



EMI TEST REPORT

Test Report No.: 26DE0101-HO-1a

Applicant : **Panasonic Communications Co., Ltd.**
Type of Equipment : **Cordless Telephone (Handset)**
Model No. : **KX-TGA570**
FCC ID : **ACJ96NKX-TG5771**
Test standard : **FCC Part 15 Subpart C**
Section 15.207, Section 15.247: 2005
Test Result : **Complied**

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

Date of test:

November 11 to 28, 2005

Tested by:

Mitsuru Fujimura
EMC Services

Takumi Shimada
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Approved by:

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UL Apex Co., Ltd.

Head Office EMC Lab.

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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-TGA570
Serial No.		1 (for Radiated emissions) 2 (for Antenna terminal conducted emissions)
Country of Manufacture		Japan
	Model Name :	HHR-P105 (Ni-MH Battery Pack)
	Rating :	DC2.4V/830mAh
	Manufacture	Panasonic
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		November 11, 2005
Category Identified		Portable device

2.2 Product Description

Equipment Type	Transceiver
Frequency band	Lower limit= 5725MHz, Upper limit= 5850MHz
Bandwidth & Channel spacing	Bandwidth: 79MHz Channel spacing: 891.87kHz
Type of Modulation	FHSS
Antenna Type	5/8 lambda Pattern-Antenna
Antenna Connector Type	N/A
Antenna Gain	4dBi (Typ.)
Mode of Operation	Duplex
ITU code	F1E
Power Supply (RF Part)	DC 3.1V
Method of Frequency Generation	Synthesizer

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FCC 15.31 (e)

This EUT provides stable voltage (DC3.1V) 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.

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SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification : FCC Part15 Subpart C : 2005

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

3.2 Procedures and results

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst Margin*0)	Results
1	Conducted emission	ANSI C63.4:2003 7. AC powerline conducted emission measurements	Section 15.207	-	N/A	N/A	N/A*1)
2	Carrier Frequency Separation	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247(a)(1)	Conducted	N/A	See data.	Complied
3	20dB Bandwidth	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247(a)(1)	Conducted	N/A		Complied
4	Number of Hopping Frequency	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247(a)(1)(iii)	Conducted	N/A		Complied
5	Dwell time	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247(a)(1)(iii)	Conducted	N/A		Complied
6	Maximum Peak Output Power	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247(b)(1)	Conducted	N/A		Complied
7	Band Edge Compliance	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247(d)	Conducted	N/A		Complied
8	Spurious Emission	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247(d)	Conducted/ Radiated	N/A	3.7dB 5301.0MHz PK, Ver.	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.

*1) The test is not applicable, because the EUT is not connected to the public utility (AC) power line.

Uncertainty:

Spurious Emission (Radiated)

The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is $\pm 4.5\text{dB}(3\text{m})/\pm 4.7\text{dB}(10\text{m})$.

The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is $\pm 5.2\text{dB}(3\text{m})/\pm 3.8\text{dB}(10\text{m})$.

The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is $\pm 6.6\text{dB}$.

The data listed in this report meets the limits unless the uncertainty is taken into consideration.

Other test except Conducted Emission and Spurious Emission (Radiated)

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

*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 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	846015	IC4247A-2	7.5 x 5.8 x 5.2m	4.0 x 4.0m	-
No.3 shielded room	-	-	4.7 x 7.5 x 2.7m	4.7 x 7.5m	-
No.4 measurement room	-	-	3.1 x 5.0 x 2.7m	N/A	-

* Size of vertical conducting plane (for Conducted Emission test) : 2.0 x 2.0m for No.1 and No.2 semi-anechoic and No.3 shielded room.

3.4 Test set up, Test instruments and Data of EMI

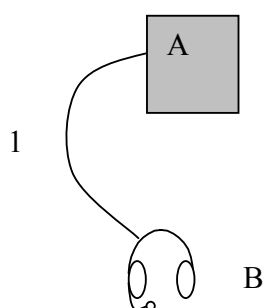
Refer to APPENDIX 1 to 3.

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

4.1 Operating Modes

The mode is used : [FHSS]
 Transmitting mode
 Low Channel : 5759.70240MHz
 Mid Channel : 5798.05084MHz
 High Channel : 5838.18697MHz

4.2 Configuration and peripherals



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

Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	FCC ID
A	Cordless Telephone (Handset)	KX-TGA570	1 (for Radiated emissions) 2 (for Antenna terminal conducted emissions)	Panasonic Communications	ACJ96NKX-TG5771
B	Headphone	KX-TCA88	-	Panasonic Communications	-

List of cables used

No.	Name	Length (m)	Shield
1	Headset Cable	1.8	N

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SECTION 5: Spurious Emission

[Conducted]

Test Procedure

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

Test data : APPENDIX 3

Test result : Pass

[Radiated]

Test Procedure

EUT was placed on a platform of nominal size, 0.5m 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 18GHz) and 1m(Upper 18GHz) and 0.5m (Upper 26.5GHz).

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 15.205.

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 3

Test result : Pass

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SECTION 6: Bandwidth

Test Procedure

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

Test data	: APPENDIX 3
Test result	: Pass

SECTION 7: Maximum Peak Output Power

Test Procedure

The Maximum Peak Output Power was measured with a spectrum analyzer connected to the antenna port.

Test data	: APPENDIX 3
Test result	: Pass

SECTION 8: Carrier Frequency Separation

Test Procedure

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

Test data	: APPENDIX 3
Test result	: Pass

SECTION 9: Number of Hopping Frequency

Test Procedure

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

Test data	: APPENDIX 3
Test result	: Pass

SECTION 10: Dwell time

Test Procedure

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

Test data	: APPENDIX 3
Test result	: Pass

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APPENDIX 1: Photographs of test setup

Spurious Emission (Radiated)

Front



Right



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

X-axis



Y-axis



Z-axis



APPENDIX 2:Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
MAEC-02	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	RE	2005/04/11 * 12
MRENT-21	Spectrum Analyzer	Advantest	R3273	RE	2005/08/19 * 12
MCC-04	Microwave Cable 1G-50GHz	Storm	421-011 (90-1394-079)	RE	2005/01/05 * 12
MCC-47	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	RE	2005/08/30 * 12
MHA-06	Horn Antenna	Schwarzbeck	BBHA9120D	RE	2005/01/10 * 12
MPA-01	Pre Amplifier	Agilent	8449B	RE	2005/02/05 * 12
MAT-22	Attenuator(10dB)(above1GHz)	Orient Microwave	BX10-0476-00	RE	2005/03/16 * 12
MCC-12	Coaxial Cable	Fujikura/Agilent	-	RE	2005/02/24 * 12
MBA-01	Biconical Antenna	Schwarzbeck	BBA9106	RE	2005/10/10 * 12
MLA-01	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2005/10/14 * 12
MAT-07	Attenuator(6dB)	Weinschel Corp	2	RE	2004/12/16 * 12
MPA-09	Pre Amplifier	Agilent	8447D	RE	2005/09/07 * 12
MSA-03	Spectrum Analyzer	Agilent	E4448A	AT	2005/09/16 * 12
MCC-22	Microwave Cable 1G-50GHz	Storm	421-011 (90-011-080)	AT	2005/04/29 * 12
MAT-24	Attenuator(10dB)(above1GHz)	Agilent	8493C	AT	2005/06/03 * 12
MBF-03	SHF Bandpass Filter	M-City	13GHz BPF	RE	2005/05/20 * 12
MHA-02	Horn Antenna	EMCO	3160-09	RE	2005/01/10 * 12
MSA-04	Spectrum Analyzer	Agilent	E4448A	RE	2005/05/19 * 12
MHA-04	Horn Antenna	EMCO	3160-10	RE	2005/01/10 * 12
MCC-27	Microwave Cable 1G-50GHz	Suhner	SUCOFLEX101	RE	2005/08/30 * 12
MPA-03	Microwave System Power Amplifier	Agilent	83050A	RE	2005/05/11 * 12

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

Test Item:

RE: Radiated Spurious Emission

AT: Antenna Terminal Measurement

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APPENDIX 3: Data of EMI test

