



RADIO TEST REPORT

Test Report No. : 26HE0100-HO-A-1

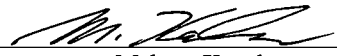
Applicant : Hitachi Maxell, Ltd.
Type of Equipment : Digital Pen
Model No. : DP-201
FCC ID : NEEDP02
Test standard : FCC Part 15 Subpart C
Section 15.207, Section 15.247: 2006
Test Result : Complied

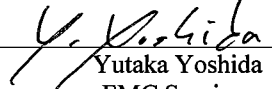
1. This test report shall not be reproduced in full or partial, without the written approval of UL Apex Co., Ltd.
2. The results in this report apply only to the sample tested.
3. This equipment is in compliance with the above regulation. We hereby certify that the data contain a true representation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

Date of test:

March 16 to 18, 2006

Tested by:


Makoto Kosaka
EMC Services


Yutaka Yoshida
EMC Services

Approved by :


Naoki Sakamoto
Group Leader of EMC Services

UL Apex Co., Ltd.

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SECTION 1: Client information

Company Name : Hitachi Maxell, Ltd.
Address : 6139-1 Ohnogo, Mitsukaido-shi, Ibaraki 300-2595 Japan
Telephone Number : +81-297-24-1203
Facsimile Number : +81-297-24-1701
Contact Person : Shigeru Sakairi

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

2.1 Identification of E.U.T.

Type of Equipment : Digital Pen
Model No. : DP-201
Serial No. : AJX-AAB-H2Z-AE
AJX-AAB-HMG-T6
Rating : DC3.7V (Lithium Ion Rechargeable Battery),
DC5.0V, 0.15A (EUT with Cradle for Charging mode)
Country of Manufacture : China
Receipt Date of Sample : March 16, 2006
Condition of EUT : Production prototype
(Not for Sale: This sample is equivalent to mass-produced items.)
Modification of EUT : No modification by the test lab

2.2 Product Description

	Details
Clock frequency	MPU: 16MHz, BT LSI: 16MHz, RTC: 32.768kHz
Feature of EUT	Digital Pen, model: DP-201 can convert analog information such as hard-written letters and drawings on a special sheet of paper, on which invisible dot pattern are printed, into digital information, and can store such digital information into its embedded memory. The digital pen can interface with PC and other computer devices, and transmit the stored digital information through Bluetooth and USB.

	Bluetooth
Equipment Type	Transceiver
Frequency of Operation	2402-2480MHz
Bandwidth & Channel spacing	Max79MHz & 1MHz
Type of Modulation	FHSS
Antenna Type	Inverted-F
Antenna Connector Type	Soldering
Antenna Gain	0.69 dBi max
ITU code	F1D
Power Supply	DC 3.5-4.2V
Operating temperature	0 to 40 deg.

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SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification : FCC Part15 Subpart C : 2006

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

FCC 15.31 (e)

This EUT is constantly provided with DC1.8V to RF Module, which is converted from DC3.7V. 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 IC: RSS-Gen 7.2.2	FCC: Section 15.207 IC: RSS-Gen 7.2.2	-	N/A *1)	N/A	N/A
2	Carrier Frequency Separation	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators IC: -	FCC: Section 15.247(a)(1) IC: RSS-210 A8.1 (2)	Conducted	N/A	See data.	Complied
3	20dB Bandwidth	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators IC: -	FCC: Section 15.247(a)(1) IC: RSS-210 A8.1 (1)	Conducted	N/A		Complied
4	Number of Hopping Frequency	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators IC: -	FCC: Section 15.247(a)(1)(iii) IC: RSS-210 A8.1 (4)	Conducted	N/A		Complied
5	Dwell time	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators IC: -	FCC: Section 15.247(a)(1)(iii) IC: RSS-210 A8.1 (4)	Conducted	N/A		Complied
6	Maximum Peak Output Power	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators IC: RSS-Gen 4.6	FCC: Section 15.247(b)(1) IC: RSS-210 A8.4 (2)	Conducted	N/A		Complied
7	Band Edge Compliance	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators IC: -	FCC: Section 15.247(d) IC: RSS-210 A8.5	Conducted	N/A		Complied
8	Spurious Emission	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators IC: RSS-Gen 4.7 RSS-Gen 4.8	FCC: Section 15.247(d) IC: RSS-210 A8.5 RSS-Gen 7.2.1 and 7.2.3	Conducted/ Radiated	N/A	<Tx> 10.1dB 399.615MHz, Vertical, QP <Rx> 13.6dB 400.102MHz, Vertical, QP	Complied

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

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

*1) The test is excluded because of the following reason.

*Using Pen Cradle: For USB connection and battery charging, the pen cradle PC-201 must be used. PC-201 is designed for digital pen DP-201 according to the specification of EUT. During the USB connection and the charging mode using PC-201, there is no operation of radio transmitting.

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

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

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3.3 Addition to standards

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst margin	Results
1	99% Occupied Band Width	RSS-Gen 4.4.1	-	Conducted	N/A	N/A	N/A

3.4 Uncertainty

Spurious Emission (Radiated)

The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is $\pm 4.59\text{dB}(3\text{m})/\pm 4.58\text{dB}(10\text{m})$.

The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is $\pm 4.62\text{dB}(3\text{m})/\pm 4.60\text{dB}(10\text{m})$.

The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is $\pm 5.27\text{dB}$.

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

The data listed in this test report has enough margin, more than the site margin.

Other test except Conducted Emission and Spurious Emission (Radiated)

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

3.5 Test Location

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

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	FCC Registration Number	IC Registration Number	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Other rooms
No.1 semi-anechoic chamber	313583	IC4247A	19.2 x 11.2 x 7.7m	7.0 x 6.0m	Preparation room
No.2 semi-anechoic chamber	846015	IC4247A-2	7.5 x 5.8 x 5.2m	4.0 x 4.0m	-
No.3 shielded room	-	-	4.0 x 6.0 x 2.7m	N/A	-
No.4 shielded room	-	-	4.0 x 6.0 x 2.7m	N/A	-
No.5 shielded room	-	-	6.0 x 6.0 x 3.9m	N/A	-
No.6 shielded room	-	-	4.0 x 4.5 x 2.7m	N/A	-
No.6 measurement room	-	-	4.75 x 5.4 x 3.0m	N/A	-
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 and No.2 semi-anechoic and No.7 shielded room.

3.6 Test set up, Test instruments and Data of EMI

Refer to APPENDIX 1 to 3.

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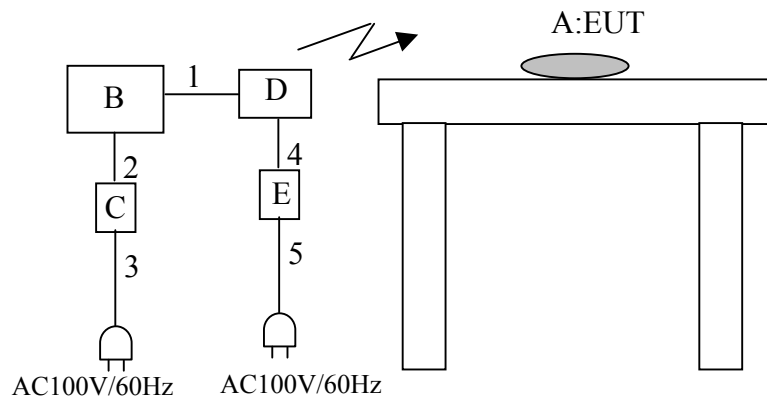
SECTION 4: Operation of E.U.T. during testing

4.1 Operating Modes

The mode is used :Bluetooth mode : FHSS (Packet DH5)
-Transmitting mode
Low Channel : 2402MHz
Mid Channel : 2441MHz
High channel : 2480MHz
-Receiving mode
Mid Channel : 2441MHz

*This EUT has the AFH function in its module, however, this function is not used in the end product.

4.2 Configuration and peripherals



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Description of EUT

No.	Item	Model number	Serial number	Manufacturer	Remark
A	Digital Pen	DP-201	AJX-AAB-H2Z-AE *1) AJX-AAB-HMG-T6 *2)	NAMTAI	EUT
B	Note PC	Type 2647	97ALT8C	IBM	-
C	AC Adaptor	02K6750	11S02K6750A12UP29P05F5	IBM	-
D	Wireless development system	WDS 6.0	3037	Micro devices	
E	AC Adaptor	EPA-201D-06	-	ENG ELECTRONICS CO., LTD	-

*1) Used for Radiated emission test

*2) Used for the Antenna terminal tests

List of cables used

No.	Name	Length (m)	Shield
1	R232C Cable	2.0	Y
2	DC Cable	2.0	N
3	AC Cable	1.0	N
4	DC Cable	1.0	N
5	AC Cable	2.9	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 urethane platform of nominal size, 1.0m by 0.5m, raised 80cm above the conducting ground plane. The Radiated Electric Field Strength intensity has been measured in a Semi Anechoic Chamber with a ground plane and at a distance of 3m(Below 10GHz) and 1m(Upper 10GHz).

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

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

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

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

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. (FCC)

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**

Date: March 17 and 18, 2006

Test engineer: Makoto Kosaka and Yutaka Yoshida

UL Apex Co., Ltd.

