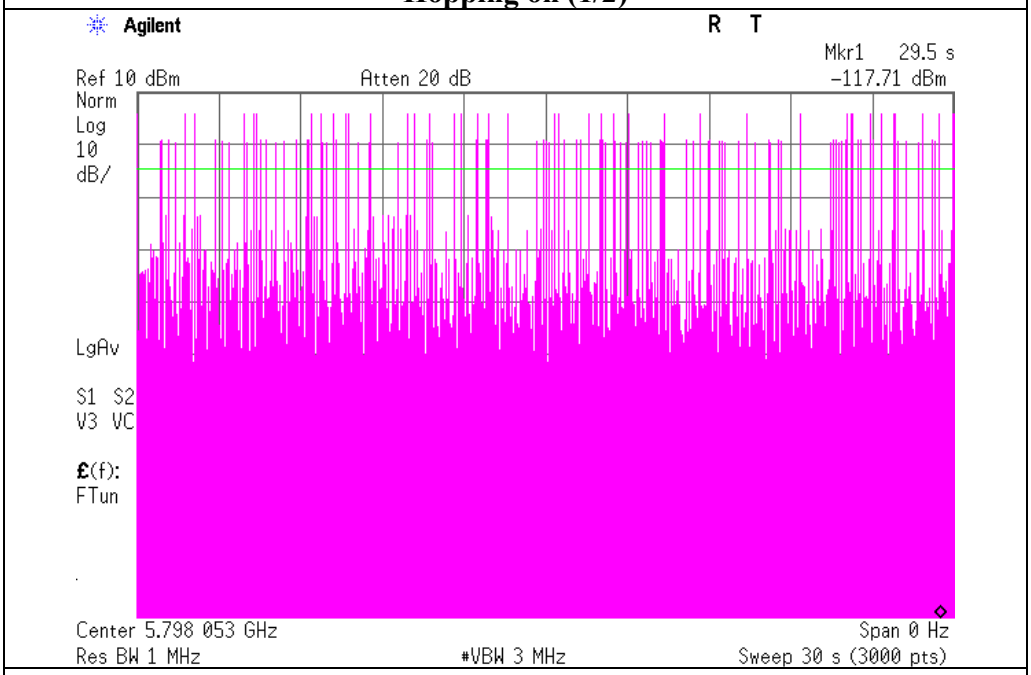
Company : Panasonic Communications Co., Ltd.
Equipment : Cordless Telephone (Handset)
Model : KX-TGA600 (Handset)
S/N : 1
Power : DC3.6V
Mode : Tx (Hopping on)

Regulation : FCC15.247(a)(1)(ii)
Test Distance : -
Date : 10/04/2006
Temperature : 26 deg.C.
Humidity : 57 %
Engineer : Kenichi Adachi

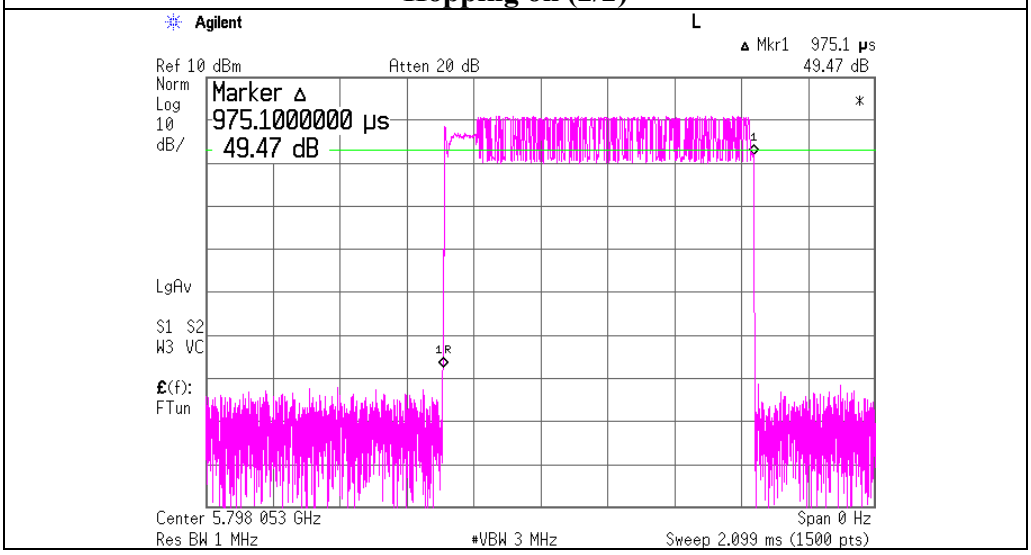
Mode	Number of transmission in a 30 second period	Length of transmission time [msec]	Result [msec]	Limit [msec]
Tx (Hopping on)	75 times / 30 sec. x 30.0 sec. = 75 times	0.975	73	400

Dwell time

Hopping on (1/2)



Hopping on (2/2)



Maximum Peak Output Power

UL-Apex Co.,Ltd.
Head Office EMC Lab. No.6 Shielded Room

Company : Panasonic Communications Co., Ltd.
Equipment : Cordless Telephone (Handset)
Model : KX-TGA600 (Handset)
S/N : 1
Power : DC3.6V
Mode : Tx (Hopping off)

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 [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]
Low	5759.702	7.44	0.00	10.14	17.58	57.28	30.00	1000	12.42
Mid	5798.053	7.86	0.00	10.13	17.99	62.95	30.00	1000	12.01
High	5838.187	8.13	0.00	10.13	18.26	66.99	30.00	1000	11.74

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 [dBm]	Result [mW]	Limit [dBm]	Limit [mW]	Margin [dB]
Low	5759.702	7.19	0.00	10.14	17.33	54.08	30.00	1000	12.67
Mid	5798.053	6.97	0.00	10.13	17.10	51.29	30.00	1000	12.90
High	5838.187	6.72	0.00	10.13	16.85	48.42	30.00	1000	13.15

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

Reference Data

Refer to SAR report(27BE0153-HO-E).

UL-Apex Co.,Ltd.
Head Office EMC Lab. No.3 Semi Anechoic Chamber

Company : Panasonic Communications Co., Ltd.
Equipment : Cordless Telephone (Handset)
Model : KX-TGA600 (Handset)
S/N : 2
Power : DC3.6V
Mode : Tx (Hopping off), Worst Ant : Ant2

Regulation : FCC15.247(b)(1)
Test Distance : 3m
Date : 10/03/2006
Temperature : 24 deg.C.
Humidity : 62 %
Engineer : Kenichi Adachi

No.	Frequency [MHz]	Electric Field Strength (After Factor Calculation) [dBuV/m] HOR	Electric Field Strength VER	SG Reading [dBm] HOR	SG Reading VER	Tx Cable Loss [dB]	Tx Ant. Gain [dBi]	Tx Ant. ATT. Loss [dB]	RESULT (EIRP) [dBm] HOR	RESULT (EIRP) VER
1	5759.70	118.9	120.5	10.7	12.3	5.0	13.0	0.0	18.7	20.3
2	5798.05	118.5	118.9	10.3	10.7	5.0	13.0	0.0	18.4	18.7
3	5838.19	117.7	118.9	9.6	10.8	5.0	13.1	0.0	17.6	18.8

CALCULATION RESULT = SG Reading - Tx Loss + Tx Ant. Gain - Tx Ant. ATT. Loss
Rx-ANTENNA : Biconical Antenna(30-300MHz), Logperriodic Antenna(300-1000MHz), Horn Antenna(1-26.5GHz)
Tx-ANTENNA : Shorted Dipole Antenna(30-120MHz), Dipole Antenna(120-1000MHz), Horn Antenna(1-26.5GHz)
Result is calculated to two places of decimals. Therefore, there may be 0.1 difference for the result.
With the result above, the effective radiated power was calculated on the basis of the reference value
- for the calibration data on the substitution measurement.