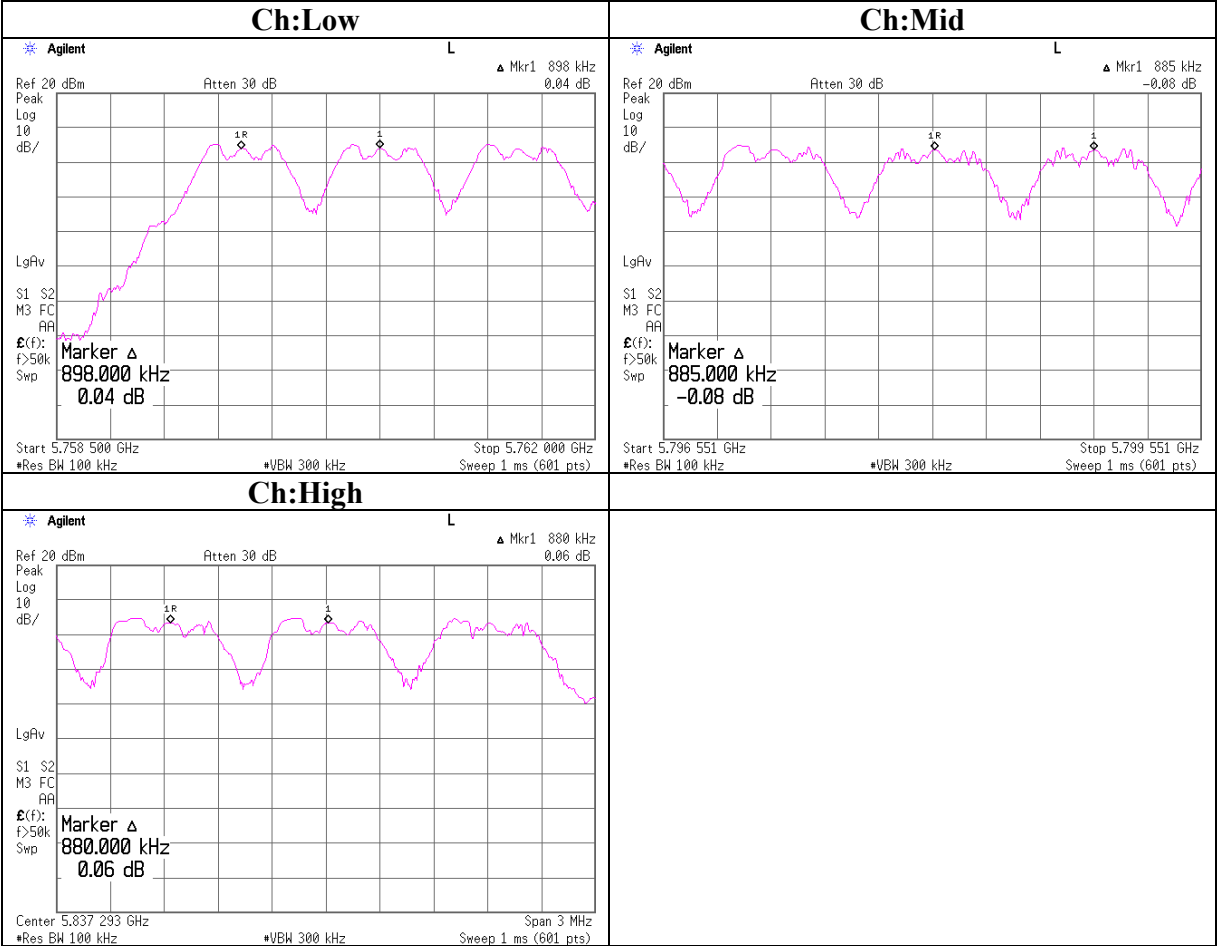
Carrier Frequency Separation

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

COMPANY	: Panasonic Communications Co., Ltd.	REGULATION	: FCC Part15 Subpart C 15.247(a)(1)
EQUIPMENT	: Cordless Telephone (Handset)	TEST DISTANCE	: -
MODEL	: KX-TGA570	DATE	: 11/23/2005
S/ N	: 2	TEMPERATURE	: 25deg.C
POWER	: DC 2.4 V	HUMIDITY	: 38%
MODE	: Tx(Hopping on)	ENGINEER	: Takumi Shimada

Ch	Freq. [MHz]	Channel separation [MHz]	Limit
Low	5759.7	0.898	>20dB Bandwidth and 25[kHz]
Mid	5798.1	0.885	>20dB Bandwidth and 25[kHz]
High	5838.2	0.880	>20dB Bandwidth and 25[kHz]

Carrier Frequency Separation



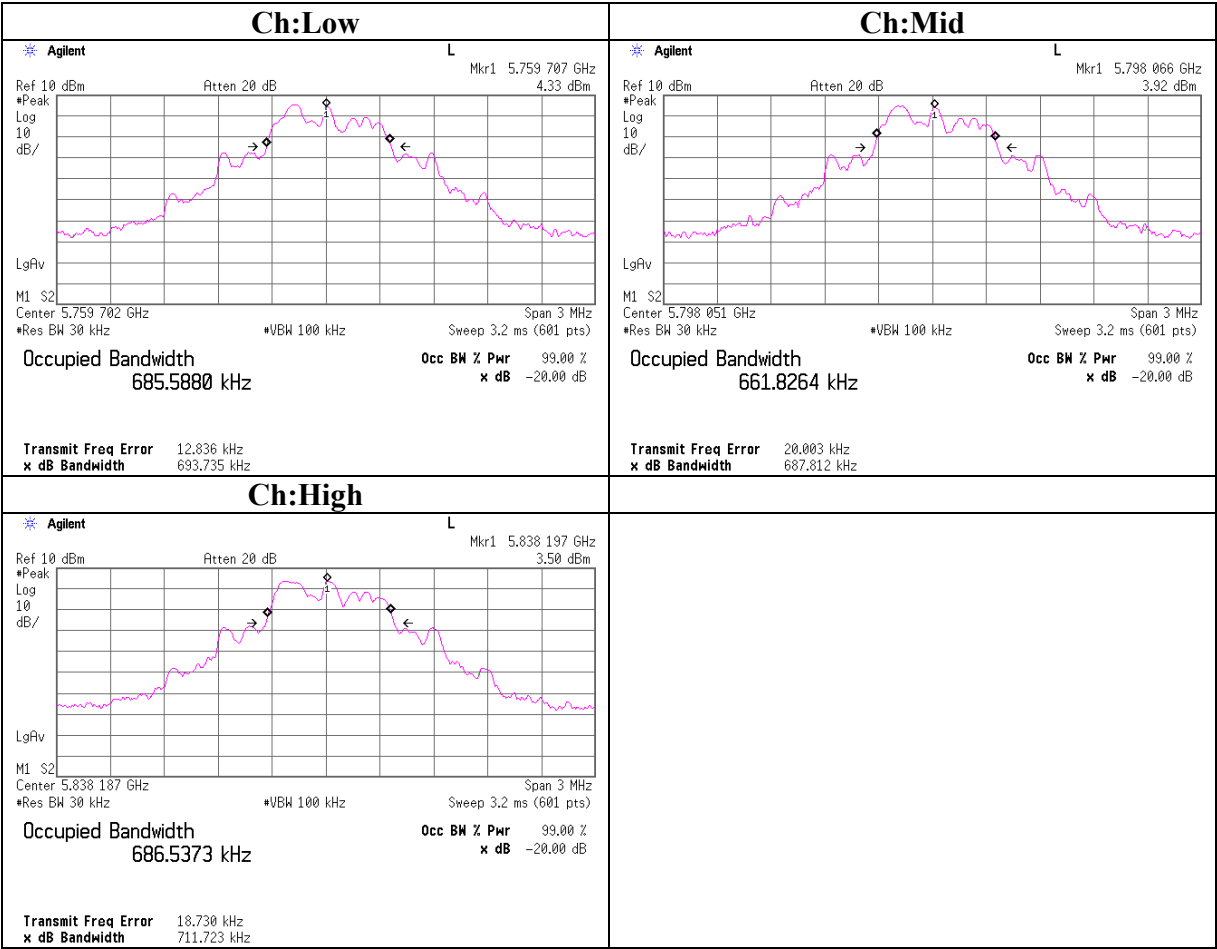
20dB Bandwidth

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

COMPANY	: Panasonic Communications Co., Ltd.	REGULATION	: FCC Part15 Subpart C 15.247(a)(1)(ii)
EQUIPMENT	: Cordless Telephone (Handset)	TEST DISTANCE	: -
MODEL	: KX-TGA570	DATE	: 11/11/2005
S/ N	: 2	TEMPERATURE	: 23deg.C
POWER	: DC 2.4 V	HUMIDITY	: 44%
MODE	: Tx(Hopping off)	ENGINEER	: Mitsuru Fujimura

Ch	Freq.	20dB Bandwidth	Limit
	[MHz]	[MHz]	[MHz]
Low	5759.7	0.694	≤ 1
Mid	5798.1	0.688	≤ 1
High	5838.2	0.712	≤ 1