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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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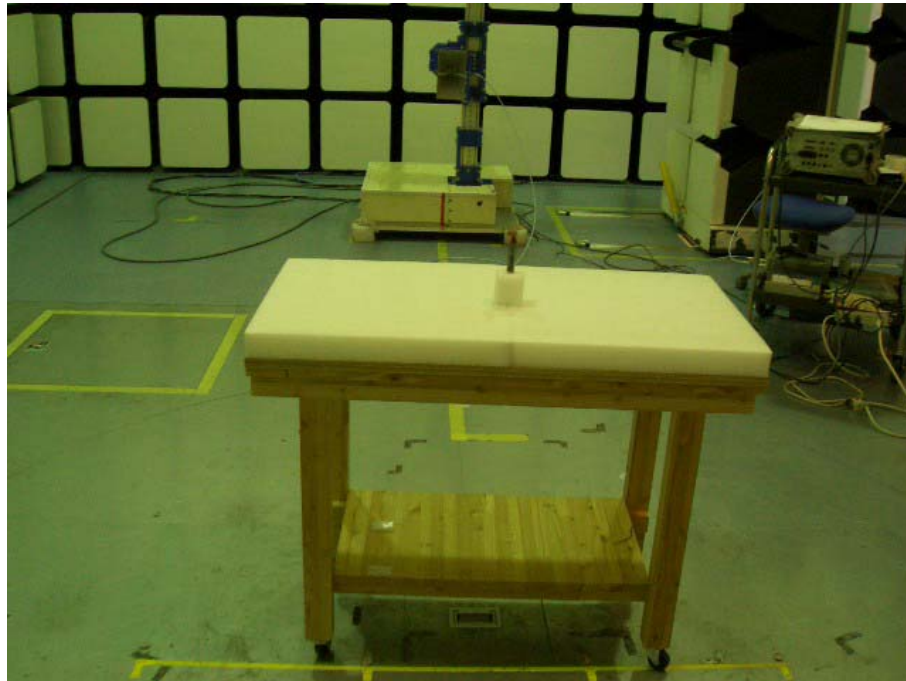
APPENDIX 1: Photographs of test setup

Spurious Emission (Radiated)

Front



Rear



Worst Case Position (Horizontal: Z-axis/ Vertical:Y-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)
MRENT-23	Spectrum Analyzer	Advantest	R3273	AT	2006/01/10 * 12
MAT-25	Attenuator(10dB) (above1GHz)	Agilent	8493C	AT	2005/06/03 * 12
MCC-06	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX 104	AT	2006/02/02 * 12
MOS-16	Thermo-Hygrometer	Custom	CTH-180	AT	2006/01/19 * 24
MHA-06	Horn Antenna	Schwarzbeck	BBHA9120D	RE	2006/01/09 * 12
MCC-16	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX 104	RE	2006/02/02 * 12
MCC-47	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	RE	2005/08/30 * 12
MPA-10	Pre Amplifier	Agilent	8449B	RE	2005/09/07 * 12
MHF-05	High Pass Filter	Tokimec	TF323DCA	RE	2006/01/24 * 12
MRENT-26	Spectrum Analyzer	Advantest	R3273	RE	2006/02/15 * 12
MCC-26	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	RE	2005/08/30 * 12
MHA-02	Horn Antenna	EMCO	3160-09	RE	2006/01/09 * 12
MBA-02	Biconical Antenna	Schwarzbeck	BBA9106	RE	2005/10/10 * 12
MLA-02	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2005/10/14 * 12
MPA-09	Pre Amplifier	Agilent	8447D	RE	2005/09/07 * 12
MAT-07	Attenuator(6dB)	Weinschel Corp	2	RE	2005/12/16 * 12
MCC-12	Coaxial Cable	Fujikura/Agilent	-	RE	2006/02/23 * 12
MSTW-14	EMI measurement program	TSJ	TEPTO-DV	RE	-

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

Test Item:

RE: Radiated Spurious Emission

**AT: Maximum Peak Output Power, Carrier Frequency Separation
20dB Bandwidth, Number of Hopping Frequency, Dwell time**

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APPENDIX 3: Data of EMI test

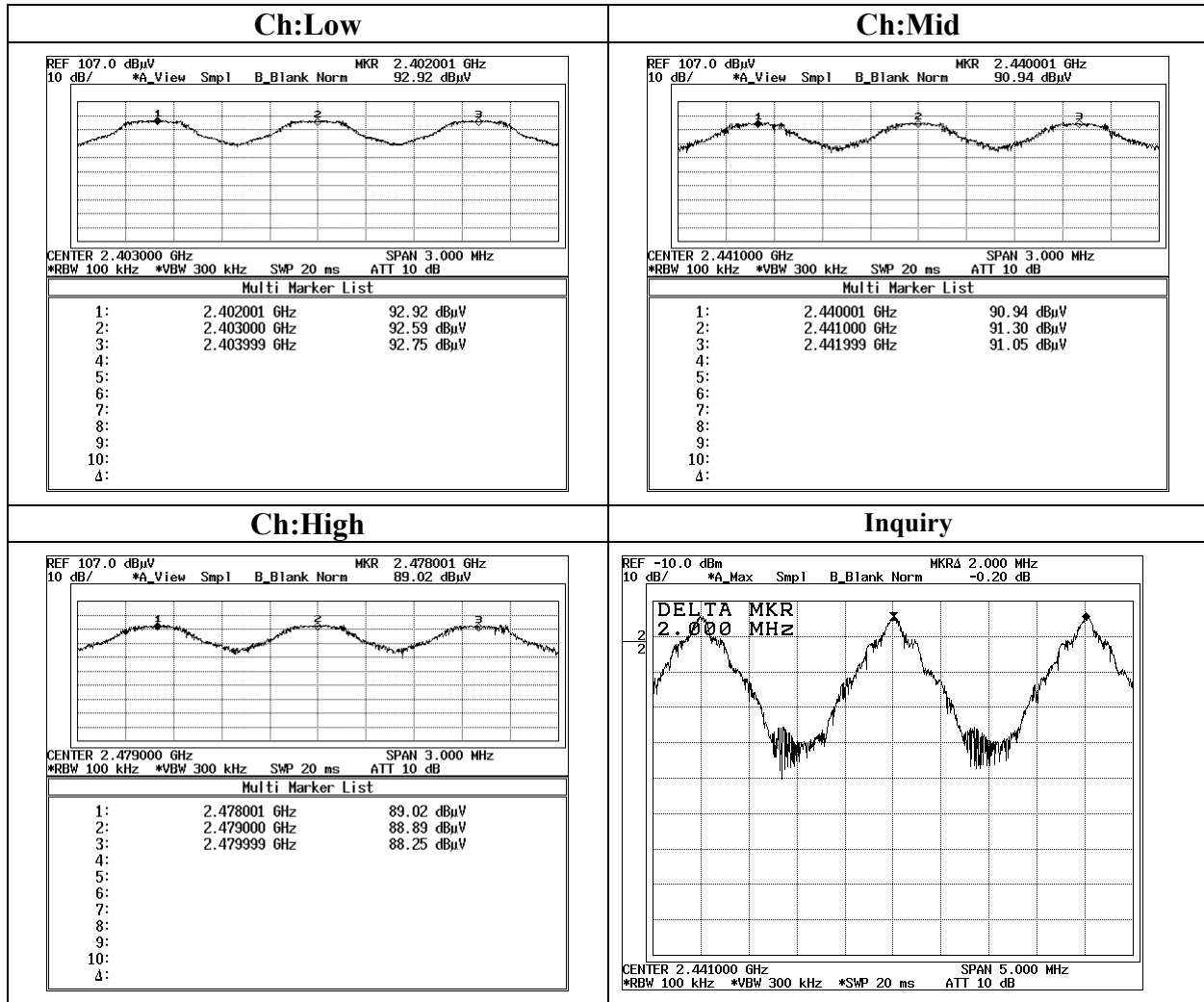
Carrier Frequency Separation

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Head Office EMC Lab. No.6 Shielded Room

COMPANY	: Hitachi Maxell, Ltd.	REGULATION	: FCC Part15 Subpart C 15.247(a)(1)
EQUIPMENT	: Digital Pen	TEST DISTANCE	: -
MODEL	: DP-201	DATE	: 03/16/2006
S/ N	: AJX-AAB-HMG-T6	TEMPERATURE	: 22deg.C
POWER	: DC 5.0V	HUMIDITY	: 44%
MODE	: Tx(Hopping on)/Inquiry	ENGINEER	: Makoto Kosaka

Ch	Freq. [MHz]	Channel separation [MHz]	Limit
Low	2402.0	1.000	>20dB Bandwidth or 25[kHz](whichever is greater)
Mid	2441.0	1.000	>20dB Bandwidth or 25[kHz](whichever is greater)
High	2480.0	1.000	>20dB Bandwidth or 25[kHz](whichever is greater)
Inquiry	2441.0	2.000	>two-thirds of the 20dB Bandwidth or 25[kHz](whichever is greater)