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

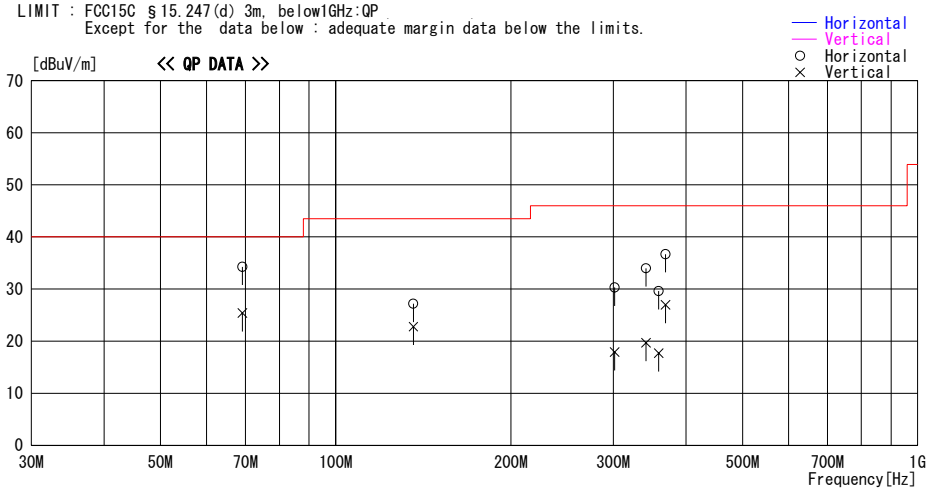
UL Apex Co., Ltd. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2006/10/03 17:38:13

Company : Panasonic Communications Co.,Ltd.
Kind of EUT : Handset of Cordless Phone
Model No. : KX-TGA600
Serial No. : 2

Report No. : 27BE0153-HO
Power : DC 3.6V
Temp./Humi. : 25deg.C / 60%
Operator : Kenichi Adachi

Mode / Remarks : Tx 5759.702MHz, EUT-max-axis(H: Z, V: Y), Worst-Ant: Ant2,

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 Factor [dB/m]	Loss& Gain [dB]	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
69.130	51.5	QP	7.3	-24.5	34.3	307	286	Hori.	40.0	5.7	
69.151	42.6	QP	7.3	-24.5	25.4	167	231	Vert.	40.0	14.6	
136.003	31.5	QP	14.8	-23.5	22.8	323	197	Vert.	43.5	20.7	
136.003	35.9	QP	14.8	-23.5	27.2	7	234	Hori.	43.5	16.3	
301.557	25.7	QP	14.5	-22.3	17.9	197	134	Vert.	46.0	28.1	
301.562	38.1	QP	14.5	-22.3	30.3	37	100	Hori.	46.0	15.7	
341.430	40.0	QP	16.0	-22.0	34.0	40	100	Hori.	46.0	12.0	
341.430	25.7	QP	16.0	-22.0	19.7	324	100	Vert.	46.0	26.3	
358.989	34.9	QP	16.6	-21.9	29.6	43	100	Hori.	46.0	16.4	
358.986	23.0	QP	16.6	-21.9	17.7	48	100	Vert.	46.0	28.3	
368.760	32.0	QP	16.9	-21.9	27.0	49	242	Vert.	46.0	19.0	
368.777	41.7	QP	16.9	-21.9	36.7	34	100	Hori.	46.0	9.3	

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 (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

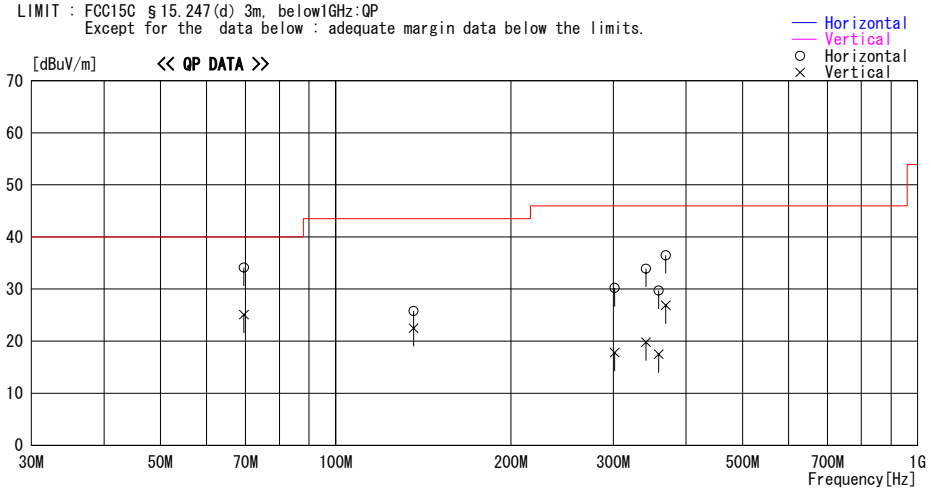
UL Apex Co., Ltd. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2006/10/03 22:37:43

Company : Panasonic Communications Co.,Ltd.
Kind of EUT : Handset of Cordless Phone
Model No. : KX-TGA600
Serial No. : 2

Report No. : 27BE0153-HO
Power : DC 3.6V
Temp./Humi. : 25deg.C / 60%
Operator : Kenichi Adachi

Mode / Remarks : Tx 5798.053MHz, EUT-max-axis(H: Z, V: Y), Worst-Ant: Ant2,

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 Factor [dB/m]	Loss& Gain [dB]	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
69.544	51.3	QP	7.3	-24.5	34.1	305	291	Hori.	40.0	5.9	
69.565	42.4	QP	7.2	-24.5	25.1	171	230	Vert.	40.0	14.9	
136.100	34.5	QP	14.8	-23.5	25.8	5	237	Hori.	43.5	17.7	
136.100	31.2	QP	14.8	-23.5	22.5	320	193	Vert.	43.5	21.0	
301.557	38.0	QP	14.5	-22.3	30.2	36	100	Hori.	46.0	15.8	
301.571	25.6	QP	14.5	-22.3	17.8	189	132	Vert.	46.0	28.2	
341.415	39.9	QP	16.0	-22.0	33.9	42	100	Hori.	46.0	12.1	
341.426	25.8	QP	16.0	-22.0	19.8	34	100	Vert.	46.0	26.2	
358.983	35.0	QP	16.6	-21.9	29.7	326	100	Hori.	46.0	16.3	
358.989	22.8	QP	16.6	-21.9	17.5	49	100	Vert.	46.0	28.5	
368.983	41.5	QP	16.9	-21.9	36.5	44	236	Hori.	46.0	9.5	
368.987	31.9	QP	16.9	-21.9	26.9	39	100	Vert.	46.0	19.1	