20dB Bandwidth



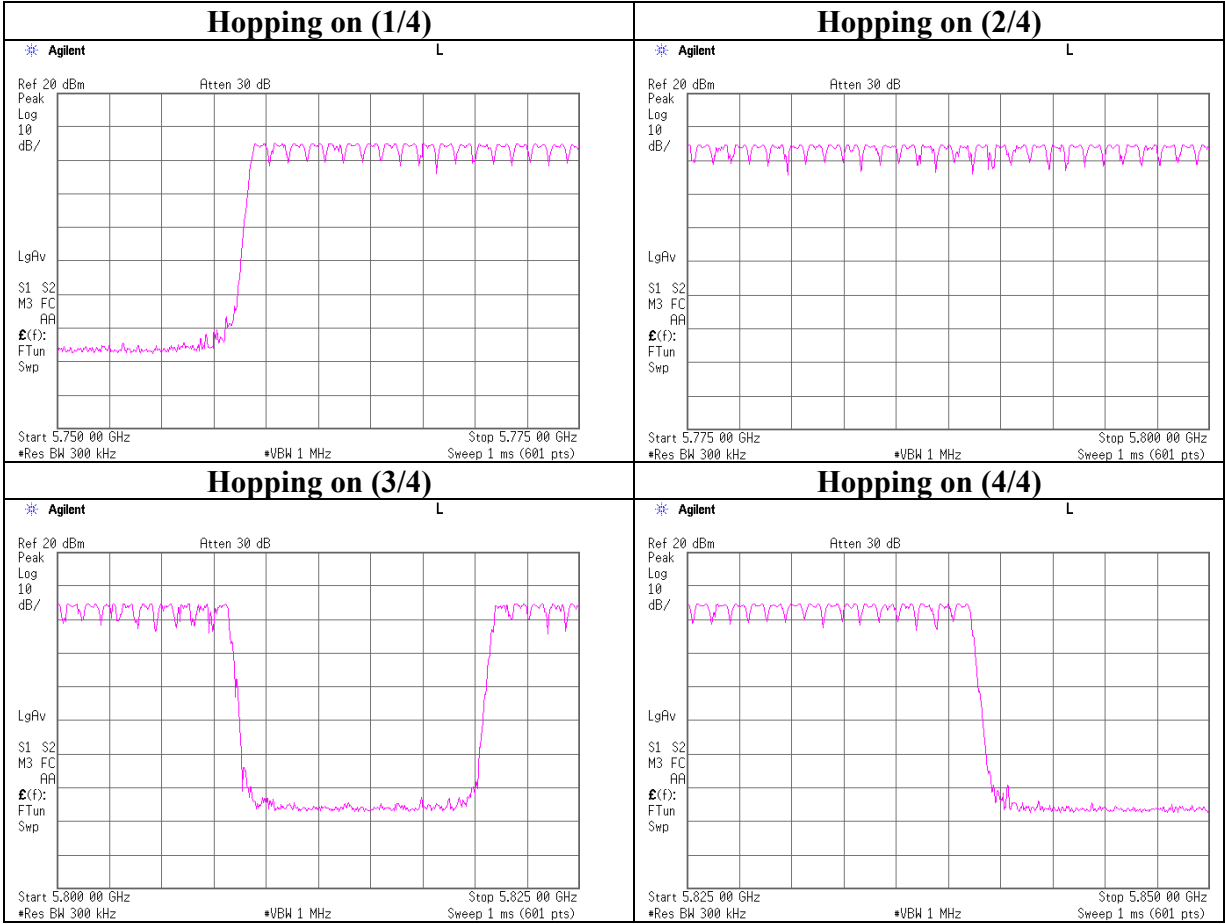
Number of Hopping Frequency

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

COMPANY : Panasonic Communications Co., Ltd. REGULATION : FCC Part15 Subpart C 15.247(a)(1)(ii)
EQUIPMENT : Cordless Telephone (Handset) TEST DISTANCE : -
MODEL : KX-TGA570 DATE : 11/23/2005
S/ N : 2 TEMPERATURE : 25deg.C
POWER : DC 2.4 V HUMIDITY : 38%
MODE : Tx(Hopping on) ENGINEER : Takumi Shimada

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

Number of Hopping Frequency



Dwell time

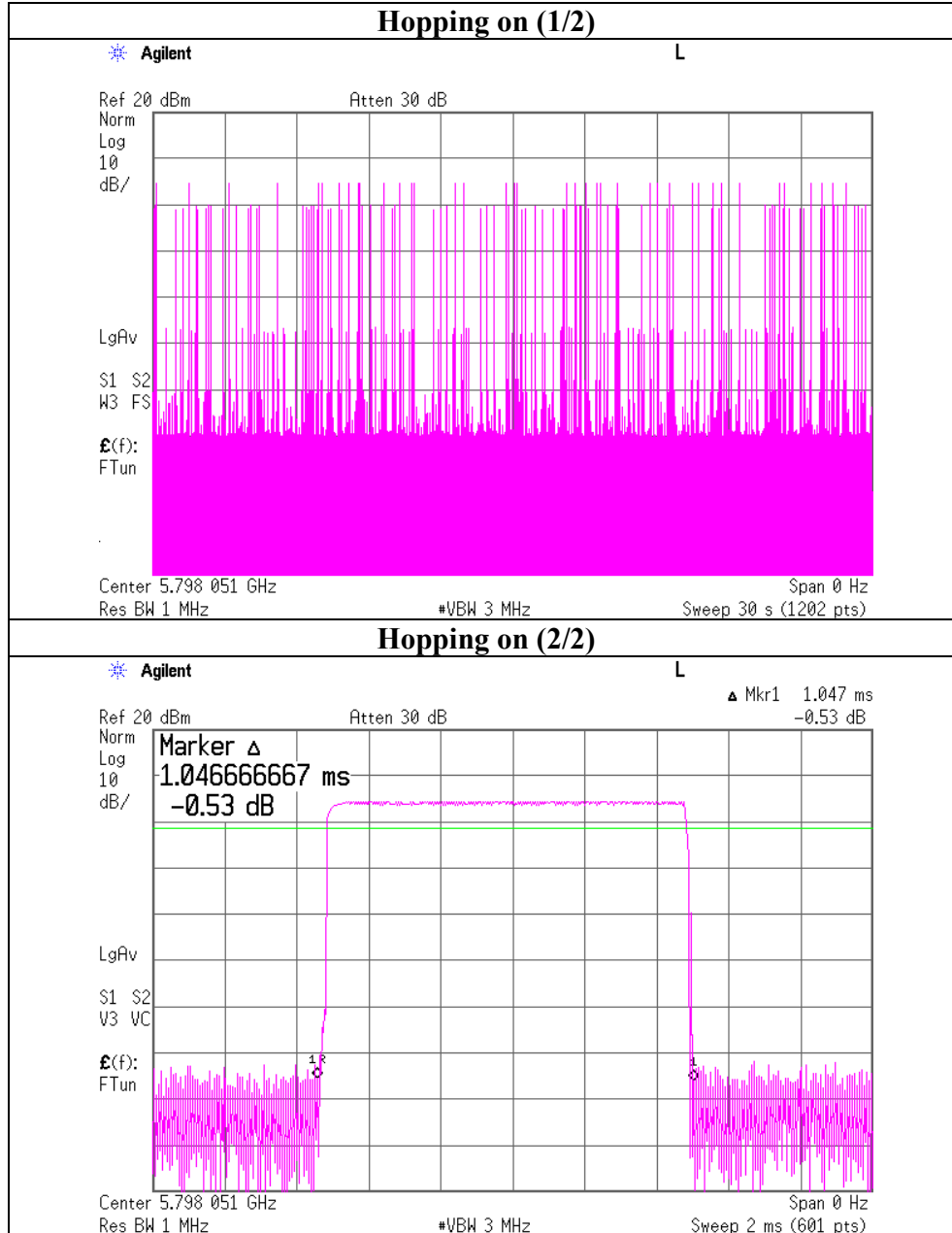
UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Shielded Room

COMPANY	: Panasonic Communications Co.,Ltd.	REGULATION	: FCC Part15 Subpart C 15.247(a)(1)(ii)
EQUIPMENT	: Cordless Telephone (Handset)	TEST DISTANCE	: -
MODEL	: KX-TGA570	DATE	: 11/28/2005
S/ N	: 2	TEMPERATURE	: 23deg.C
POWER	: DC 2.4 V	HUMIDITY	: 38%
MODE	: Tx(Hopping on)	ENGINEER	: Takumi Shimada

Mode	Number of transmission in a 30sec	Length of transmission time [msec]	Result [msec]	Limit [msec]
Tx Hopping on	40.4times / 30 sec. x 30 = 40.4 times	1.047	42	400

*40.4 is the average data of 5 tests.

Dwell time



Maximum Peak Output Power

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COMPANY	: Panasonic Communications Co., Ltd.	REGULATION	: FCC Part15 Subpart C 15.247(b)(1)
EQUIPMENT	: Cordless Telephone (Handset)	TEST DISTANCE	: -
MODEL	: KX-TGA570	DATE	: 11/11/2005
S/ N	: 2	TEMPERATURE	: 23deg.C
POWER	: DC 2.4 V	HUMIDITY	: 44%
MODE	: Tx(Hopping off)	ENGINEER	: Mitsuru Fujimura

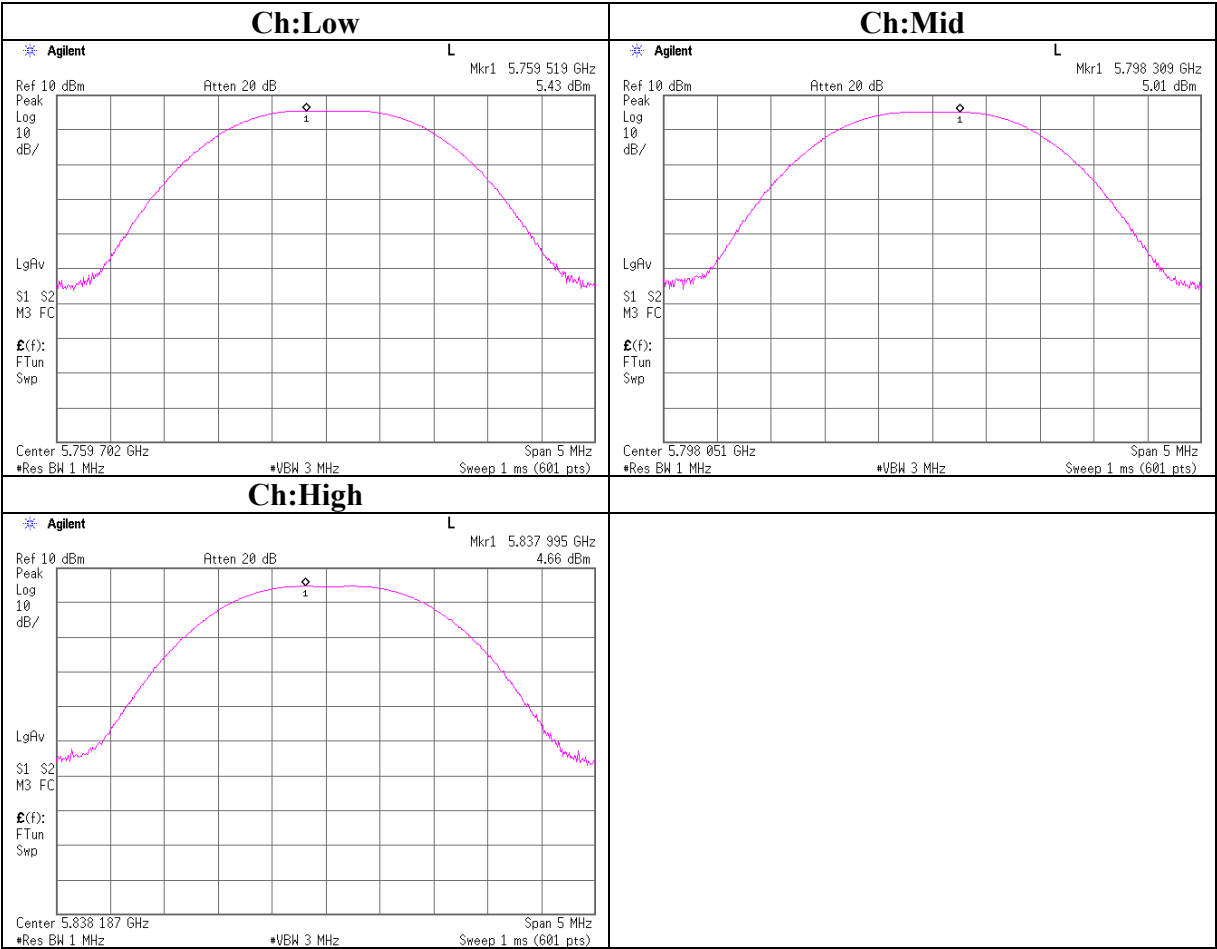
Ch	Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
Low	5759.5	5.43	2.90	9.77	18.10	30.00	11.90
Mid	5798.3	5.01	2.91	9.78	17.70	30.00	12.30
High	5838.0	4.66	2.92	9.79	17.37	30.00	12.63