Carrier Frequency Separation



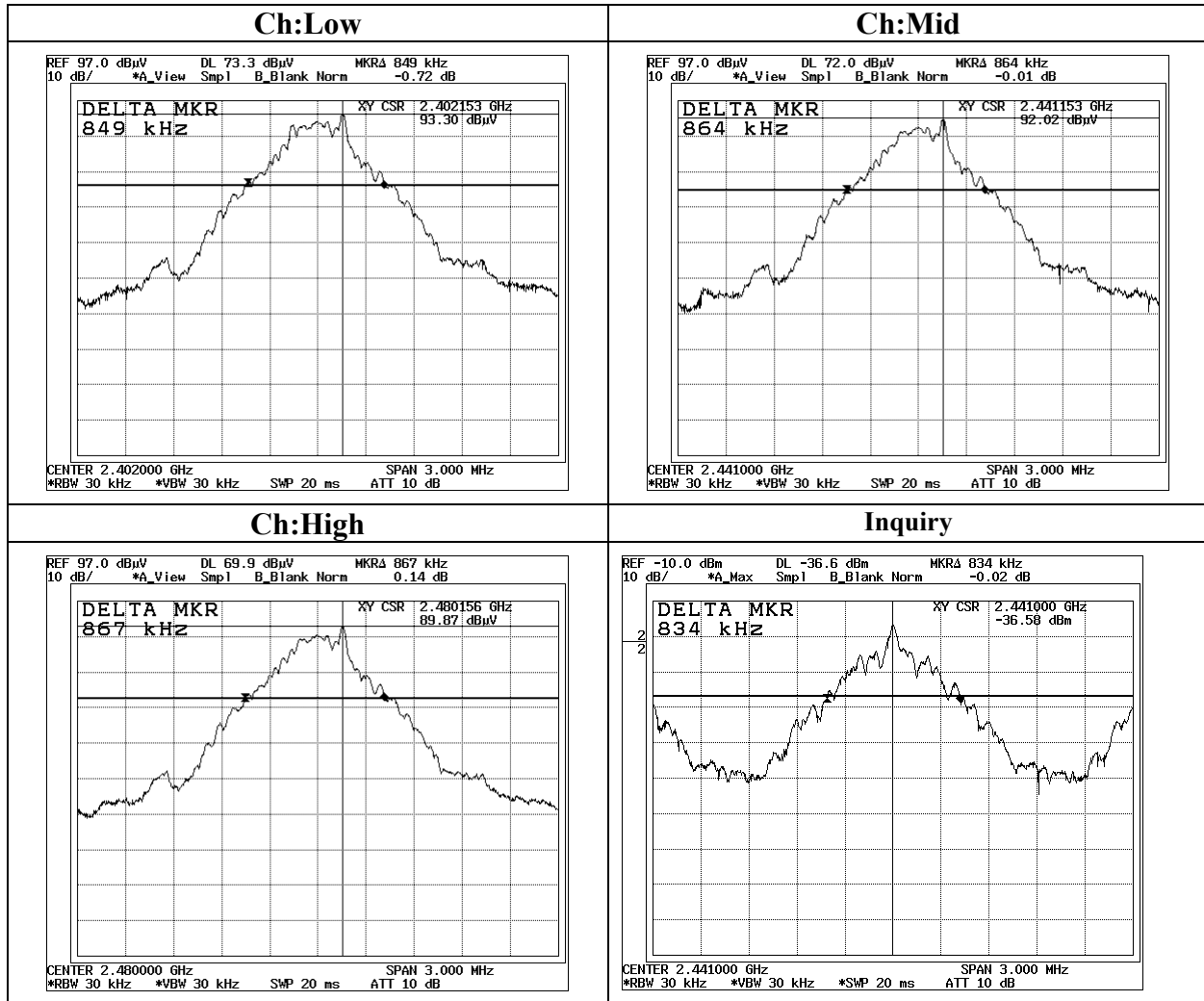
20dB Bandwidth

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COMPANY	: Hitachi Maxell, Ltd.	REGULATION	: FCC Part15 Subpart C 15.247(a)(1)
EQUIPMENT	: Digital Pen	TEST DISTANCE	: -
MODEL	: DP-201	DATE	: 03/16/2006
S/ N	: AJX-AAB-HMG-T6	TEMPERATURE	: 22deg.C
POWER	: DC 5.0V	HUMIDITY	: 44%
MODE	: Tx (Hopping off) /Inquiry	ENGINEER	: Makoto Kosaka

Ch	Freq.	20dB Bandwidth	Limit
	[MHz]	[MHz]	[MHz]
Low	2402.0	0.849	-
Mid	2441.0	0.864	-
High	2480.0	0.867	-
Inquiry	2441.0	0.834	-

20dB Bandwidth



Number of Hopping Frequency

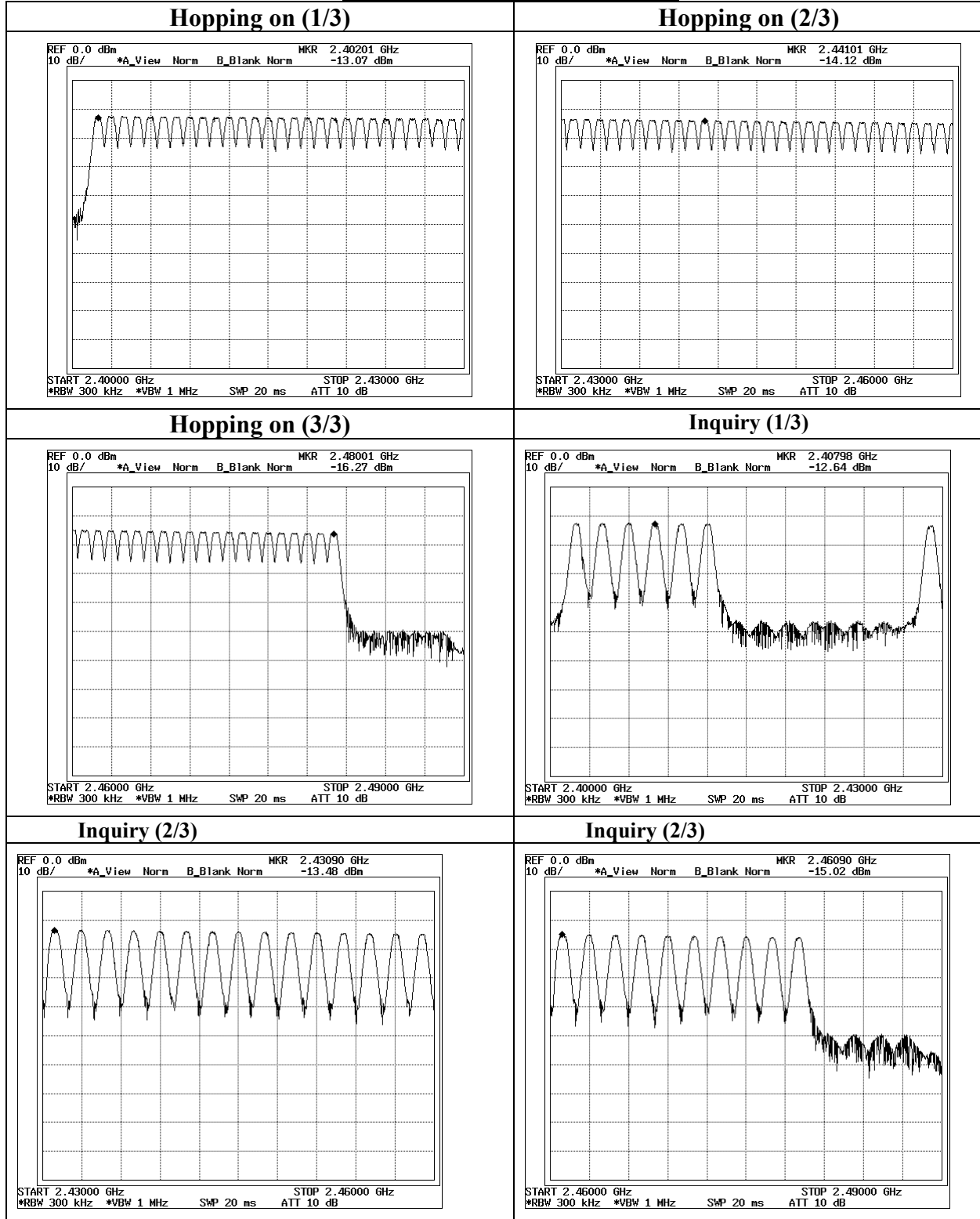
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COMPANY	: Hitachi Maxell, Ltd.	REGULATION	: FCC Part15 Subpart C 15.247(a)(1)(iii)
EQUIPMENT	: Digital Pen	TEST DISTANCE	: -
MODEL	: DP-201	DATE	: 03/16/2006
S/ N	: AJX-AAB-HMG-T6	TEMPERATURE	: 22deg.C
POWER	: DC 5.0V	HUMIDITY	: 44%
MODE	: Tx (Hopping on) /Inquiry	ENGINEER	: Makoto Kosaka

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

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

Number of Hopping Frequency



Dwell time

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Head Office EMC Lab. No.6 Shielded Room

COMPANY : Hitachi Maxell, Ltd.	REGULATION : FCC Part15 Subpart C 15.247(a)(1)(iii)
EQUIPMENT : Digital Pen	TEST DISTANCE : -
MODEL : DP-201	DATE : 03/16/2006
S/ N : AJX-AAB-HMG-T6	TEMPERATURE : 22deg.C
POWER : DC 5.0V	HUMIDITY : 44%
MODE : Tx (Hopping on) /Inquiry	ENGINEER : Makoto Kosaka

Mode	Number of transmission in a 31.6(79 Hopping x 0.4) / 12.8(32 Hopping x 0.4)second period	Length of transmission time [msec]	Result [msec]	Limit [msec]
DH1	26.4 times /5sec. x 31.6 = 166.8 times	0.385	64	400
DH3	15 times / 5sec. x 31.6 = 94.8 times	1.645	156	400
DH5	11.6 times / 5 sec. x 31.6 = 73.3 times	2.890	212	400
Inquiry	100.2 times / 1sec. x 12.8 = 1282times	0.082	105	400

Dwell time factor

Dwell time factor = $20\log_{10}(\text{dwell time}/100\text{ms})$

= $20\log_{10}((2.89 \times 2)\text{ms}/100\text{ms})$

=-24.76

Remarks:

The average number of transmission time for a period of 5 seconds was 11.6 in five-times measurements.