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

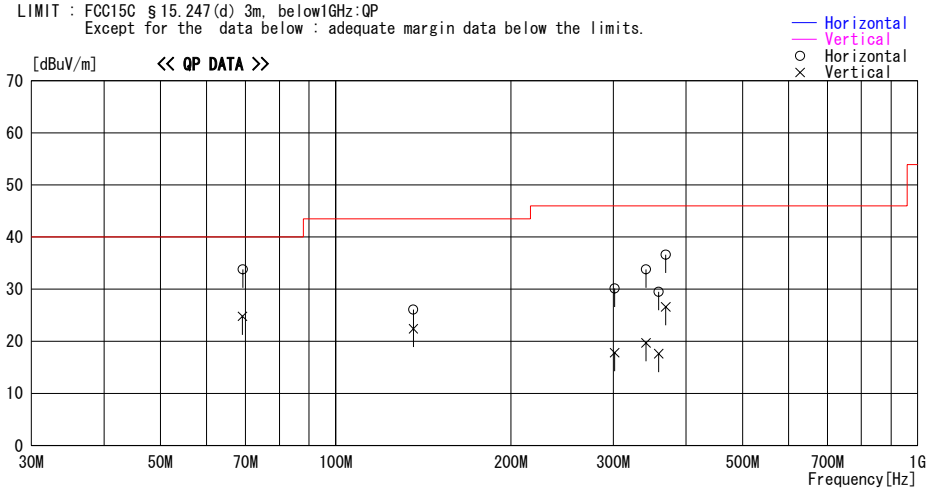
UL Apex Co., Ltd. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2006/10/03 22:58:43

Company : Panasonic Communications Co.,Ltd.
Kind of EUT : Handset of Cordless Phone
Model No. : KX-TGA600
Serial No. : 2

Report No. : 27BE0153-HO
Power : DC 3.6V
Temp./Humi. : 25deg.C / 60%
Operator : Kenichi Adachi

Mode / Remarks : Tx 5838.187MHz, EUT-max-axis(H: Z, V: Y), Worst-Ant: Ant2,

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 Factor [dB/m]	Loss& Gain [dB]	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
69.250	51.0	QP	7.3	-24.5	33.8	298	289	Hori.	40.0	6.2	
69.180	42.0	QP	7.3	-24.5	24.8	169	232	Vert.	40.0	15.2	
136.005	34.8	QP	14.8	-23.5	26.1	8	241	Hori.	43.5	17.4	
136.004	31.1	QP	14.8	-23.5	22.4	328	190	Vert.	43.5	21.1	
301.563	37.9	QP	14.5	-22.3	30.1	31	100	Hori.	46.0	15.9	
301.535	25.6	QP	14.5	-22.3	17.8	184	134	Vert.	46.0	28.2	
341.438	39.8	QP	16.0	-22.0	33.8	39	100	Hori.	46.0	12.2	
341.440	25.7	QP	16.0	-22.0	19.7	36	100	Vert.	46.0	26.3	
358.982	34.8	QP	16.6	-21.9	29.5	322	100	Hori.	46.0	16.5	
358.985	22.9	QP	16.6	-21.9	17.6	56	100	Vert.	46.0	28.4	
368.983	41.6	QP	16.9	-21.9	36.6	45	232	Hori.	46.0	9.4	
368.983	31.6	QP	16.9	-21.9	26.6	40	100	Vert.	46.0	19.4	

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)

UL-Apex Co.,Ltd.
Head Office EMC Lab. No.3 Semi Anechoic Chamber

Company : Panasonic Communications Co., Ltd.
Equipment : Cordless Telephone (Handset)
Model : KX-TGA600 (Handset)
S/N : 2
Power : DC3.6V
Mode : Tx 5759.702MHz
Position : H: Z-axis, V: Y-axis, Worst Ant: Ant2

Regulation : FCC15.247(d)
Test Distance : 3m / 1m / 0.5m / 0.2m
Date : 10/02/2006, 10/03/2006, 10/03/2006
Temperature : 24 deg.C. ,23deg.C. , 25 deg.C.
Humidity : 62 % ,67% , 60 %
Engineer : Kenichi Adachi, Shinya Watanabe

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

No.	FREQ	S/A READING		ANT	AMP	CABLE	Hi-Pass	RESULT		Limit	MARGIN	
		HOR	VER	Factor	GAIN	LOSS	Filter	HOR	VER	PK	HOR	VER
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
1	5150.00	43.0	43.3	33.8	31.6	3.6	0.0	48.8	49.1	74.0	25.2	24.9
2	5424.98	43.9	45.0	33.9	31.7	3.7	9.9	59.7	60.8	74.0	14.3	13.2
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
3	11519.40	58.0	59.6	40.7	33.1	5.6	0.8	62.5	64.1	74.0	11.5	9.9
4	17279.11	55.9	56.6	42.3	31.9	6.9	0.6	64.3	65.0	74.0	9.7	9.0
5	23038.81	57.8	57.2	40.3	31.9	6.4	0.6	63.7	63.1	74.0	10.3	10.9
Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
6	28798.50	48.2	46.8	45.3	24.3	7.3	0.0	60.9	59.5	74.0	13.1	14.5
Test distance 0.2meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
7	34558.20	55.4	52.0	45.2	24.6	8.2	0.0	60.7	57.3	74.0	13.3	16.7

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

No.	FREQ	S/A READING		ANT	AMP	CABLE	Hi-Pass	RESULT		Limit	MARGIN	
		HOR	VER	Factor	GAIN	LOSS	Filter	HOR	VER	AV	HOR	VER
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
1	5150.00	29.3	29.5	33.8	31.6	3.6	0.0	35.1	35.3	54.0	18.9	18.7
2	5424.98	26.6	27.0	33.9	31.7	3.7	9.9	42.4	42.8	54.0	11.6	11.2
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
3	11519.40	35.7	36.6	40.7	33.1	5.6	0.8	40.2	41.1	54.0	13.8	12.9
4	17279.11	35.8	36.6	42.3	31.9	6.9	0.6	44.2	45.0	54.0	9.8	9.0
5	23038.81	36.5	36.1	40.3	31.9	6.4	0.6	42.4	42.0	54.0	11.6	12.0
Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
6	28798.50	32.0	31.5	45.3	24.3	7.3	0.0	44.7	44.2	54.0	9.3	9.8
Test distance 0.2meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
7	34558.20	39.0	38.0	45.2	24.6	8.2	0.0	44.3	43.3	54.0	9.7	10.7

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
Test Distance 0.2m : Distance Factor(Dfac) = 20log(3/0.2) = 23.52 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.