Sample Calculation:

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

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

Maximum Peak Output Power



Maximum Peak Output Power (EIRP)

Reference data for SAR Testing

Output power measurement method

- 1) EUT was placed on a platform of nominal size, 0.5m by 1.0m, raised 1.5m above the conducting ground plane. Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The Radiated Electric Field Strength intensity has been measured in semi anechoic chamber with absorbent materials lined (Type VHP 12) on a ground plane and at a distance of 3m.
The measuring antenna height was varied between 1 to 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.

- 2) Exchanged the EUT to the Substitution Antenna, the measurement was set for the same height 1.5m as the EUT. The frequency below 1GHz of the Substitution Antenna was used as the Half wave dipole Antenna, which is harmonized with the measured frequency in 1).
The frequency above 1GHz of the Substitution Antenna was used with Horn Antenna.
The Substitution Antenna was connected with the Signal Generator, and the polarized electromagnetic radiation of the Substitution Antenna was matched with the one of the measuring Antenna, which was set with the Signal Generator to the measured frequency in 1). Then, we set with the Output power (CW) of the Signal Generator where the measuring electromagnetic field is equal to the measured value in 1).
The measuring antenna height was varied between 1 to 4m to obtain the maximum receiving level.
Its Output power of Signal Generator was recorded.

- 3) Effective radiated power was calculated by subtracting the cable loss and the attenuator loss connected between the Signal Generator and the Substitution Antenna from the Output power of the Signal Generator recorded in 2).
For the usage of the Antenna (Horn Antenna) except for the Half wave dipole Antenna (2.15dBi) for the Substitution Antenna, the Effective radiated power was calculated by compensating the finite difference in the Antenna gain of the Half wave dipole Antenna, and Substitution Antenna.

Spectrum Analyzer setting

Resolution bandwidth set to 1MHz and Video bandwidth to 3MHz.

EIRP			
Ch	Freq.	E-field	EIRP
	[MHz]	[dBμV/m]	[dBm]
Low	5759.70240	124.50	20.4
Mid.	5798.05084	123.64	19.6
High	5838.18697	123.48	19.4

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Test report No. : 26DE0101-HO-1a
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Issued date : December 2, 2005
Revised date : December 7, 2005
FCC ID : ACJ96NKX-TG5771

Radiated Spurious Emission(30MHz-1GHz) (Tx Low)

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

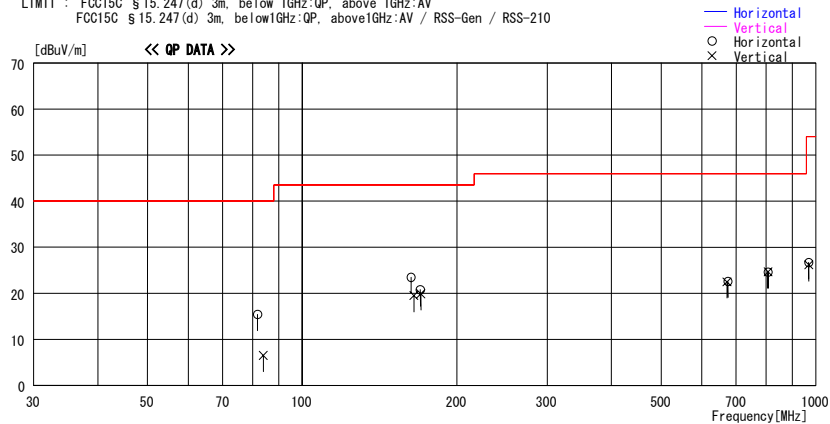
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/11/13 15:35:00

Applicant : Panasonic Communications Co., Ltd. Report No. : 26DE0101-HO
Kind of EUT : Cordless Telephone (Handset) Power : DC2.4V
Model No. : KX-TGA570 Temp./Humi. : 20deg. C. / 50%
Serial No. : 1 Operator : Norihisa Hashimoto

Mode / Remarks : Tx5759.7024MHz /EUT-axis:Hor Y-axis, Ver Z-axis (Max-axis)

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV
FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV / RSS-Gen / RSS-210



Frequency	Reading	DET	Antenna		Level	Angle	Height	Polar.	Limit	Margin
			Factor	Gain						
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]
81.902	31.0	QP	6.6	-22.2	15.4	271	300	Hor.	40.0	24.6
84.000	21.7	QP	6.9	-22.1	6.5	354	100	Vert.	40.0	33.5
162.840	29.5	QP	15.3	-21.3	23.5	318	296	Hor.	43.5	20.0
164.995	25.4	QP	15.4	-21.3	19.5	257	133	Vert.	43.5	24.0
169.863	26.1	QP	15.6	-20.9	20.8	311	264	Hor.	43.5	22.7
170.334	25.2	QP	15.6	-20.9	19.9	7	100	Vert.	43.5	23.6
671.707	21.5	QP	20.2	-19.2	22.5	353	100	Vert.	46.0	23.5
674.507	21.5	QP	20.3	-19.2	22.6	279	308	Hor.	46.0	23.4
806.809	21.1	QP	21.4	-17.9	24.6	30	270	Hor.	46.0	21.4
807.509	21.3	QP	21.4	-18.0	24.7	188	100	Vert.	46.0	21.3
968.512	20.9	QP	23.0	-17.2	26.7	99	278	Hor.	54.0	27.3
969.212	20.4	QP	23.0	-17.2	26.2	143	100	Vert.	54.0	27.8

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)

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MF060b(01.06.05)

Test report No. : 26DE0101-HO-1a
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Revised date : December 7, 2005
FCC ID : ACJ96NKX-TG5771

Radiated Spurious Emission(30MHz-1GHz) (Tx Mid)

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

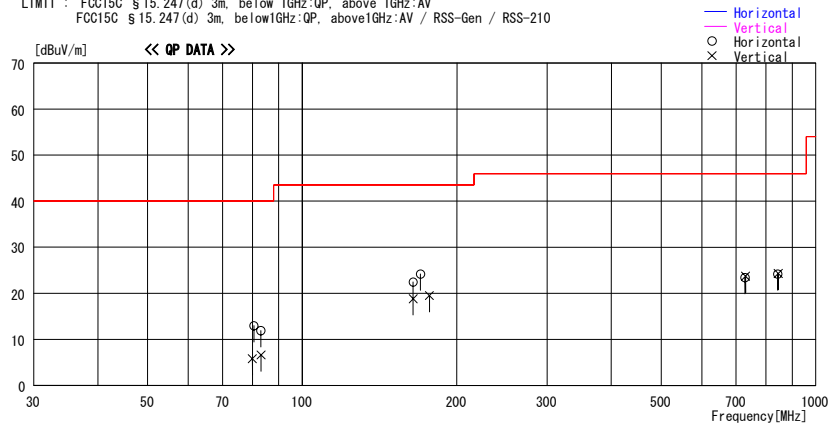
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/11/13 16:13:22

Applicant : Panasonic Communications Co., Ltd. Report No. : 26DE0101-HO
Kind of EUT : Cordless Telephone (Handset) Power : DC2.4V
Model No. : KX-TGA570 Temp./Humi. : 20deg. C. / 50%
Serial No. : 1 Operator : Norihisa Hashimoto

Mode / Remarks : Tx5798.05084MHz /EUT-axis:Hor Y-axis, Ver Z-axis (Max-axis)

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV
FCC15C §15.247(d) 3m, below1GHz:QP, above1GHz:AV / RSS-Gen / RSS-210



Frequency	Reading	DET	Antenna		Level	Angle	Height	Polar.	Limit	Margin
			Factor	Gain						
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]
79.950	21.8	QP	6.3	-22.3	5.8	73	134	Vert.	40.0	34.2
80.490	29.0	QP	6.3	-22.3	13.0	272	246	Hori.	40.0	27.0
83.123	27.3	QP	6.8	-22.2	11.9	269	311	Hori.	40.0	28.1
83.190	22.0	QP	6.8	-22.2	6.6	243	109	Vert.	40.0	33.4
164.460	28.4	QP	15.4	-21.3	22.5	164	194	Hori.	43.5	21.0
164.528	24.7	QP	15.4	-21.3	18.8	22	100	Vert.	43.5	24.7
169.852	29.5	QP	15.6	-20.9	24.2	308	194	Hori.	43.5	19.3
176.951	24.7	QP	15.9	-21.1	19.5	144	108	Vert.	43.5	24.0
727.708	21.4	QP	20.8	-18.8	23.4	302	278	Hori.	46.0	22.6
730.508	21.5	QP	20.9	-18.7	23.7	354	100	Vert.	46.0	22.3
843.210	21.0	QP	21.1	-17.9	24.2	331	264	Hori.	46.0	21.8
845.310	21.1	QP	21.1	-17.9	24.3	12	100	Vert.	46.0	21.7

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)

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MF060b(01.06.05)