However, two transmissions at a maximum were confirmed for a period of 100m sec.

(Maximum value of Dwell time for a period of 100ms = 2.890ms x 2)

Therefore, Dwell time factor was determined by the following calculation.

Dwell time factor= $20\log(\text{dwell time}/100\text{ms})=20\log(2.89 \times 2)\text{ms}/100\text{ms})= -24.76$

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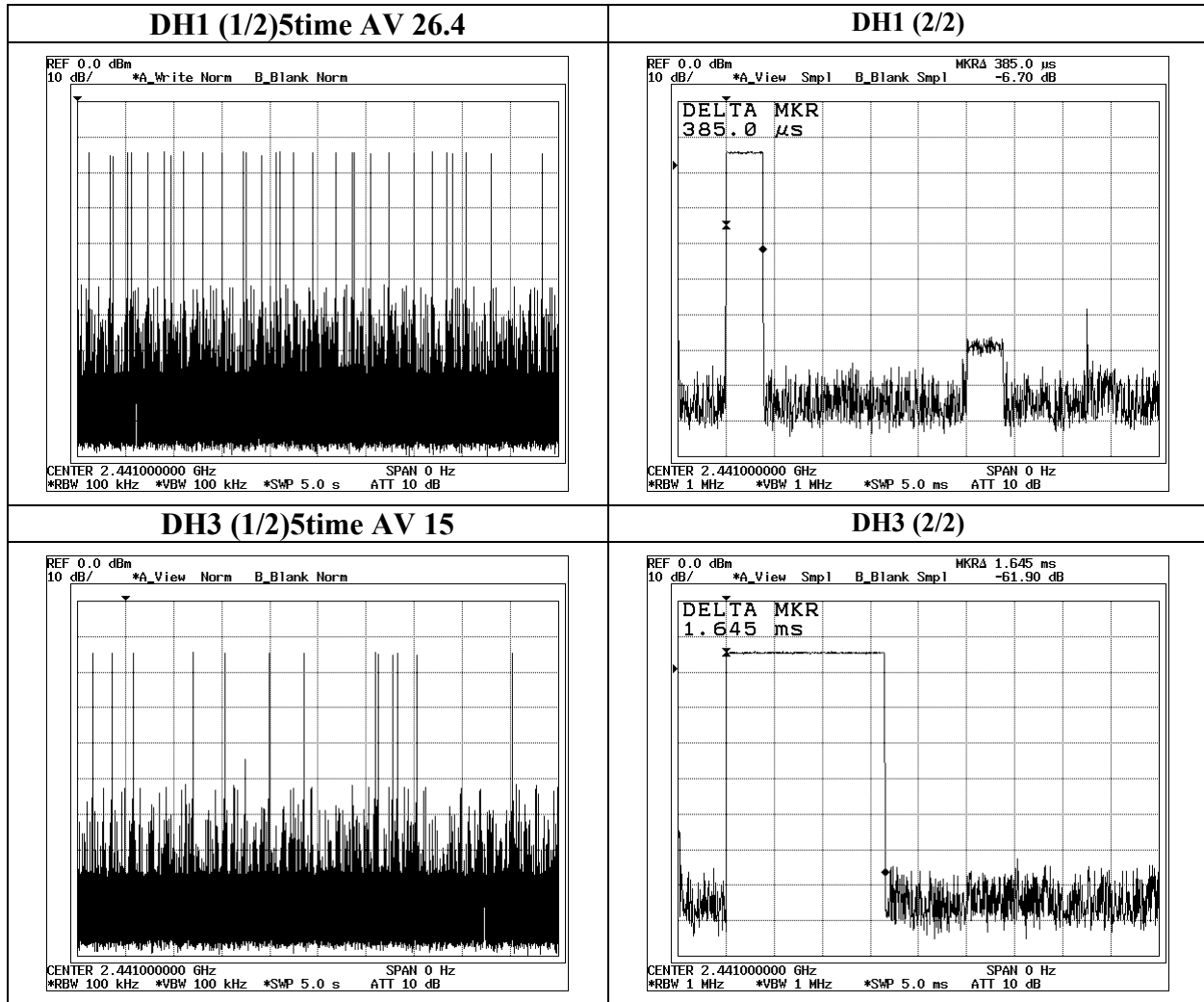
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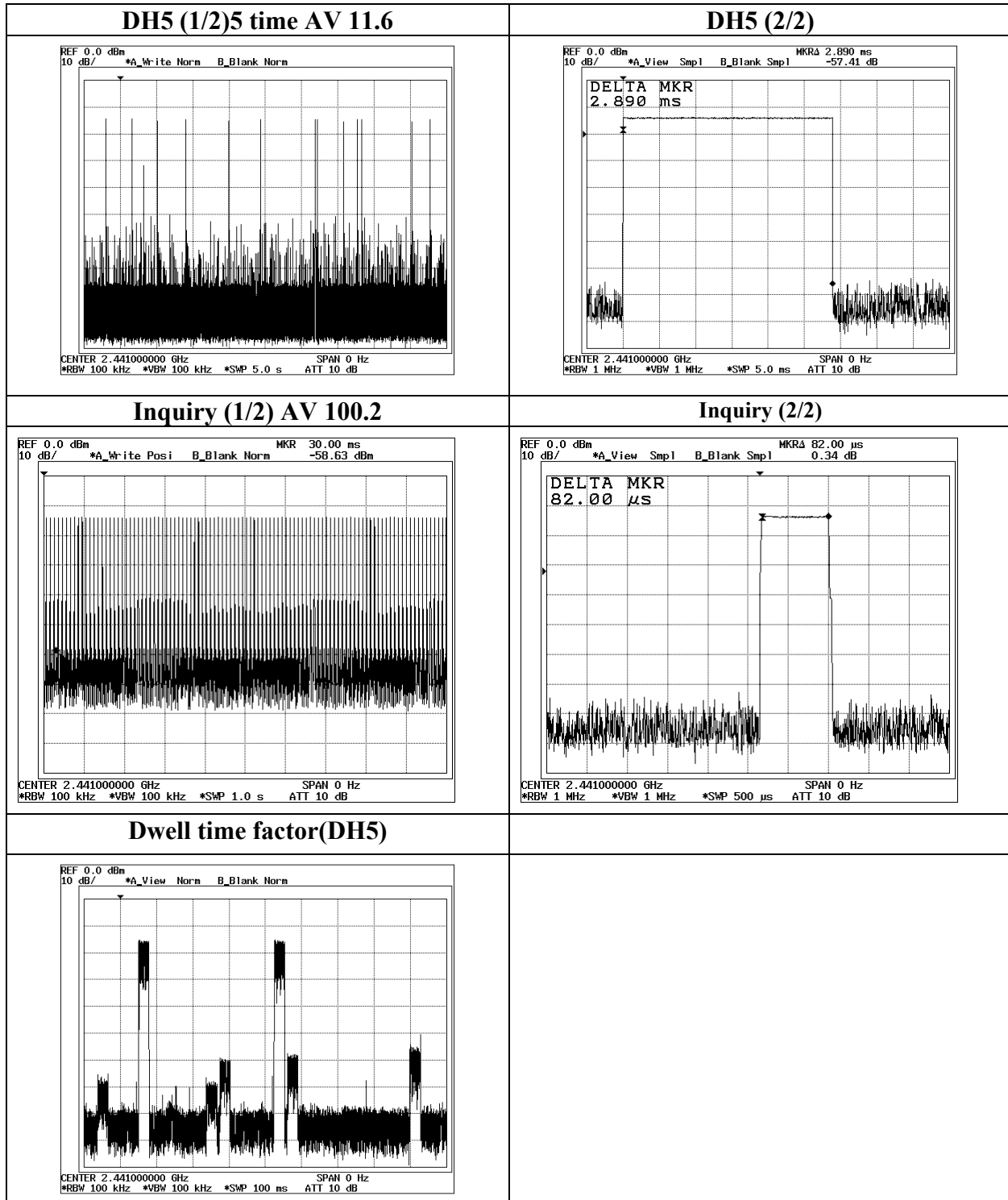
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Dwell time



Dwell time



Maximum Peak Output Power

UL Apex Co., Ltd.
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COMPANY	: Hitachi Maxell, Ltd.	REGULATION	: FCC Part15 Subpart C 15.247(b)(1)
EQUIPMENT	: Digital Pen	TEST DISTANCE	: -
MODEL	: DP-201	DATE	: 03/16/2006
S/N	: AJX-AAB-HMG-T6	TEMPERATURE	: 22deg.C
POWER	: DC 5.0V	HUMIDITY	: 44%
MODE	: Tx(Hopping Off)/Inquiry	ENGINEER	: Makoto Kosaka