Radiated Spurious Emission (above 1GHz)

UL-Apex Co.,Ltd.
Head Office EMC Lab. No.3 Semi Anechoic Chamber

Company : Panasonic Communications Co., Ltd.
Equipment : Cordless Telephone (Handset)
Model : KX-TGA600 (Handset)
S/N : 2
Power : DC3.6V
Mode : Tx 5798.053MHz
Position : H: Z-axis, V: Y-axis, Worst Ant: Ant2

Regulation : FCC15.247(d)
Test Distance : 3m / 1m / 0.5m / 0.2m
Date : 10/02/2006, 10/03/2006, 10/03/2006
Temperature : 24 deg.C. ,23deg.C. , 25 deg.C.
Humidity : 62 % ,67% , 60 %
Engineer : Kenichi Adachi, Shinya Watanabe

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

No.	FREQ	S/A READING		ANT	AMP	CABLE	Hi-Pass	RESULT		Limit	MARGIN	
		HOR	VER	Factor	GAIN	LOSS	Filter	HOR	VER	PK	HOR	VER
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
1	5150.00	42.8	42.6	33.8	31.6	3.6	0.0	48.6	48.4	74.0	25.4	25.6
2	5383.24	44.8	46.6	33.9	31.7	3.7	9.9	60.6	62.4	74.0	13.4	11.6
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
3	11596.11	61.9	61.9	40.7	33.1	5.7	0.7	66.4	66.4	74.0	7.6	7.6
4	17394.16	57.0	53.8	42.9	31.9	6.9	0.6	66.0	62.8	74.0	8.0	11.2
5	23192.21	56.0	54.7	40.1	31.8	6.4	0.6	61.8	60.5	74.0	12.2	13.5
Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
6	28990.28	45.8	47.9	45.3	24.4	7.4	0.0	58.5	60.6	74.0	15.5	13.4
Test distance 0.2meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
7	34788.32	55.3	53.6	45.1	24.5	8.3	0.0	60.7	59.0	74.0	13.3	15.0

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

No.	FREQ	S/A READING		ANT	AMP	CABLE	Hi-Pass	RESULT		Limit	MARGIN	
		HOR	VER	Factor	GAIN	LOSS	Filter	HOR	VER	AV	HOR	VER
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
1	5150.00	28.9	29.0	33.8	31.6	3.6	0.0	34.7	34.8	54.0	19.3	19.2
2	5383.24	26.5	27.2	33.9	31.7	3.7	9.9	42.3	43.0	54.0	11.7	11.0
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
3	11596.11	36.6	36.0	40.7	33.1	5.7	0.7	41.1	40.5	54.0	12.9	13.5
4	17394.16	35.9	35.6	42.9	31.9	6.9	0.6	44.9	44.6	54.0	9.1	9.4
5	23192.21	35.9	35.5	40.1	31.8	6.4	0.6	41.7	41.3	54.0	12.3	12.7
Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
6	28990.28	31.3	31.6	45.3	24.4	7.4	0.0	44.0	44.3	54.0	10.0	9.7
Test distance 0.2meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
7	34788.32	38.0	38.6	45.1	24.5	8.3	0.0	43.4	44.0	54.0	10.6	10.0

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
Test Distance 0.2m : Distance Factor(Dfac) = 20log(3/0.2) = 23.52 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.

Radiated Spurious Emission (above 1GHz)

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Equipment : Cordless Telephone (Handset)
Model : KX-TGA600 (Handset)
S/N : 2
Power : DC3.6V
Mode : Tx 5838.187MHz
Position : H: Z-axis, V: Y-axis, Worst Ant: Ant2

Regulation : FCC15.247(d)
Test Distance : 3m / 1m / 0.5m / 0.2m
Date : 10/02/2006, 10/03/2006, 10/03/2006
Temperature : 24 deg.C. ,23deg.C. , 25 deg.C.
Humidity : 62 % ,67% , 60 %
Engineer : Kenichi Adachi, Shinya Watanabe

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

No.	FREQ	S/A READING		ANT	AMP	CABLE	Hi-Pass	RESULT		Limit	MARGIN	
		HOR	VER	Factor	GAIN	LOSS	Filter	HOR	VER	PK	HOR	VER
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
1	5150.00	42.6	42.4	33.8	31.6	3.6	0.0	48.4	48.2	74.0	25.6	25.8
2	5423.30	48.7	48.9	33.9	31.7	3.7	9.9	64.5	64.7	74.0	9.5	9.3
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
3	11676.37	62.0	62.8	40.7	33.1	5.7	0.7	66.5	67.3	74.0	7.5	6.7
4	17514.56	56.2	53.6	43.5	31.8	6.9	0.5	65.8	63.2	74.0	8.2	10.8
5	23352.75	54.0	54.2	40.0	31.8	6.4	0.6	59.7	59.9	74.0	14.3	14.1
Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
6	29190.90	47.1	45.7	45.4	24.4	7.4	0.0	59.9	58.5	74.0	14.1	15.5
Test distance 0.2meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
7	35029.30	56.3	51.4	45.0	24.4	8.4	0.0	61.8	56.9	74.0	12.2	17.1

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

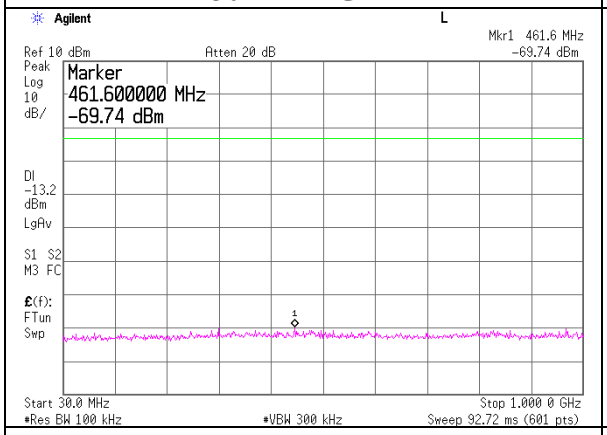
No.	FREQ	S/A READING		ANT	AMP	CABLE	Hi-Pass	RESULT		Limit	MARGIN	
		HOR	VER	Factor	GAIN	LOSS	Filter	HOR	VER	AV	HOR	VER
	[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
1	5150.00	29.5	29.3	33.8	31.6	3.6	0.0	35.3	35.1	54.0	18.7	18.9
2	5423.30	28.1	28.4	33.9	31.7	3.7	9.9	43.9	44.2	54.0	10.1	9.8
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
3	11676.37	37.0	36.1	40.7	33.1	5.7	0.7	41.5	40.6	54.0	12.5	13.4
4	17514.56	36.0	35.1	43.5	31.8	6.9	0.5	45.6	44.7	54.0	8.4	9.3
5	23352.75	36.2	36.0	40.0	31.8	6.4	0.6	41.9	41.7	54.0	12.1	12.3
Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
6	29190.90	31.4	31.2	45.4	24.4	7.4	0.0	44.2	44.0	54.0	9.8	10.0
Test distance 0.2meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
7	35029.30	39.7	38.5	45.0	24.4	8.4	0.0	45.2	44.0	54.0	8.8	10.0

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
Test Distance 0.2m : Distance Factor(Dfac) = 20log(3/0.2) = 23.52 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.