Radiated Spurious Emission(30MHz-1GHz)
(Tx High)

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

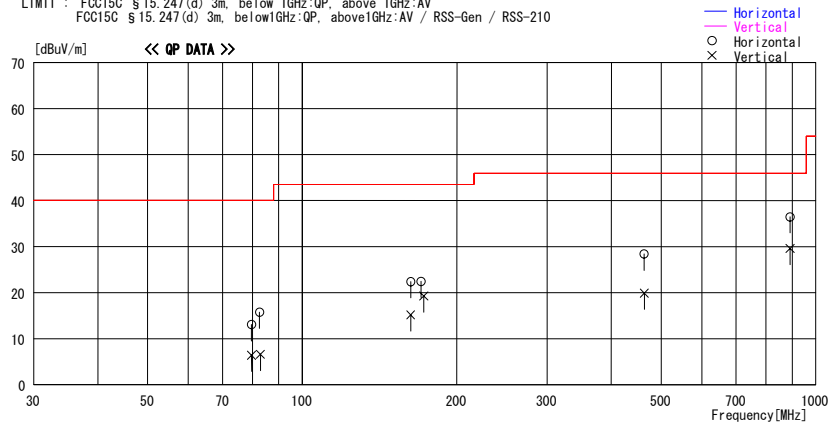
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2005/11/13 16:43:55

Applicant : Panasonic Communications Co., Ltd. Report No. : 26DE0101-HO
Kind of EUT : Cordless Telephone(Handset) Power : DC2.4V
Model No. : KX-TGA570 Temp./Humi. : 20deg. C. / 50%
Serial No. : 1 Operator : Norihisa Hashimoto

Mode / Remarks : Tx5838.1867MHz /EUT-axis:Hor Y-axis, Ver Z-axis (Max-axis)

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV
FCC15C §15.247(d) 3m, below1GHz:QP, above1GHz:AV / RSS-Gen / RSS-210



Frequency	Reading	DET	Antenna	Loss&	Level	Angle	Height	Polar.	Limit	Margin
			Factor	Gain						
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg.]	[cm]		[dBuV/m]	[dB]
79.680	22.4	QP	6.3	-22.3	6.4	44	100	Vert.	40.0	33.6
79.594	29.1	QP	6.3	-22.3	13.1	308	241	Hori.	40.0	26.9
82.562	31.3	QP	6.7	-22.2	15.8	73	218	Hori.	40.0	24.2
82.920	22.0	QP	6.8	-22.2	6.6	212	100	Vert.	40.0	33.4
162.570	28.4	QP	15.3	-21.3	22.4	333	201	Hori.	43.5	21.1
162.570	21.2	QP	15.3	-21.3	15.2	55	100	Vert.	43.5	28.3
170.400	27.8	QP	15.6	-20.9	22.5	334	203	Hori.	43.5	21.0
172.480	24.6	QP	15.7	-21.0	19.3	1	100	Vert.	43.5	24.2
463.060	30.5	QP	17.8	-19.9	28.4	100	245	Hori.	46.0	17.6
463.803	22.0	QP	17.8	-19.9	19.9	5	100	Vert.	46.0	26.1
890.810	33.4	QP	20.9	-17.8	36.5	267	182	Hori.	46.0	9.5
890.810	26.5	QP	20.9	-17.8	29.6	30	100	Vert.	46.0	16.4

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)

Test report No. : 26DE0101-HO-1a
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Issued date : December 2, 2005
Revised date : December 7, 2005
FCC ID : ACJ96NKX-TG5771

Radiated Spurious Emission(1GHz-40GHz) (Tx Low)

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

Company : Panasonic Communications Co.,Ltd. REPORT NO : 26DE0101-HO
Equipment : Cordless Telephone (Handset) REGULATION : Fcc Part15 Subpart C 15.247(d)
Model : KX-TGA570 TEST DISTANCE : 3m/1m/0.5m
Sample No. : 1 DATE : 11/12/2005, 11/15/2005, 11/23/2005,
Power : DC2.4V TEMPERATURE : 23deg.C., 25deg.C., 20deg.C.,
Mode : Tx 5759.70240MHz HUMIDITY : 50%, 38% 34%
Remarks : Hor : Y-axis / Ver : Z-axis ENGINEER : Takumi Shimada

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-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	2395.8	55.7	53.7	30.5	36.4	4.6	0.0	54.4	52.4	74.0	19.6	21.6
2	4791.7	53.4	53.0	35.1	36.0	6.6	0.0	59.1	58.7	74.0	14.9	15.3
3	5301.0	60.8	63.2	36.0	35.8	6.9	0.0	67.9	70.3	74.0	6.1	3.7
4	5437.9	49.4	52.7	35.9	35.8	7.0	0.0	56.5	59.8	74.0	17.5	14.2
5	5725.0	48.0	48.5	36.4	35.8	7.2	0.0	55.8	56.3	74.0	18.2	17.7
6	6217.5	58.7	56.5	36.8	35.8	7.5	0.0	67.2	65.0	74.0	6.8	9.0
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
7	11519.8	55.2	51.8	39.0	35.8	11.5	0.2	60.6	57.2	74.0	13.4	16.8
8*	17278.5	49.2	50.9	44.8	35.0	14.3	4.7	68.5	70.2	-	-	-
9	23038.1	50.2	48.1	40.2	34.9	16.5	0.0	62.5	60.4	74.0	11.5	13.6
Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
10	28798.5	42.9	22.6	41.3	24.3	11.3	0.0	55.6	35.3	74.0	18.4	38.7
11	34558.2	48.4	28.4	42.2	24.6	12.3	0.0	62.7	42.7	74.0	11.3	31.3

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-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	2395.8	37.5	37.0	30.5	36.4	4.6	0.0	36.2	35.7	54.0	17.8	18.3
2	4791.7	35.4	35.3	35.1	36.0	6.6	0.0	41.1	41.0	54.0	12.9	13.0
3	5301.0	37.0	37.9	36.0	35.8	6.9	0.0	44.1	45.0	54.0	9.9	9.0
4	5437.9	34.4	35.6	35.9	35.8	7.0	0.0	41.5	42.7	54.0	12.5	11.3
5	5725.0	31.4	31.2	36.4	35.8	7.2	0.0	39.2	39.0	54.0	14.8	15.0
6	6217.5	35.2	34.3	36.8	35.8	7.5	0.0	43.7	42.8	54.0	10.3	11.2
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
7	11519.8	35.7	33.1	39.0	35.8	11.5	0.2	41.1	38.5	54.0	12.9	15.5
8*	17278.5	33.8	34.4	44.8	35.0	14.3	4.7	53.1	53.7	-	-	-
9	23038.1	31.3	32.0	40.2	34.9	16.5	0.0	43.6	44.3	54.0	10.4	9.7
Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
10	28798.5	23.3	22.6	41.3	24.3	11.3	0.0	36.0	35.3	54.0	18.0	18.7
11	34558.2	29.0	28.4	42.2	24.6	12.3	0.0	43.3	42.7	54.0	10.7	11.3

* Reference data

20dBc(Fundamental 5759.7MHz) (RBW: 100kHz, VBW: 300kHz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter or ATT [dB]	RESULT		Limit 20dBc [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]										
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
0	5759.7	104.7	105.8	36.4	35.8	7.2	10.0	122.5	123.6	-	-	-
8	17278.5	45.8	42.4	44.8	35.0	14.3	4.7	65.1	61.7	Funda-20dB	37.4	41.9

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.5dB

Test Distance 0.5m : Distance Factor(Dfac) = 20log(3/0.5) = 15.6dB

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

*In the frequency over the fifth harmonic, the noise from the EUT was not seen. The data above is its base noise.

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

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

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MF060b(01.06.05)

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FCC ID : ACJ96NKX-TG5771

Radiated Spurious Emission(1GHz-40GHz) (Tx Mid)

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

Company	: Panasonic Communications Co.,Ltd.	REPORT NO	: 26DE0101-HO
Equipment	: Cordless Telephone (Handset)	REGULATION	: Fcc Part15 Subpart C 15.247(d)
Model	: KX-TGA570	TEST DISTANCE	: 3m/1m/0.5m
Sample No.	: 1	DATE	: 11/12/2005, 11/15/2005, 11/23/2005,
Power	: DC2.4V	TEMPERATURE	: 23deg.C., 25deg.C., 20deg.C.,
Mode	: Tx 5798.05084MHz	HUMIDITY	: 50%, 38% 34%
Remarks	: Hor : Y-axis / Ver : Z-axis	ENGINEER	: Takumi Shimada

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-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	2434.0	57.7	53.4	30.5	36.4	4.5	0.0	56.3	52.0	74.0	17.7	22.0
2	4868.1	53.8	55.3	35.5	36.0	6.6	0.0	59.9	61.4	74.0	14.1	12.6
3	5224.2	58.6	60.7	36.1	35.9	6.9	0.0	65.7	67.8	74.0	8.3	6.2
4	6370.7	53.5	53.9	36.6	35.8	7.6	0.0	61.9	62.3	74.0	12.1	11.7
5	6728.3	49.4	49.8	36.9	35.9	7.8	0.0	58.2	58.6	74.0	15.8	15.4
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
6	11595.7	55.9	53.4	39.4	35.9	11.7	0.2	61.8	59.3	74.0	12.2	14.7
7*	17393.7	50.5	46.7	44.6	35.1	14.4	5.5	70.4	66.6	-	-	-
8	23038.1	50.2	48.1	40.2	34.9	16.5	0.0	62.5	60.4	74.0	11.5	13.6
Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
9	28990.3	38.9	37.5	41.3	24.4	11.4	0.0	51.6	50.2	74.0	22.4	23.8
10	34788.3	48.4	41.0	42.1	24.5	12.4	0.0	62.8	55.4	74.0	11.2	18.6