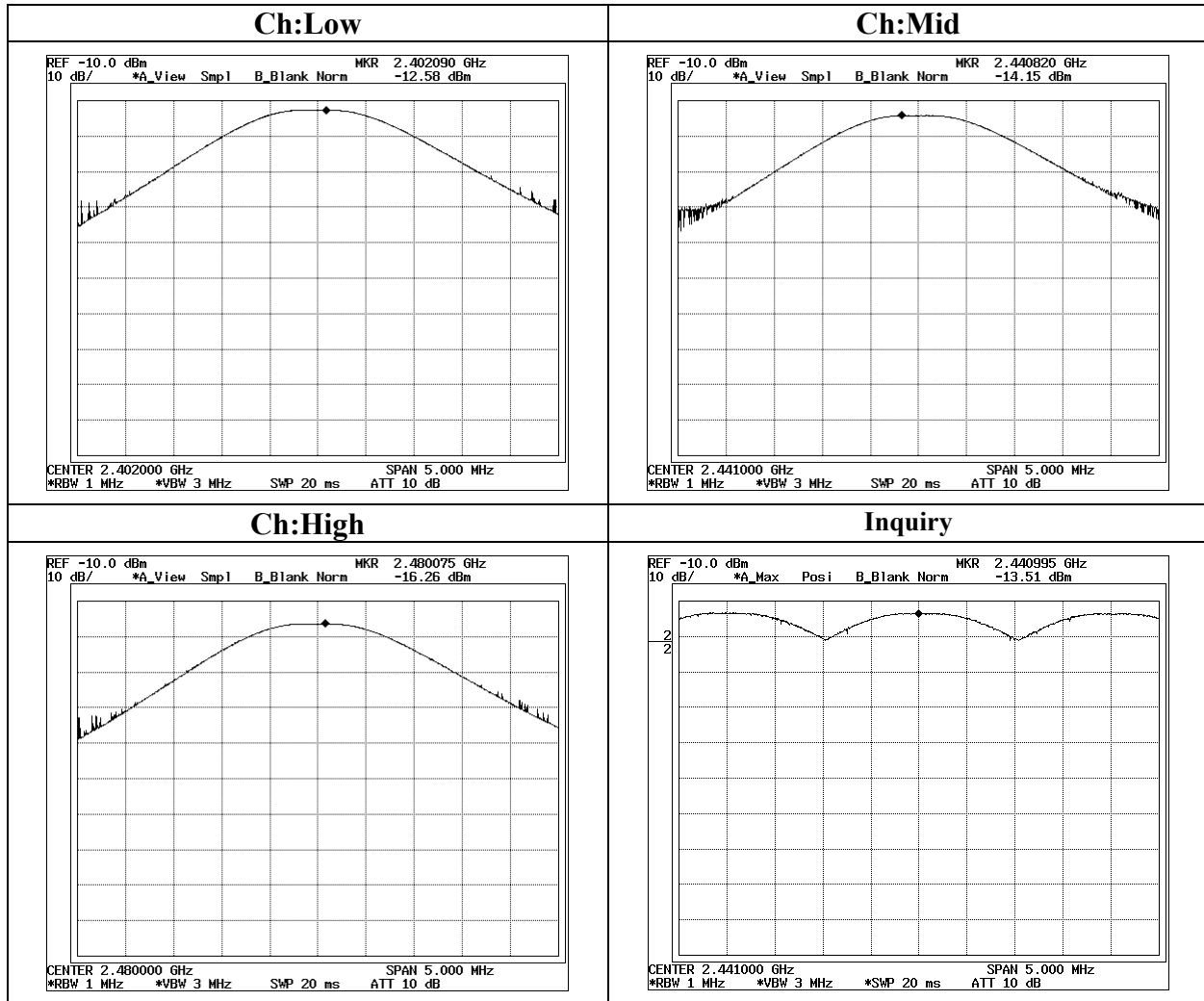
Ch	Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2402.0	-12.58	0.57	10.12	-1.89	0.65	30.00	1000	31.89
Mid	2441.0	-14.15	0.67	10.14	-3.34	0.46	30.00	1000	33.34
High	2480.0	-16.26	0.69	10.15	-5.42	0.29	30.00	1000	35.42
Inquiry	2441.0	-13.51	0.67	10.14	-2.70	0.54	20.97	125	23.67

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



Radiated Spurious Emission

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

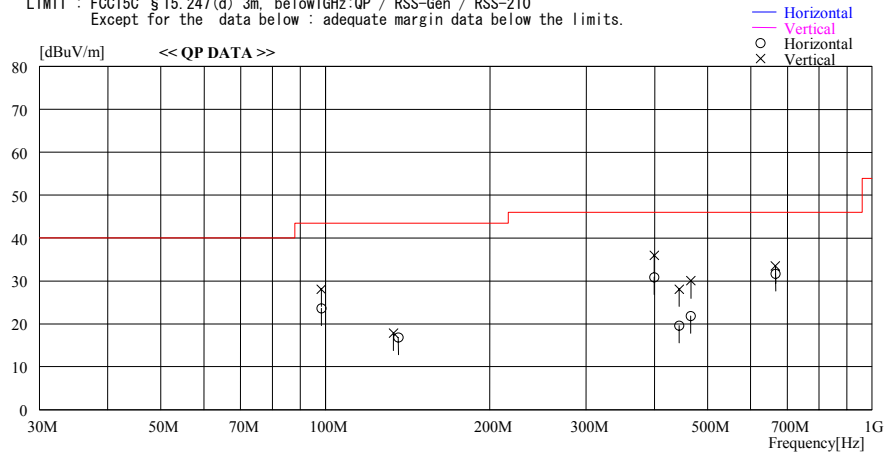
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber
Date : 2006/03/18 02:46:36

Company : Hitachi Maxell, Ltd.
Kind of EUT : Digital Pen
Model No. : DP-201
Serial No. : AJX-AAB-H2Z-AE
Report No. : 26HE0100-HO
Power : DC 3.7V
Temp./Humi. : 21deg.C / 34%
Operator : Yutaka Yoshida

Mode / Remarks : Tx 2402MHz / Max-axis (Hor:Z, Ver:Y)

LIMIT : FCC15C § 15.247(d) 3m, below 1GHz:QP / RSS-Gen / RSS-210
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna	Loss&	Level	Angle	Height	Polar.	Limit	Margin	Comment
			Factor	Gain					[dBuV/m]	[dB]	
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]				
98.303	35.4	QP	9.6	-21.4	23.6	360	249	Hori.	43.5	19.9	
98.304	39.9	QP	9.6	-21.4	28.1	167	153	Vert.	43.5	15.4	
133.308	24.7	QP	13.7	-20.6	17.8	232	100	Vert.	43.5	25.7	
135.956	23.2	QP	14.0	-20.4	16.8	360	335	Hori.	43.5	26.7	
399.493	32.8	QP	17.8	-19.7	30.9	152	251	Hori.	46.0	15.1	
399.615	37.8	QP	17.8	-19.7	35.9	-1	100	Vert.	46.0	10.1	
443.993	30.0	QP	17.8	-19.7	28.1	360	100	Vert.	46.0	17.9	
443.648	21.5	QP	17.8	-19.7	19.6	132	100	Hori.	46.0	26.4	
466.203	31.8	QP	17.8	-19.6	30.0	191	100	Vert.	46.0	16.0	
466.138	23.6	QP	17.8	-19.6	21.8	360	195	Hori.	46.0	24.2	
665.985	32.4	QP	20.1	-19.0	33.5	196	100	Vert.	46.0	12.5	
665.954	30.6	QP	20.1	-19.0	31.7	122	158	Hori.	46.0	14.3	

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

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

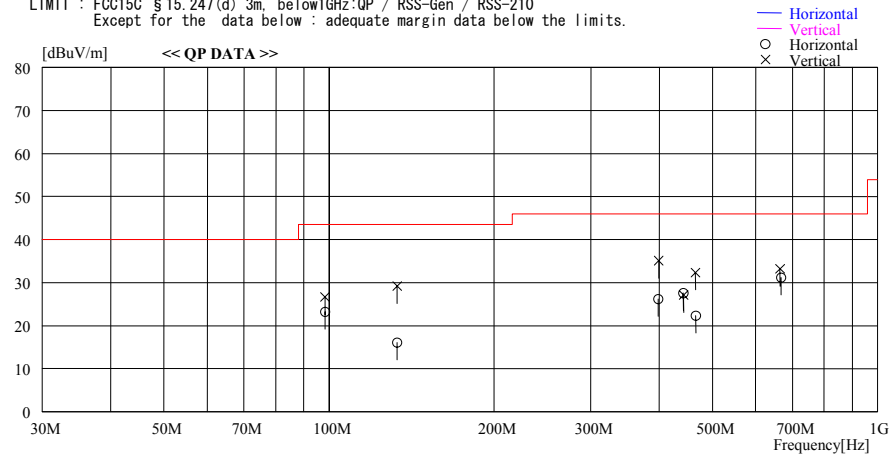
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber
Date : 2006/03/18 03:22:59

Company : Hitachi Maxell, Ltd. Report No. : 26HE0100-H0
Kind of EUT : Digital Pen Power : DC 3.7V
Model No. : DP-201 Temp./Humi. : 21deg.C. / 34%
Serial No. : AJX-AAB-H2Z-AE Operator : Yutaka Yoshida

Mode / Remarks : Tx 2441MHz / Max-axis (Hor:Z,Ver:Y)