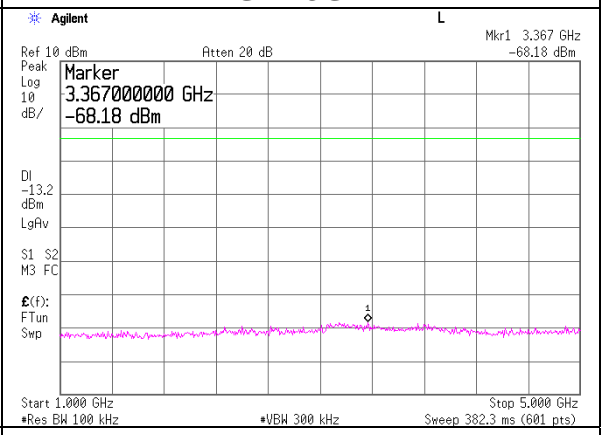
Conducted Spurious Emission

Ch:Low

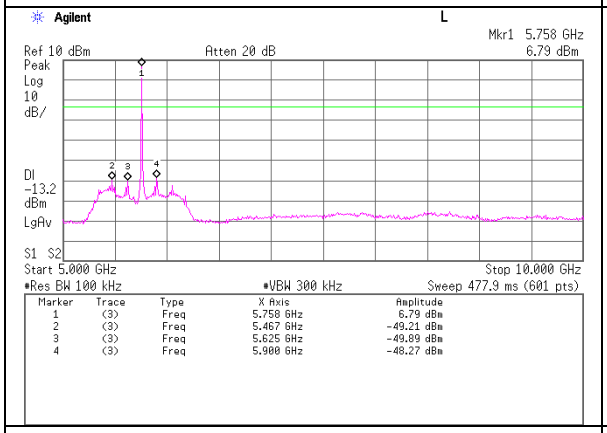
30MHz-1GHz



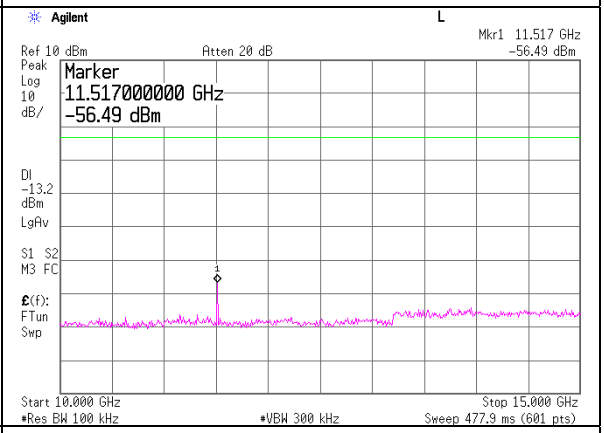
1GHz-5GHz



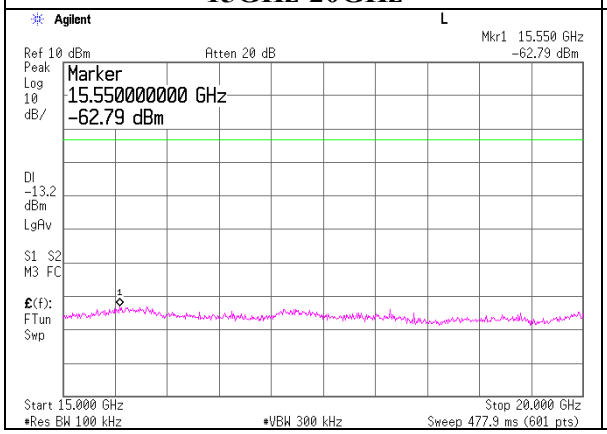
5GHz-10GHz



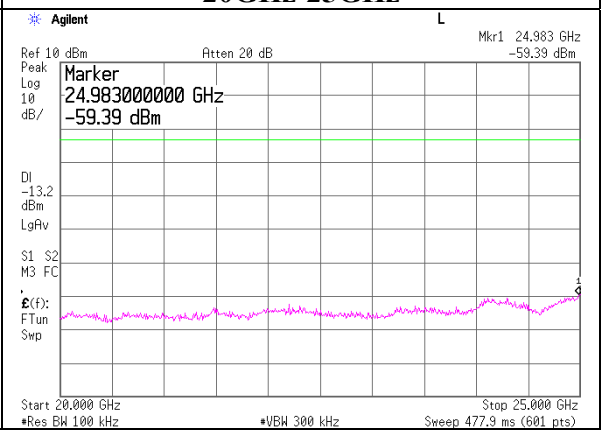
10GHz-15GHz



15GHz-20GHz



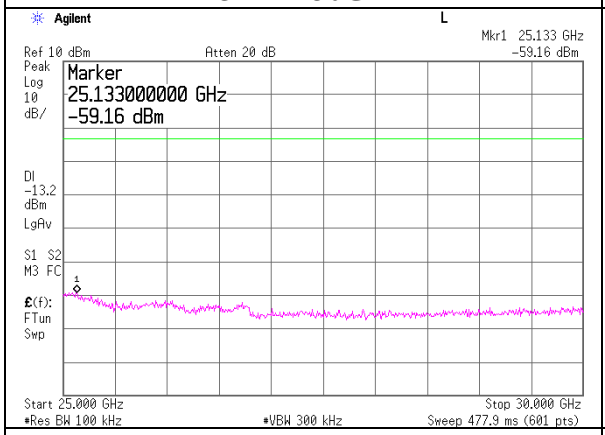
20GHz-25GHz



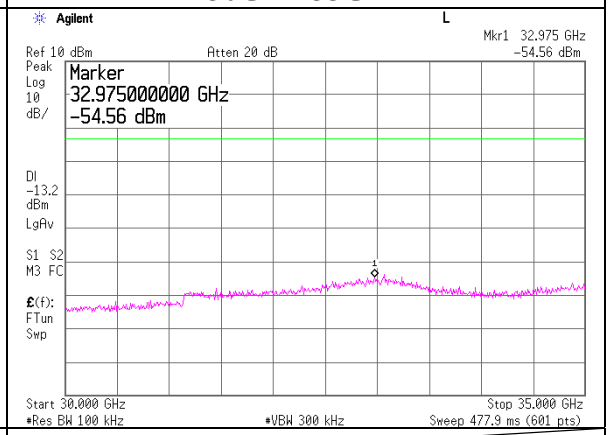
Conducted Spurious Emission

Ch:Low

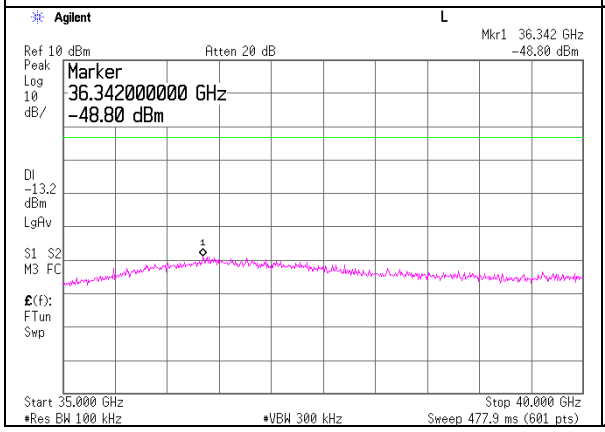
25MHz-30GHz



30GHz-35GHz

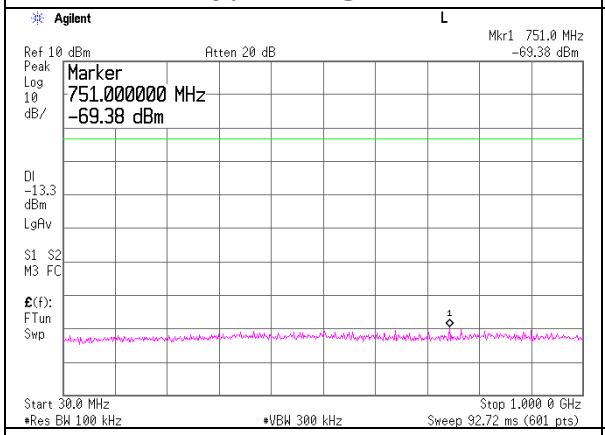


35GHz-40GHz

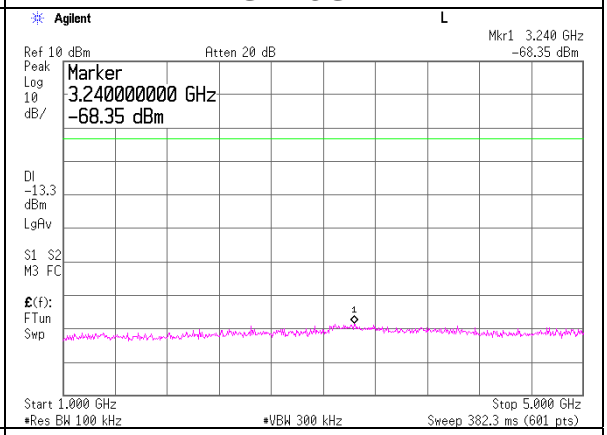


Conducted Spurious Emission
Ch:Mid

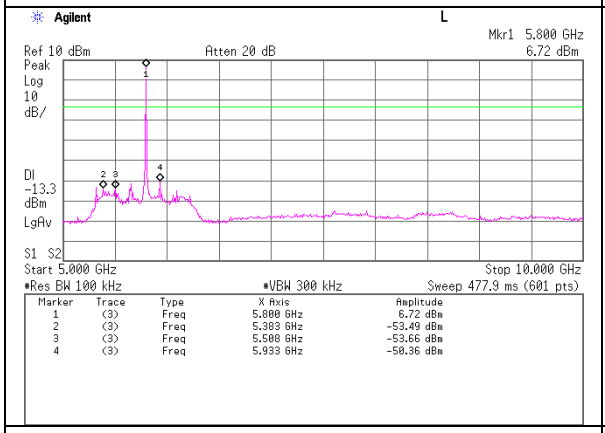