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-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	2434.0	40.5	36.6	30.5	36.4	4.5	0.0	39.1	35.2	54.0	14.9	18.8
2	4868.1	36.7	36.0	35.5	36.0	6.6	0.0	42.8	42.1	54.0	11.2	11.9
3	5224.2	36.4	36.7	36.1	35.9	6.9	0.0	43.5	43.8	54.0	10.5	10.2
4	6370.7	34.1	34.4	36.6	35.8	7.6	0.0	42.5	42.8	54.0	11.5	11.2
5	6728.3	34.7	34.8	36.9	35.9	7.8	0.0	43.5	43.6	54.0	10.5	10.4
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
6	11595.7	34.5	33.7	39.4	35.9	11.7	0.2	40.4	39.6	54.0	13.6	14.4
7*	17393.7	33.3	32.4	44.6	35.1	14.4	5.5	53.2	52.3	-	-	-
8	23038.1	31.3	32.0	40.2	34.9	16.5	0.0	43.6	44.3	54.0	10.4	9.7
Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
9	28990.3	22.0	22.0	41.3	24.4	11.4	0.0	34.7	34.7	54.0	19.3	19.3
10	34788.3	29.3	27.4	42.1	24.5	12.4	0.0	43.7	41.8	54.0	10.3	12.2

* Reference data

20dBc(Fundamental 5798.1MHz) (RBW: 100kHz, VBW: 300kHz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter or ATT [dB]	RESULT		Limit 20dBc [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]									[dBuV/m]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
0	5798.1	103.8	103.6	36.5	35.8	7.3	10.0	121.8	121.6	-	-	-
7	17393.7	48.1	39.1	44.6	35.1	14.4	5.5	68.0	59.0	Funda-20dB	33.8	42.6

Test Distance 1.0m : Distance Factor(Dfac) = $20\log(3/1.0) = 9.5\text{dB}$

Test Distance 0.5m : Distance Factor(Dfac) = $20\log(3/0.5) = 15.6\text{dB}$

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

*In the frequency over the fifth harmonic, the noise from the EUT was not seen. The data above is its base noise.

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

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

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MF060b(01.06.05)

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FCC ID : ACJ96NKX-TG5771

Radiated Spurious Emission(1GHz-40GHz) (Tx High)

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

Company	: Panasonic Communications Co.,Ltd.	REPORT NO	: 26DE0101-HO
Equipment	: Cordless Telephone (Handset)	REGULATION	: Fcc Part15 Subpart C 15.247(d)
Model	: KX-TGA570	TEST DISTANCE	: 3m/1m/0.5m
Sample No.	: 1	DATE	: 11/12/2005, 11/15/2005, 11/23/2005,
Power	: DC2.4V	TEMPERATURE	: 23deg.C., 25deg.C., 20deg.C,
Mode	: Tx 5838.18697MHz	HUMIDITY	: 50%, 38% 34%
Remarks	: Hor : Y-axis / Ver : Z-axis	ENGINEER	: Takumi Shimada

PK DETECT (RBW: 1MHz, VBW: 1MHz)												
No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-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	2473.8	58.0	54.4	30.5	36.4	4.6	0.0	56.7	53.1	74.0	17.3	20.9
2	4947.6	59.3	61.4	36.0	35.9	6.7	0.0	66.1	68.2	74.0	7.9	5.8
3	5144.0	56.5	56.6	36.2	35.9	6.8	0.0	63.6	63.7	74.0	10.4	10.3
4	5640.8	56.1	53.3	36.1	35.8	7.1	0.0	63.5	60.7	74.0	10.5	13.3
5	5852.0	54.4	53.8	36.7	35.8	7.3	0.0	62.6	62.0	74.0	11.4	12.0
6	6033.9	55.6	55.4	37.0	35.8	7.4	0.0	64.2	64.0	74.0	9.8	10.0
7	6728.3	53.4	51.6	36.9	35.9	7.8	0.0	62.2	60.4	74.0	11.8	13.6
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
8	11676.0	53.6	53.1	39.9	35.9	11.7	0.3	60.1	59.6	74.0	13.9	14.4
9*	17514.0	51.3	45.7	44.4	35.1	14.5	6.2	71.8	66.2	-	-	-
10	23351.5	44.3	48.1	40.5	34.7	16.9	0.0	57.5	61.3	74.0	16.5	12.7
Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
11	29190.9	39.5	39.5	41.3	24.4	11.4	0.0	52.2	52.2	74.0	21.8	21.8
12	35029.1	47.8	41.2	42.1	24.4	12.5	0.0	62.4	55.8	74.0	11.6	18.2

AV DETECT (RBW: 1MHz, VBW: 10Hz)												
No.	FREQ [MHz]	S/A READING		ANT Factor [dBm]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-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	2473.8	39.1	36.1	30.5	36.4	4.6	0.0	37.8	34.8	54.0	16.2	19.2
2	4947.6	36.5	35.8	36.0	35.9	6.7	0.0	43.3	42.6	54.0	10.7	11.4
3	5144.0	36.7	34.8	36.2	35.9	6.8	0.0	43.8	41.9	54.0	10.2	12.1
4	5640.8	35.6	32.2	36.1	35.8	7.1	0.0	43.0	39.6	54.0	11.0	14.4
5	5852.0	35.0	33.7	36.7	35.8	7.3	0.0	43.2	41.9	54.0	10.8	12.1
6	6033.9	34.4	33.2	37.0	35.8	7.4	0.0	43.0	41.8	54.0	11.0	12.2
7	6728.3	35.5	34.4	36.9	35.9	7.8	0.0	44.3	43.2	54.0	9.7	10.8
Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
8	11676.0	33.9	33.8	39.9	35.9	11.7	0.3	40.4	40.3	54.0	13.6	13.7
9*	17514.0	33.5	33.4	44.4	35.1	14.5	6.2	54.0	53.9	-	-	-
10	23351.5	31.6	32.2	40.5	34.7	16.9	0.0	44.8	45.4	54.0	9.2	8.6
Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac												
11	29190.9	22.1	21.3	41.3	24.4	11.4	0.0	34.8	34.0	54.0	19.2	20.0
12	35029.1	29.5	28.2	42.1	24.4	12.5	0.0	44.1	42.8	54.0	9.9	11.2

* Reference data

20dBc(Fundamental 5838.2MHz) (RBW: 100kHz, VBW: 300kHz)												
No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Band-Pass Filter or ATT [dB]	RESULT		Limit 20dBc [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]	[dBuV]					[dB]	[dB]		[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss												
0	5838.2	103.9	105.0	36.6	35.8	7.3	10.0	122.0	123.1	-	-	-
9	17514.0	48.1	40.0	44.4	35.1	14.5	6.2	68.6	60.5	Funda-20dB	33.4	42.6

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.5dB

Test Distance 0.5m : Distance Factor(Dfac) = 20log(3/0.5) = 15.6dB

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

*In the frequency over the fifth harmonic, the noise from the EUT was not seen. The data above is its base noise.

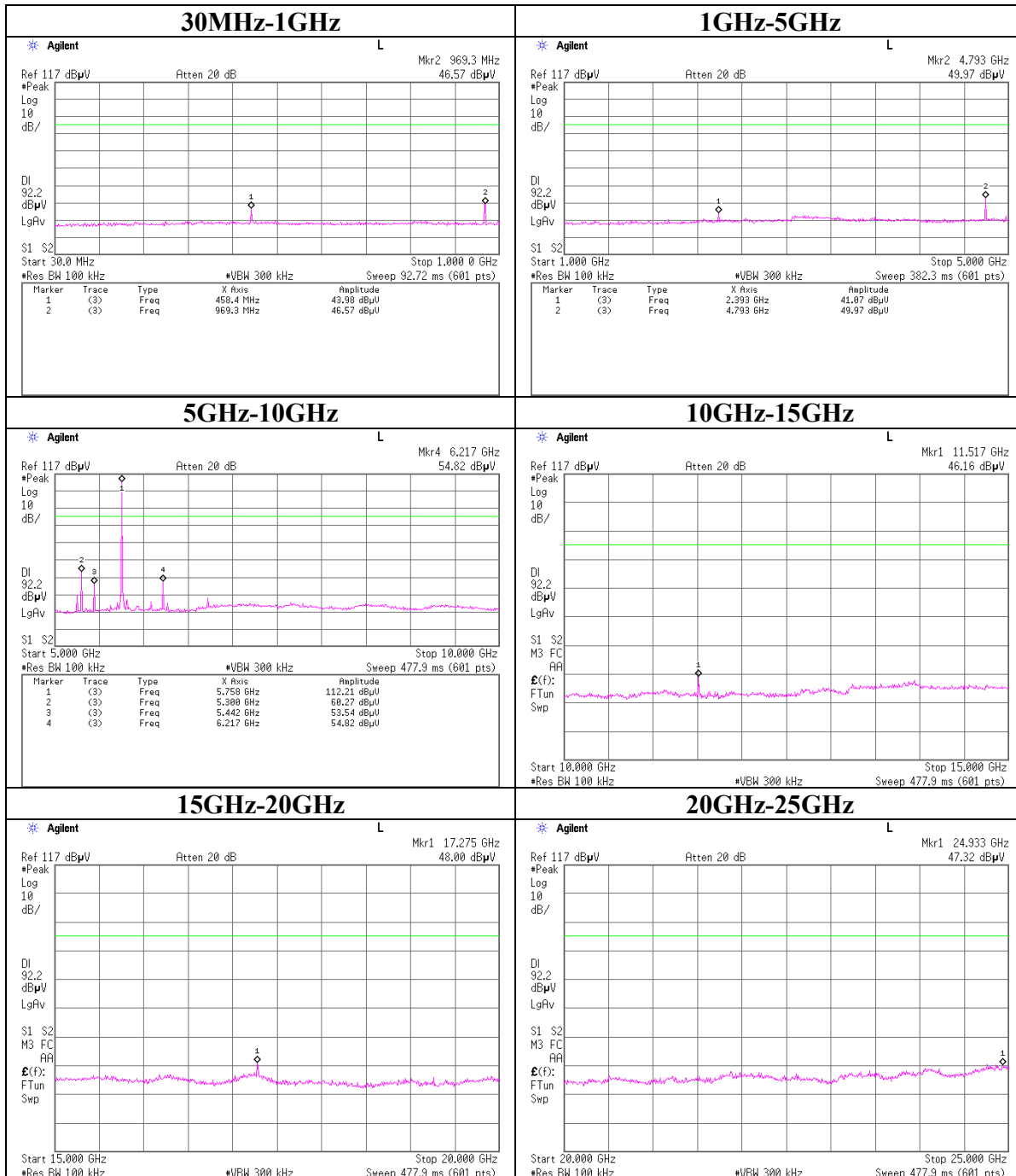
*The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