LIMIT : FCC15C § 15.247(d) 3m, below 1GHz:QP / RSS-Gen / RSS-210
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna Factor	Loss & Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
98.310	35.0	QP	9.6	-21.4	23.2	0	238	Hori.	43.5	20.3	
98.310	38.4	QP	9.6	-21.4	26.6	354	148	Vert.	43.5	16.9	
133.139	23.0	QP	13.7	-20.6	16.1	0	311	Hori.	43.5	27.4	
133.139	36.1	QP	13.7	-20.6	29.2	359	100	Vert.	43.5	14.3	
398.702	28.1	QP	17.8	-19.7	26.2	194	233	Hori.	46.0	19.8	
399.402	37.0	QP	17.8	-19.7	35.1	359	100	Vert.	46.0	10.9	
442.803	29.5	QP	17.8	-19.7	27.6	161	100	Hori.	46.0	18.4	
443.503	29.0	QP	17.8	-19.7	27.1	355	100	Vert.	46.0	18.9	
465.903	34.1	QP	17.8	-19.6	32.3	359	100	Vert.	46.0	13.7	
466.603	24.1	QP	17.8	-19.6	22.3	0	201	Hori.	46.0	23.7	
664.706	32.1	QP	20.1	-19.0	33.2	205	100	Vert.	46.0	12.8	
666.806	30.0	QP	20.2	-19.0	31.2	144	100	Hori.	46.0	14.8	

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

Radiated Spurious Emission

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

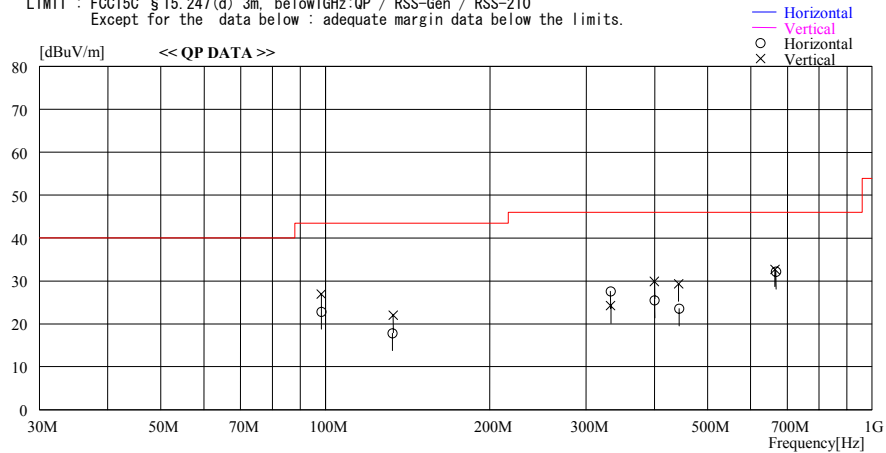
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber
Date : 2006/03/18 03:29:32

Company : Hitachi Maxell, Ltd. Report No. : 26HE0100-HO
Kind of EUT : Digital Pen Power : DC 3.7V
Model No. : DP-201 Temp./Humi. : 21deg.C / 34%
Serial No. : AJX-AAB-H2Z-AE Operator : Yutaka Yoshida

Mode / Remarks : Tx 2480MHz / Max-axis (Hor:Z, Ver:Y)

LIMIT : FCC15C § 15.247(d) 3m, below 1GHz:QP / RSS-Gen / RSS-210
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna Factor	Loss & Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
98.310	34.6	QP	9.6	-21.4	22.8	59	239	Hori.	43.5	20.7	
98.310	38.8	QP	9.6	-21.4	27.0	229	100	Vert.	43.5	16.5	
132.599	24.7	QP	13.7	-20.6	17.8	24	325	Hori.	43.5	25.7	
133.139	28.9	QP	13.7	-20.6	22.0	359	100	Vert.	43.5	21.5	
332.201	31.0	QP	15.4	-18.8	27.6	0	200	Hori.	46.0	18.4	
332.901	27.6	QP	15.4	-18.8	24.2	359	100	Vert.	46.0	21.8	
400.102	27.4	QP	17.8	-19.7	25.5	0	187	Hori.	46.0	20.5	
400.102	31.8	QP	17.8	-19.7	29.9	16	100	Vert.	46.0	16.1	
442.803	31.2	QP	17.8	-19.7	29.3	359	100	Vert.	46.0	16.7	
444.203	25.4	QP	17.8	-19.7	23.5	107	132	Hori.	46.0	22.5	
664.706	31.6	QP	20.1	-19.0	32.7	204	100	Vert.	46.0	13.3	
667.506	31.0	QP	20.2	-19.0	32.2	144	100	Hori.	46.0	13.8	

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)

Radiated Spurious Emission

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

DATA OF RADIATED EMISSION TEST

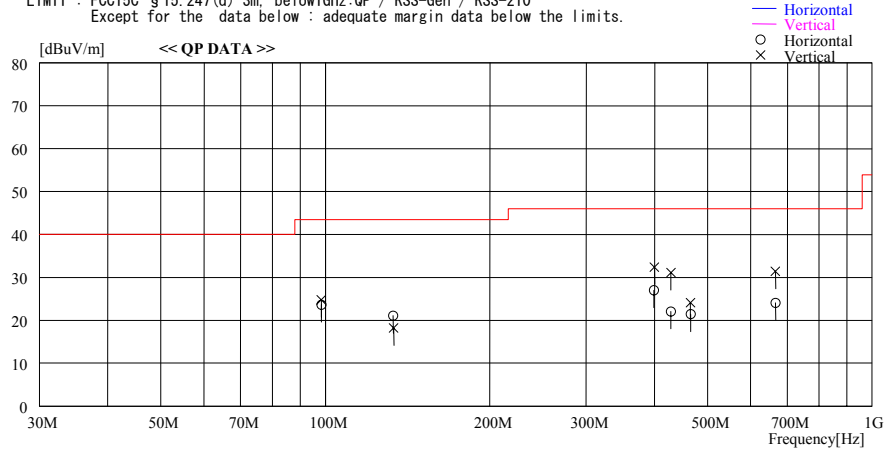
UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber
Date : 2006/03/18 03:38:59

Company : Hitachi Maxell, Ltd.
Kind of EUT : Digital Pen
Model No. : DP-201
Serial No. : AJX-AAB-H2Z-AE

Report No. : 26HE0100-HO
Power : DC 3.7V
Temp./Humi. : 21deg.C. / 34%
Operator : Yutaka Yoshida

Mode / Remarks : Rx (2402MHz to 2480MHz) / Max-axis (Hor:Z, Ver:Y)

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP / RSS-Gen / RSS-210
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna Factor	Loss & Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
98.310	35.4	QP	9.6	-21.4	23.6	0	251	Hori.	43.5	19.9	
98.310	36.6	QP	9.6	-21.4	24.8	319	153	Vert.	43.5	18.7	
133.139	28.0	QP	13.7	-20.6	21.1	0	148	Hori.	43.5	22.4	
133.409	25.1	QP	13.7	-20.6	18.2	358	100	Vert.	43.5	25.3	
399.002	28.9	QP	17.8	-19.7	27.0	116	253	Hori.	46.0	19.0	
400.102	34.3	QP	17.8	-19.7	32.4	169	100	Vert.	46.0	13.6	
428.802	24.1	QP	17.8	-19.8	22.1	0	100	Hori.	46.0	23.9	
428.802	33.1	QP	17.8	-19.8	31.1	146	100	Vert.	46.0	14.9	
465.203	25.9	QP	17.8	-19.6	24.1	359	100	Vert.	46.0	21.9	
465.903	23.2	QP	17.8	-19.6	21.4	0	100	Hori.	46.0	24.6	
666.106	30.3	QP	20.1	-19.0	31.4	46	100	Vert.	46.0	14.6	
666.106	23.0	QP	20.1	-19.0	24.1	57	100	Hori.	46.0	21.9	

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(19.04.06)

Radiated Spurious Emission

DATA OF SPURIOUS EMISSIONS(1GHz to 26.5GHz)

Company : Hitachi Maxell, Ltd. REPORT NO : 26HE0100-HO
Equipment : Digital Pen REGULATION : Fcc Part15 Subpart C 15.247(d)
Model : DP-201 TEST DISTANCE : 3/1m
Sample No. : AJX-AAB-H2Z-AE DATE : March 17, 2006
Power : DC3.7V TEMPERATURE : 21deg.C
Mode : Bluetooth, Tx 2402MHz DH5 HUMIDITY : 34%
Remarks : Hor Z, Ver Y-axis ENGINEER : Makoto Kosaka, Yutaka Yoshida
Peak (RBW: 1MHz, VBW: 1MHz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter [dB]		RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]							[dBuV/m]			[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Hi Pass Filter													
1	2386.4	61.0	58.9	30.6	32.4	3.3	0.0		62.5	60.4	74.0	11.5	13.6
2	2390.0	57.5	55.7	30.6	32.4	3.3	0.0		59.0	57.2	74.0	15.0	16.8
3	4804.0	51.1	49.7	35.7	31.9	4.6	1.4		60.9	59.5	74.0	13.1	14.5
4	7206.0	43.3	42.0	37.5	31.5	5.6	1.2		56.1	54.8	74.0	17.9	19.2
5	9608.0	41.6	41.7	36.6	31.7	6.5	1.0		54.0	54.1	74.0	20.0	19.9
Test distance 1meters RESULT=Reading - Amp Gain + CABLE LOSS + Hi Pass Filter - Dfac													
6	12010.0	not found	not found	-	-	-	-		-	-	74.0	-	-
7	14412.0	not found	not found	-	-	-	-		-	-	74.0	-	-
8	16814.0	not found	not found	-	-	-	-		-	-	74.0	-	-
9	19216.0	not found	not found	-	-	-	-		-	-	74.0	-	-
10	21618.0	not found	not found	-	-	-	-		-	-	74.0	-	-
11	24020.0	43.1	42.5	39.1	30.4	5.5	0.0		47.8	47.2	74.0	26.2	26.8