30MHz-1GHz



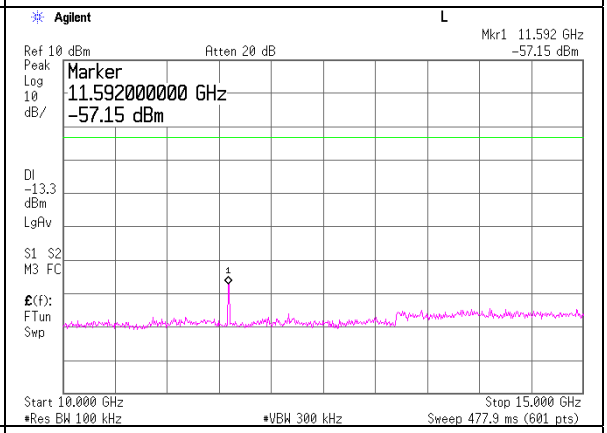
1GHz-5GHz



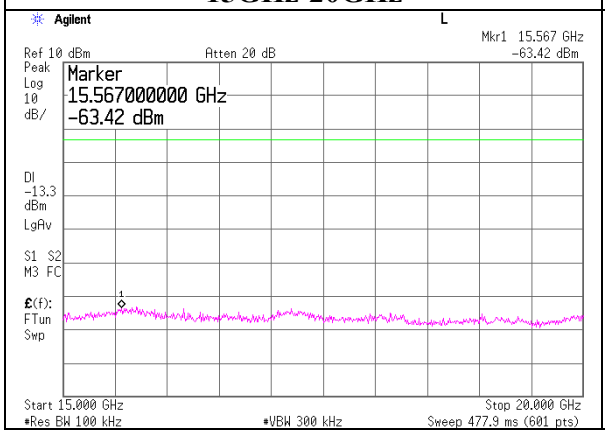
5GHz-10GHz



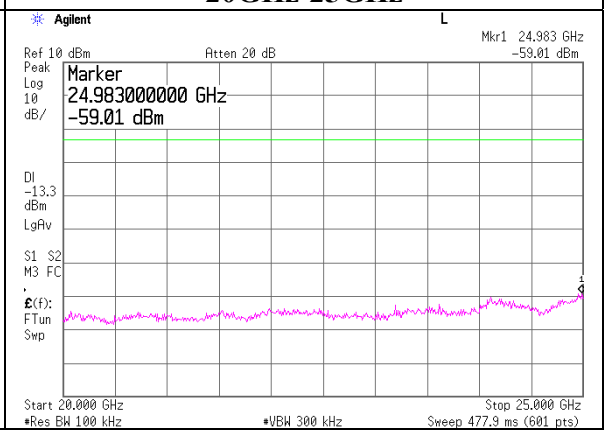
10GHz-15GHz



15GHz-20GHz

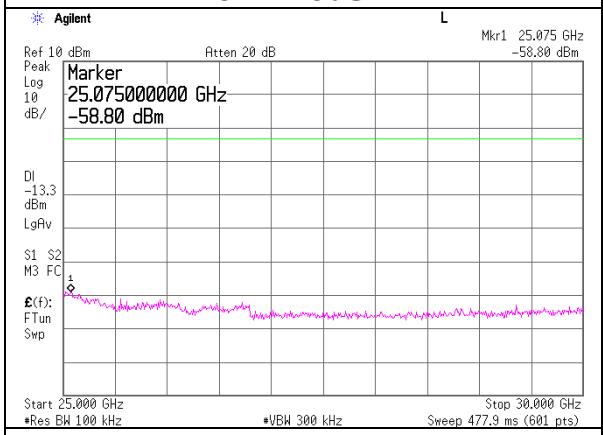


20GHz-25GHz

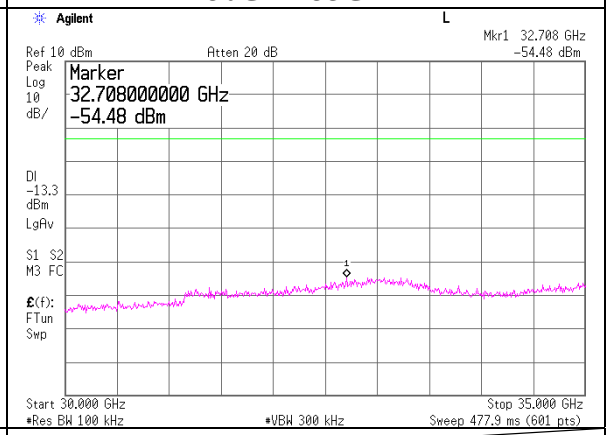


Conducted Spurious Emission
Ch:Mid

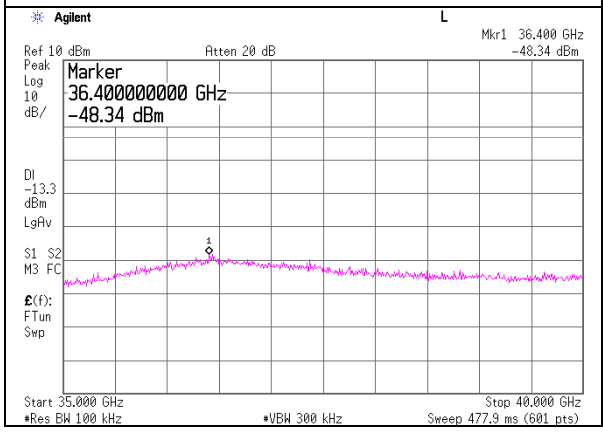
25MHz-30GHz



30GHz-35GHz

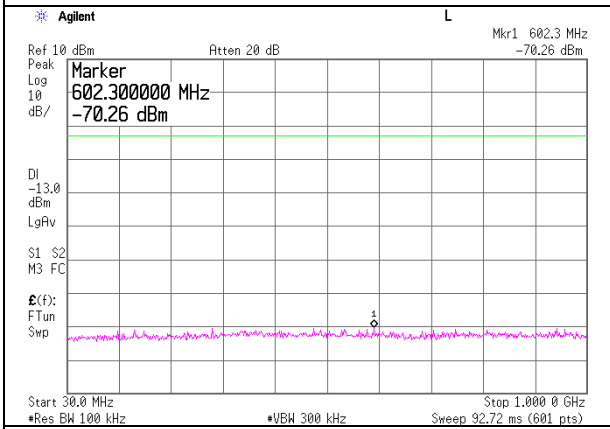


35GHz-40GHz

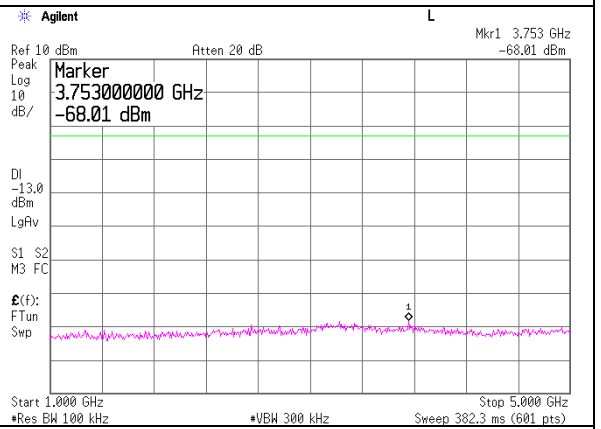


Conducted Spurious Emission
Ch:High

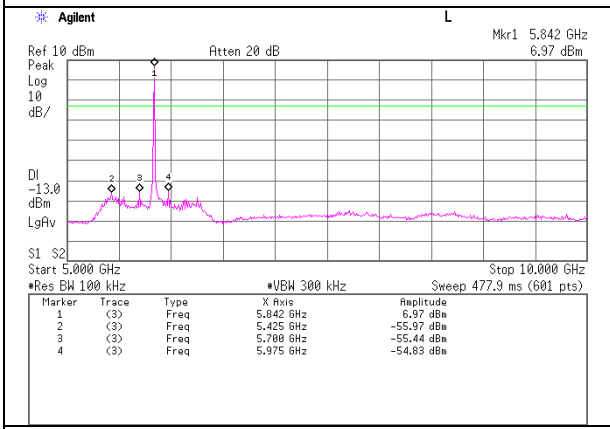
30MHz-1GHz



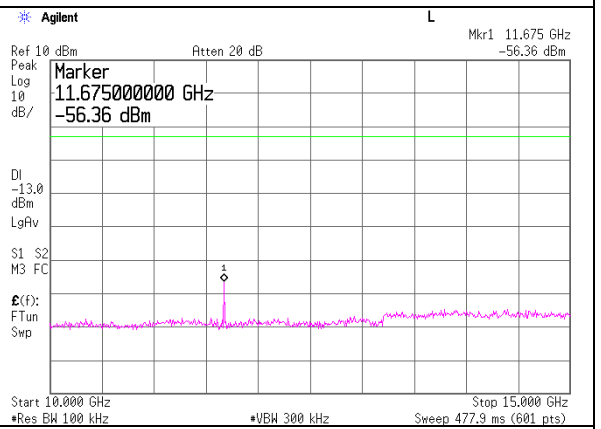
1GHz-5GHz