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

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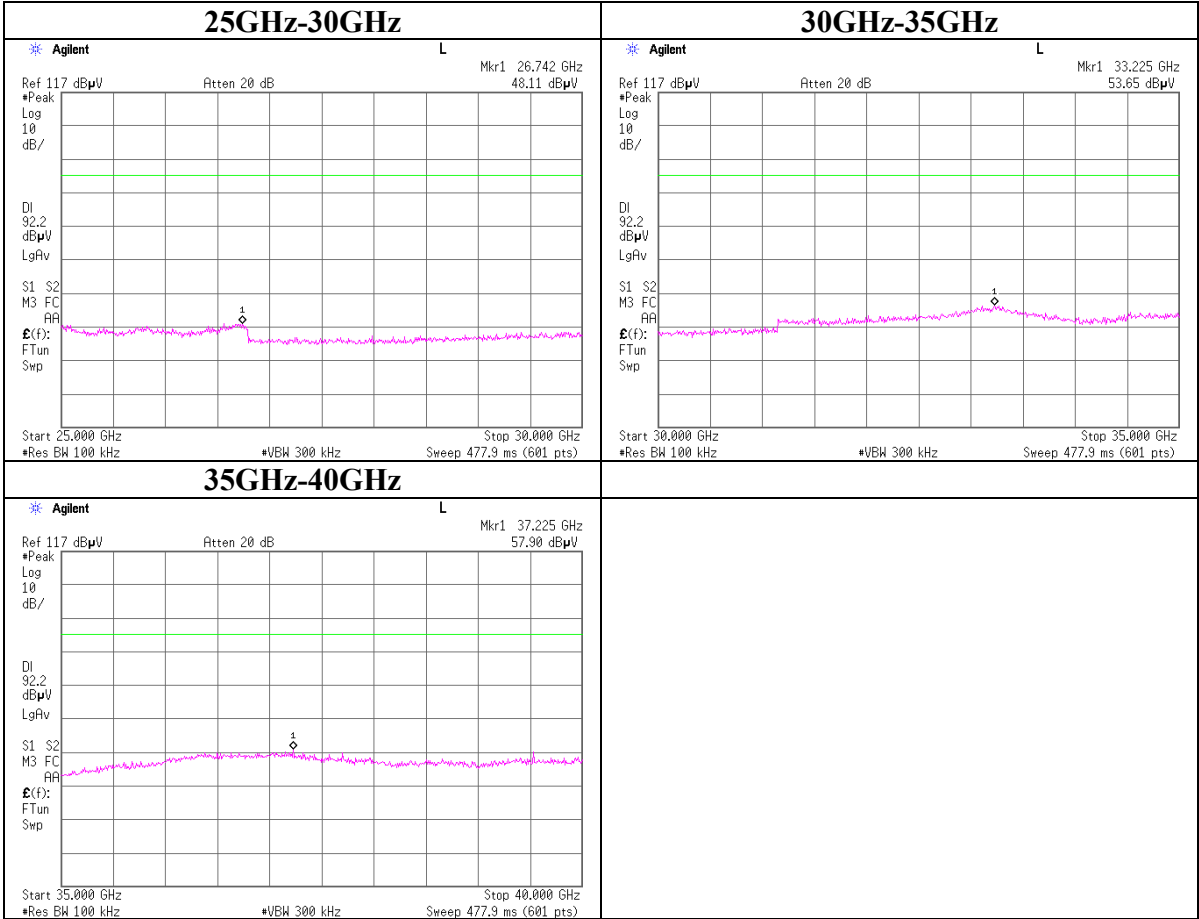
MF060b(01.06.05)