Average (RBW: 1MHz, VBW: 10Hz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter [dB]	Dwell Factor [dB]	RESULT		Limit 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 + Hi Pass Filter + Dwell Factor													
1	2386.4	30.4	29.8	30.6	32.4	3.3	0.0	-24.8	7.1	6.5	54.0	46.9	47.5
2	2390.0	46.2	44.6	30.6	32.4	3.3	0.0	-24.8	22.9	21.3	54.0	31.1	32.7
3	4804.0	43.3	42.5	35.7	31.9	4.6	1.4	-24.8	28.3	27.5	54.0	25.7	26.5
4	7206.0	29.8	28.3	37.5	31.5	5.6	1.2	-24.8	17.8	16.3	54.0	36.2	37.7
5	9608.0	29.3	29.1	36.6	31.7	6.5	1.0	-24.8	16.9	16.7	54.0	37.1	37.3
Test distance 1meters RESULT=Reading - Amp Gain + CABLE LOSS + Hi Pass Filter + Dwell Factor - Dfac													
6	12010.0	not found	not found	-	-	-	-	-	-	-	54.0	-	-
7	14412.0	not found	not found	-	-	-	-	-	-	-	54.0	-	-
8	16814.0	not found	not found	-	-	-	-	-	-	-	54.0	-	-
9	19216.0	not found	not found	-	-	-	-	-	-	-	54.0	-	-
10	21618.0	not found	not found	-	-	-	-	-	-	-	54.0	-	-
11	24020.0	27.6	27.7	39.1	30.4	5.5	0.0	-24.8	7.5	7.6	54.0	46.5	46.4

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter [dB]		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 + Hi Pass Filter													
1	2402.0	95.6	93.8	30.6	32.4	3.3	0.0		97.1	95.3	-	-	-
2	2400.0	51.1	49.1	30.9	32.4	3.3	0.0		52.9	50.9	Funda-20dB	24.2	24.4

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

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

*Dwell time factor = 20log (Dwell time / 100ms) = 20log (2.89*2ms / 100ms) = -24.76

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

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

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MF060b(19.04.06)

Radiated Spurious Emission

DATA OF SPURIOUS EMISSIONS(1GHz to 26.5GHz)

UL Apex Co., Ltd.

Head Office EMC Lab. No.2 Semi Anechoic Chamber

Company : Hitachi Maxell, Ltd.

Equipment : Digital Pen

Model : DP-201

Sample No. : AJX-AAB-H2Z-AE

Power : DC3.7V

Mode : Bluetooth, Tx 2441MHz DH5

Remarks : Hor Z, Ver Y-axis

REPORT NO : 26HE0100-HO

REGULATION : Fcc Part15 Subpart C 15.247(d)

TEST DISTANCE : 3/1m

DATE : March 17, 2006

TEMPERATURE : 21deg.C

HUMIDITY : 34%

ENGINEER : Makoto Kosaka, Yutaka Yoshida

Peak (RBW: 1MHz, VBW:1MHz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter [dB]		RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]	[dBuV]						[dBuV/m]	[dBuV/m]		[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Hi Pass Filter													
1	4882.0	52.5	49.2	36.2	31.8	4.7	1.4		63.0	59.7	74.0	11.0	14.3
2	7323.0	43.9	42.2	37.9	31.7	5.7	1.1		56.9	55.2	74.0	17.1	18.8
3	9764.0	41.5	41.8	36.6	31.8	6.6	1.1		54.0	54.3	74.0	20.0	19.7
Test distance 1meters RESULT=Reading - Amp Gain + CABLE LOSS + Hi Pass Filter - Dfac													
4	12205.0	not found	not found	-	-	-	-		-	-	74.0	-	-
5	14646.0	not found	not found	-	-	-	-		-	-	74.0	-	-
6	17087.0	not found	not found	-	-	-	-		-	-	74.0	-	-
7	19528.0	not found	not found	-	-	-	-		-	-	74.0	-	-
8	21969.0	not found	not found	-	-	-	-		-	-	74.0	-	-
9	24410.0	40.8	38.5	39.1	30.5	5.4	0.0		45.3	43.0	74.0	28.7	31.0

Average (RBW: 1MHz, VBW:10Hz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter [dB]	Dwell Factor [dB]	RESULT		Limit 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 + Hi Pass Filter + Dwell Factor													
1	4882.0	45.4	41.3	36.2	31.8	4.7	1.4	-24.8	31.1	27.0	54.0	22.9	27.0
2	7323.0	32.0	30.1	37.9	31.7	5.7	1.1	-24.8	20.2	18.3	54.0	33.8	35.7
3	9764.0	29.2	29.3	36.6	31.8	6.6	1.1	-24.8	16.9	17.0	54.0	37.1	37.0
Test distance 1meters RESULT=Reading - Amp Gain + CABLE LOSS + Hi Pass Filter + Dwell Factor - Dfac													
4	12205.0	not found	not found	-	-	-	-	-	-	-	54.0	-	-
5	14646.0	not found	not found	-	-	-	-	-	-	-	54.0	-	-
6	17087.0	not found	not found	-	-	-	-	-	-	-	54.0	-	-
7	19528.0	not found	not found	-	-	-	-	-	-	-	54.0	-	-
8	21969.0	not found	not found	-	-	-	-	-	-	-	54.0	-	-
9	24410.0	26.1	26.1	39.1	30.5	5.4	0.0	-24.8	5.8	5.8	54.0	48.2	48.2

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

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

*Dwell time factor = 20log (Dwell time / 100ms) = 20log (2.89*2ms / 100ms) = -24.76

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

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

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MF060b(19.04.06)

Radiated Spurious Emission

DATA OF SPURIOUS EMISSIONS(1GHz to 26.5GHz)

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

Company : Hitachi Maxell , Ltd.	REPORT NO : 26HE0100-HO
Equipment : Digital Pen	REGULATION : Fcc Part15 Subpart C 15.247(d)
Model : DP-201	TEST DISTANCE : 3/1m
Sample No. : AJX-AAB-H2Z-AE	DATE : March 17, 2006
Power : DC3.7V	TEMPERATURE : 21deg.C
Mode : Bluetooth, Tx 2480MHz DH5	HUMIDITY : 34%
Remarks : Hor Z, Ver Y-axis	ENGINEER : Yutaka Yoshida

Peak (RBW: 1MHz , VBW:1MHz)													
No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter [dB]		RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]							[dBuV/m]			[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Hi Pass Filter													
1	2483.5	57.6	57.5	30.4	32.4	3.5	0.0		59.1	59.0	74.0	14.9	15.0
2	4960.0	47.6	47.4	36.6	31.8	4.8	1.4		58.6	58.4	74.0	15.4	15.6
3	7440.0	41.5	41.0	38.2	31.9	5.7	1.1		54.6	54.1	74.0	19.4	19.9
4	9920.0	41.2	40.3	36.5	32.0	6.7	1.2		53.6	52.7	74.0	20.4	21.3
Test distance 1meters RESULT=Reading - Amp Gain + CABLE LOSS + Hi Pass Filter - Dfac													
5	12400.0	not found	not found	-	-	-	-		-	-	74.0	-	-
6	14880.0	not found	not found	-	-	-	-		-	-	74.0	-	-
7	17360.0	not found	not found	-	-	-	-		-	-	74.0	-	-
8	19840.0	not found	not found	-	-	-	-		-	-	74.0	-	-
9	22320.0	not found	not found	-	-	-	-		-	-	74.0	-	-
10	24800.0	36.4	36.7	39.3	30.6	5.5	0.0		41.1	41.4	74.0	32.9	32.6

Average (RBW: 1MHz , VBW:10Hz)													
No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter [dB]	Dwell Factor [dB]	RESULT		Limit 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 + Hi Pass Filter + Dwell Factor													
1	2483.5	43.1	43.9	30.4	32.4	3.5	0.0	-24.8	19.8	20.6	54.0	34.2	33.4
2	4960.0	40.6	40.2	36.6	31.8	4.8	1.4	-24.8	26.8	26.4	54.0	27.2	27.6
3	7440.0	30.4	29.1	38.2	31.9	5.7	1.1	-24.8	18.7	17.4	54.0	35.3	36.6
4	9920.0	28.0	28.0	36.5	32.0	6.7	1.2	-24.8	15.6	15.6	54.0	38.4	38.4
Test distance 1meters RESULT=Reading - Amp Gain + CABLE LOSS + Hi Pass Filter + Dwell Factor - Dfac													
5	12400.0	not found	not found	-	-	-	-	-	-	-	54.0	-	-
6	14880.0	not found	not found	-	-	-	-	-	-	-	54.0	-	-
7	17360.0	not found	not found	-	-	-	-	-	-	-	54.0	-	-
8	19840.0	not found	not found	-	-	-	-	-	-	-	54.0	-	-
9	22320.0	not found	not found	-	-	-	-	-	-	-	54.0	-	-
10	24800.0	24.3	24.2	39.3	30.6	5.5	0.0	-24.8	4.2	4.1	54.0	49.8	49.9

Test Distance 1.0m : Distance Factor(Dfac) = $20\log(3/1.0) = 9.5$ dB
*Except for the above table : All other spurious emissions were less than 20dB for the limit.
*Dwell time factor = $20\log(\text{Dwell time} / 100\text{ms}) = 20\log(2.89*2\text{ms} / 100\text{ms}) = -24.76$
*Hi-Pass Filter was not used for factor 0.0dB of the above table.
*The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