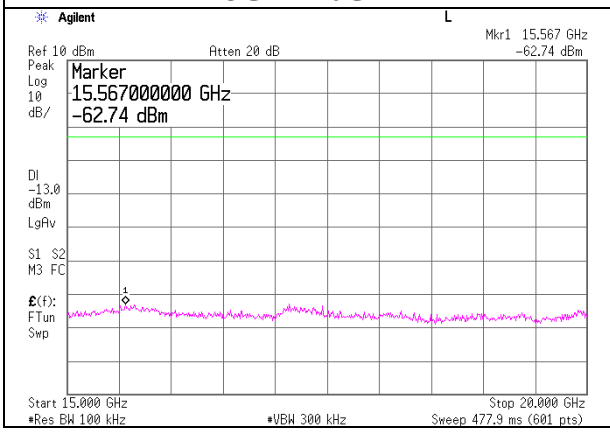
5GHz-10GHz



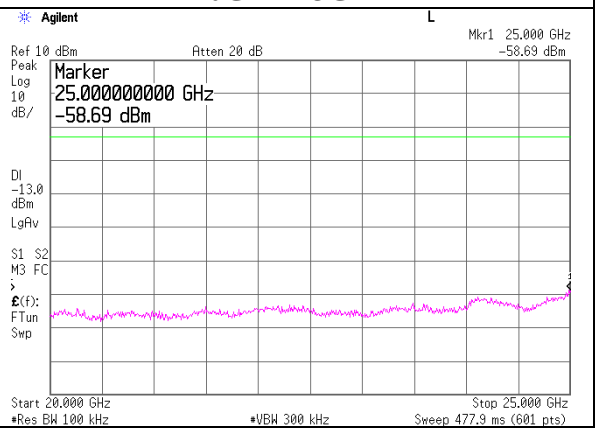
10GHz-15GHz



15GHz-20GHz



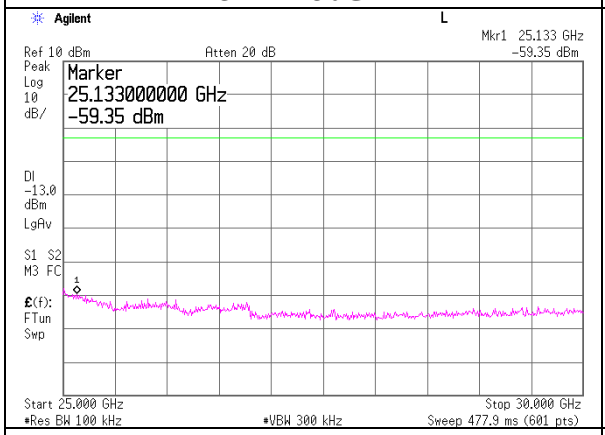
20GHz-25GHz



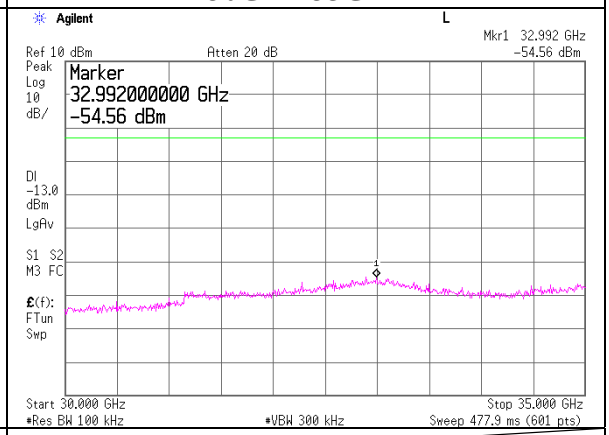
Conducted Spurious Emission

Ch:High

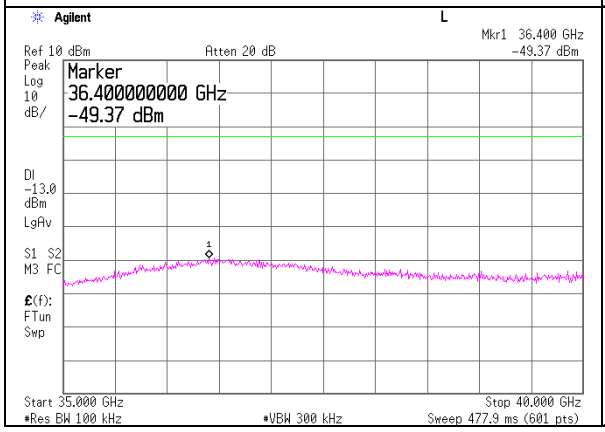
25MHz-30GHz



30GHz-35GHz

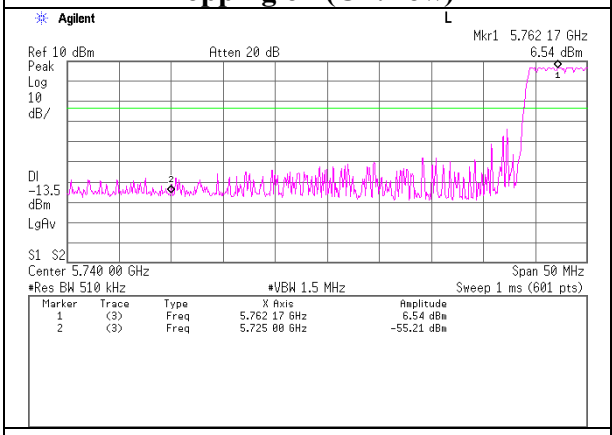


35GHz-40GHz

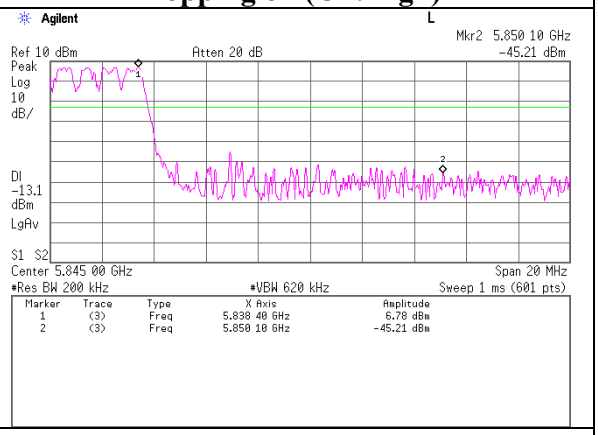


Conducted Spurious Emission
Band Edge compliance

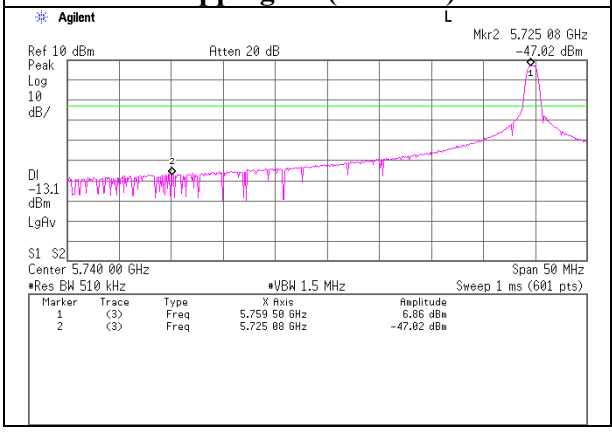
Hopping on (Ch:Low)



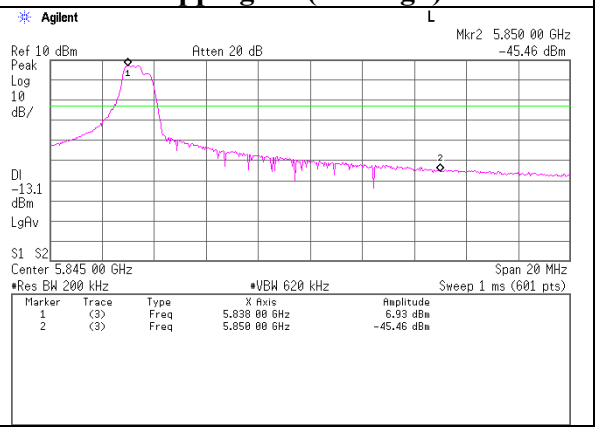
Hopping on (Ch:High)



Hopping off (Ch:Low)



Hopping off (Ch:High)



APPENDIX 3:Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
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	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
MCC-51	Coaxial cable	UL Apex	-	RE	2006/03/11 * 12
MPA-13	Pre Amplifier	SONOA INSTRUMENT	310	RE	2006/03/25 * 12
MAT-30	Attenuator(6dB)	TME	UFA-01	RE	2006/03/11 * 12
MBA-03	Biconical Antenna	Schwarzbeck	BBA9106	RE	2006/01/29 * 12
MLA-03	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2006/01/29 * 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	CE	2006/04/10 * 12
MJM-06	Measure	PROMART	SEN1955	CE/RE	-
MTR-03	Test Receiver	Rohde & Schwarz	ESCI	CE	2006/03/04 * 12

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]