Conducted Spurious Emission
Ch:Low

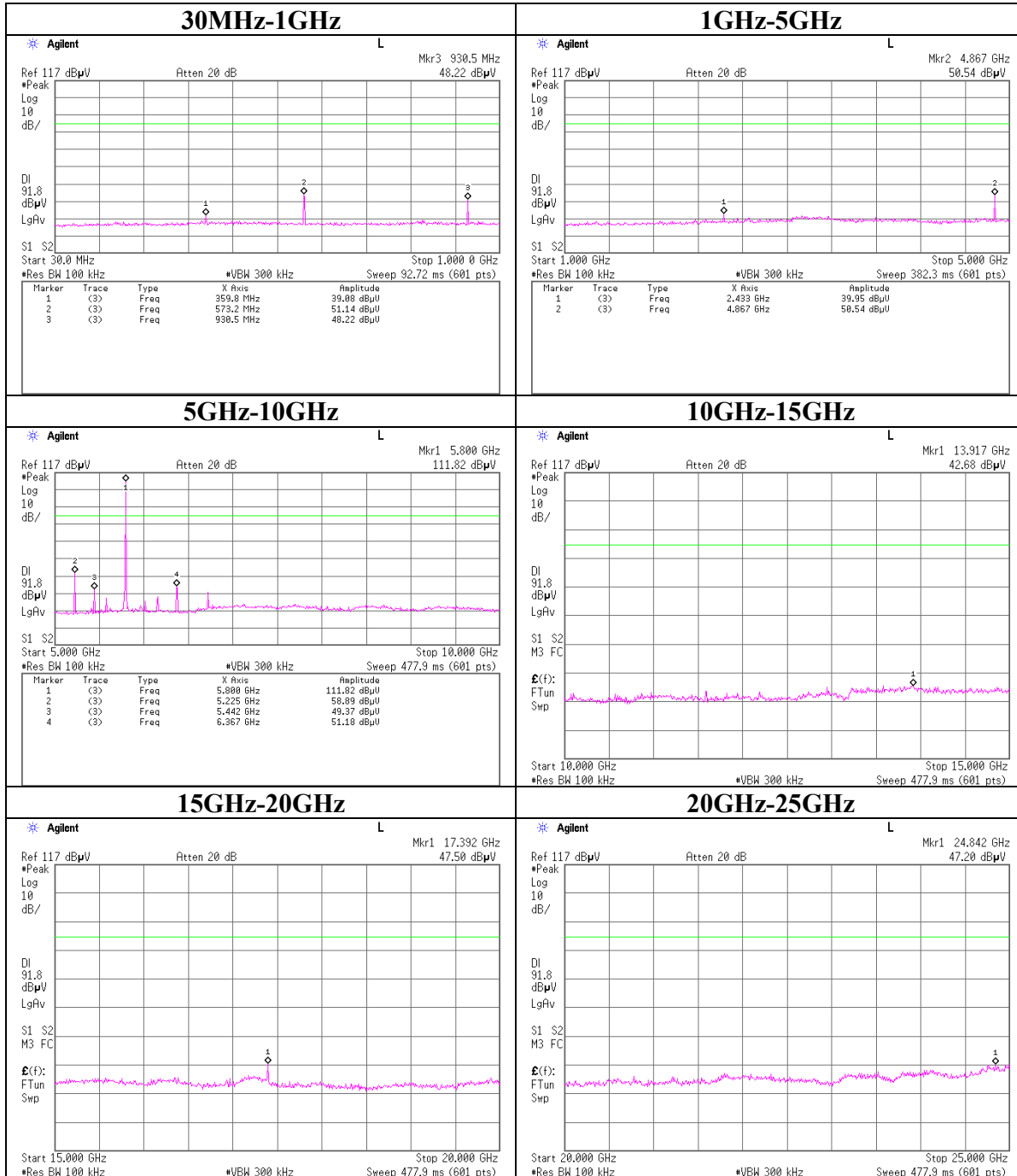


Conducted Spurious Emission

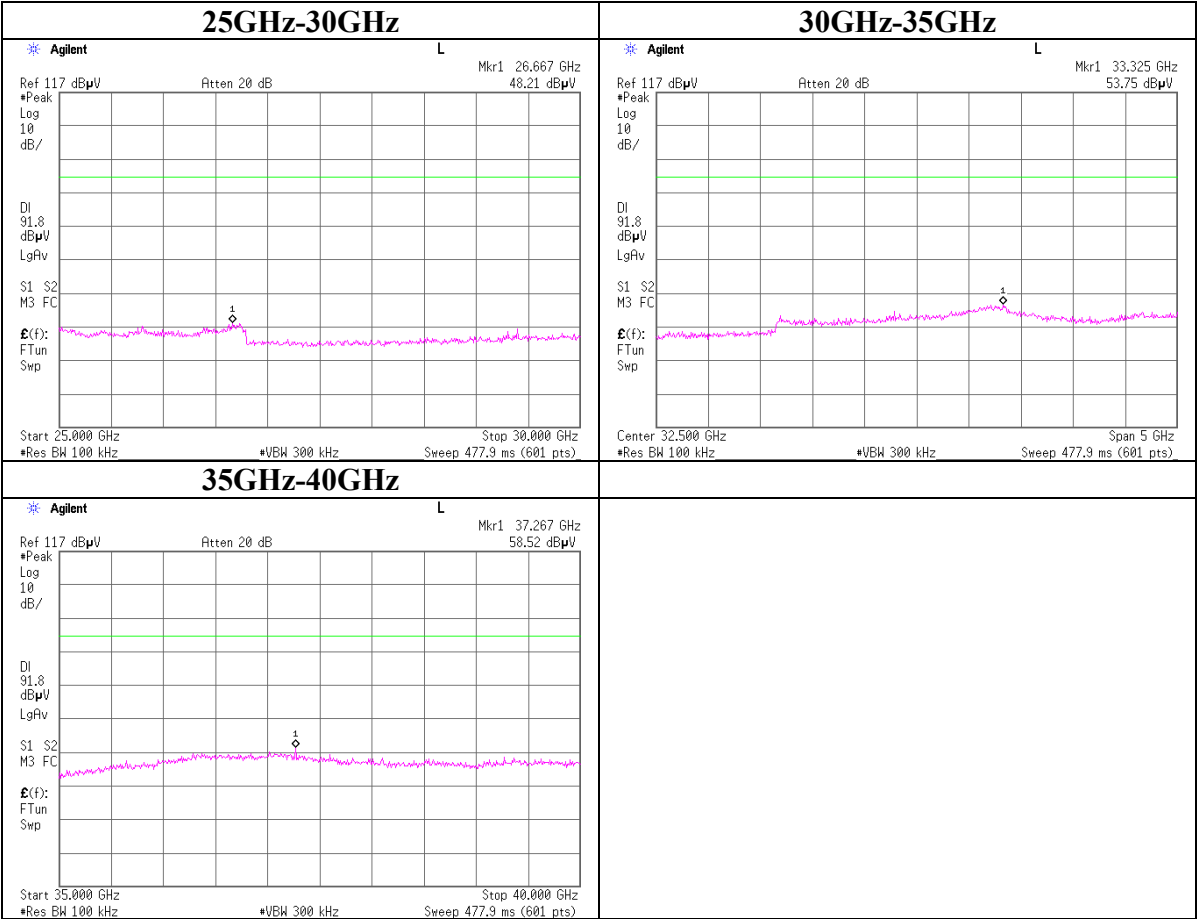
Ch:Low



Conducted Spurious Emission
Ch:Mid

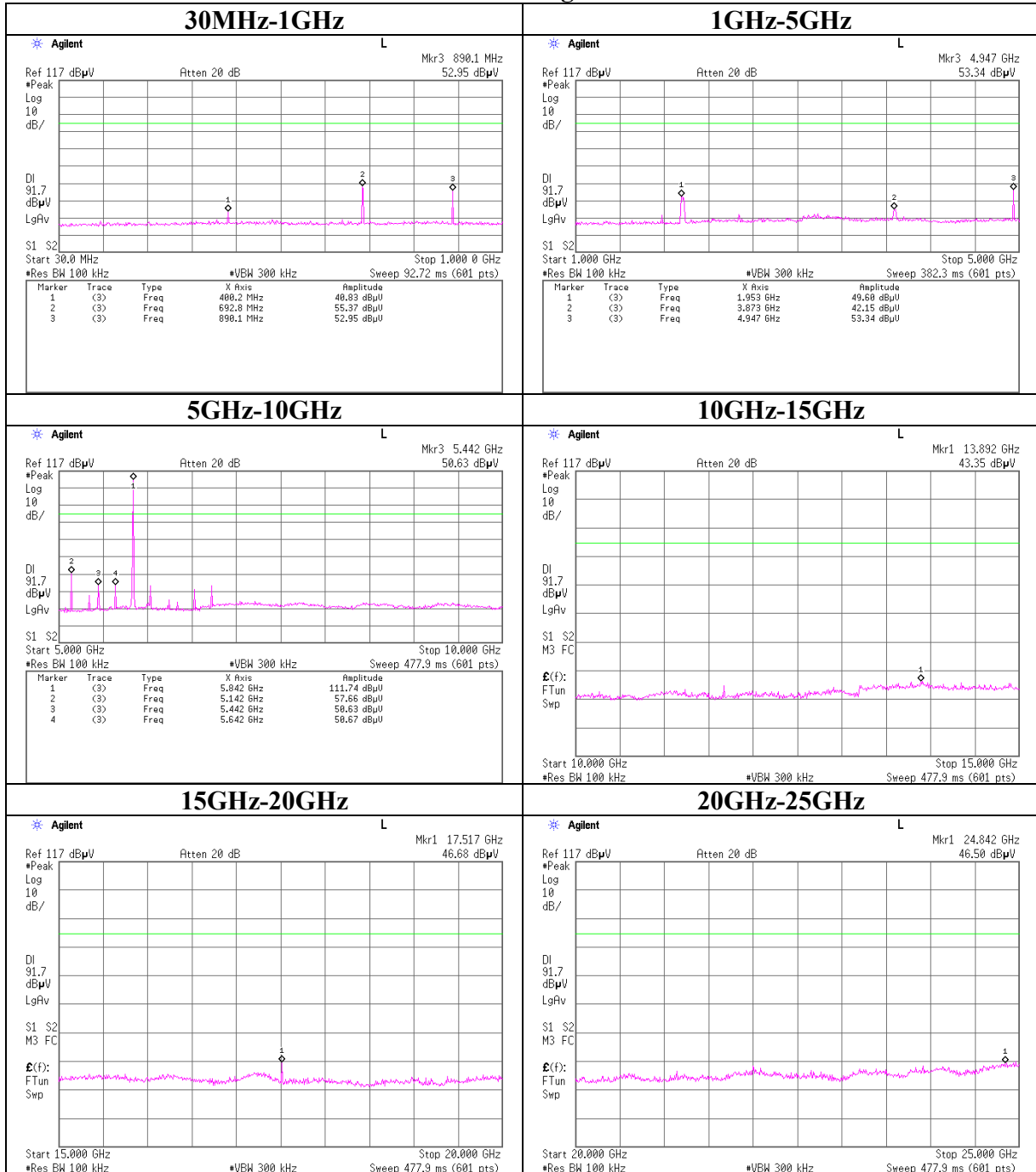


Conducted Spurious Emission
Ch:Mid



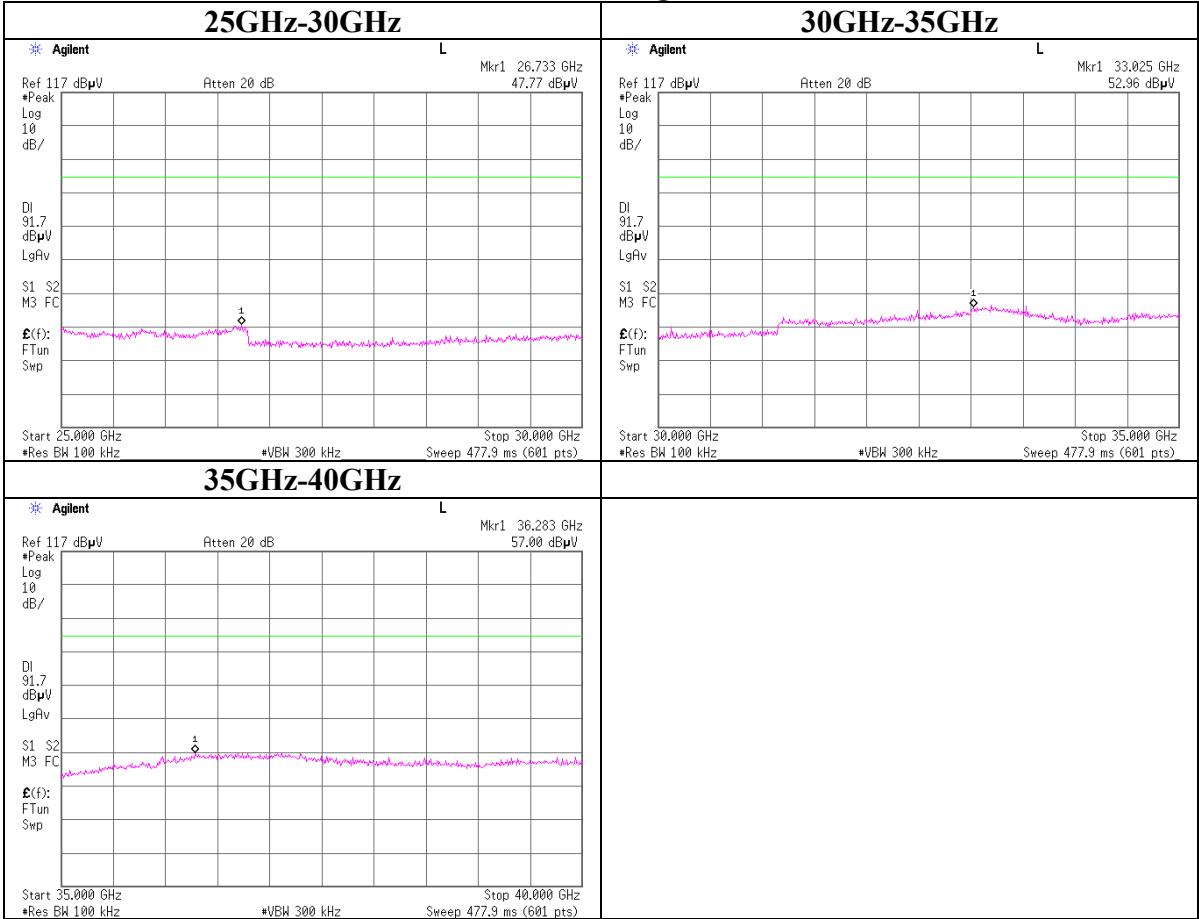
Conducted Spurious Emission

Ch:High



Conducted Spurious Emission

Ch:High



Conducted Spurious Emission
Band Edge compliance