Radiated Spurious Emission

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

Company : Hitachi Maxell, Ltd.
Equipment : Digital Pen
Model : DP-201
Sample No. : AJX-AAB-H2Z-AE
Power : DC3.7V
Mode : Bluetooth, Rx 2441MHz
Remarks : Hor Z, Ver Y-axis

REPORT NO : 26HE0100-HO
REGULATION : Fcc Part15 Subpart C 15.247(d)
TEST DISTANCE : 3m
DATE : March 17, 2006
TEMPERATURE : 21deg.C
HUMIDITY : 34%
ENGINEER : Yutaka Yoshida

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter [dB]		RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]							[dBuV/m]			[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Hi Pass Filter													
1	2441.0	41.1	41.6	30.5	32.4	3.3	0.0		42.5	43.0	74.0	31.5	31.0
2	4882.0	38.7	39.6	36.2	31.8	4.7	0.0		47.8	48.7	74.0	26.2	25.3
3	7323.0	38.6	39.4	37.9	31.7	5.7	0.0		50.5	51.3	74.0	23.5	22.7
4	9764.0	39.9	39.7	36.6	31.8	6.6	0.0		51.3	51.1	74.0	22.7	22.9

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter [dB]		RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]							[dBuV/m]			[dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Hi Pass Filter													
1	2441.0	29.2	29.1	30.5	32.4	3.3	0.0		30.6	30.5	54.0	23.4	23.5
2	4882.0	27.2	27.1	36.2	31.8	4.7	0.0		36.3	36.2	54.0	17.7	17.8
3	7323.0	26.7	26.6	37.9	31.7	5.7	0.0		38.6	38.5	54.0	15.4	15.5
4	9764.0	27.5	27.5	36.6	31.8	6.6	0.0		38.9	38.9	54.0	15.1	15.1

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

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

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

UL Apex Co., Ltd.

Head Office EMC Lab.

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

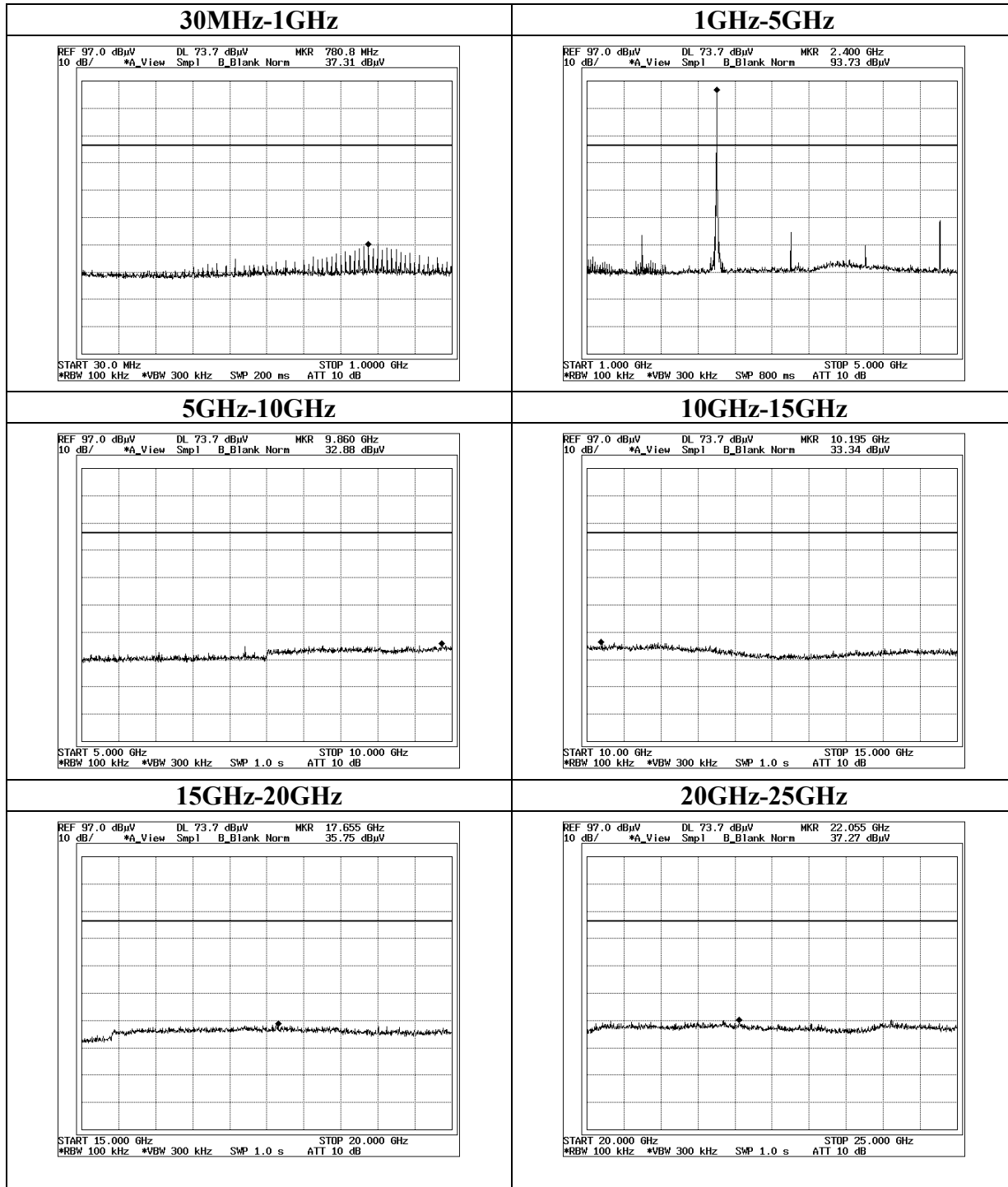
Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

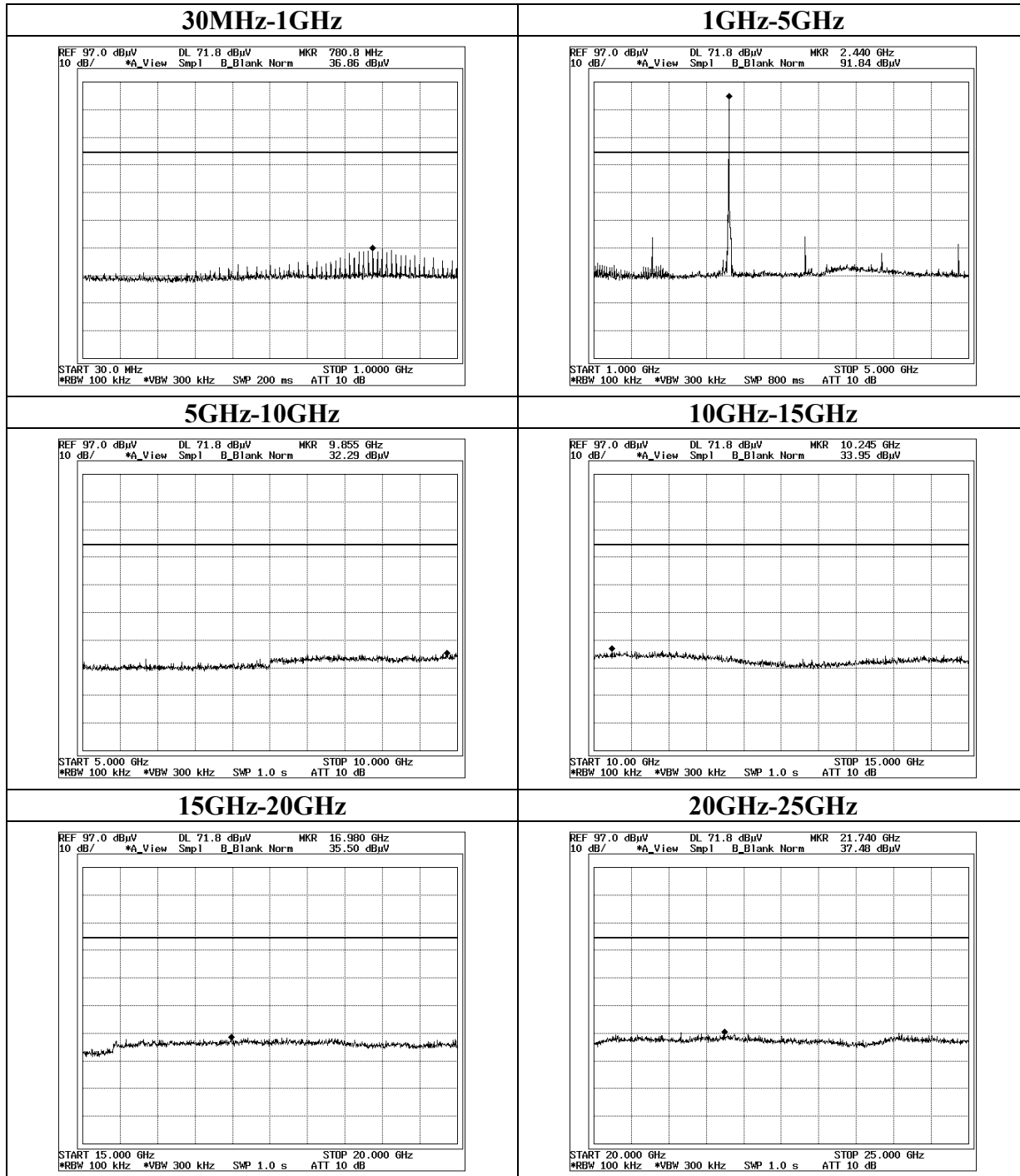
MF060b(19.04.06)

Conducted Spurious Emission

Ch:Low

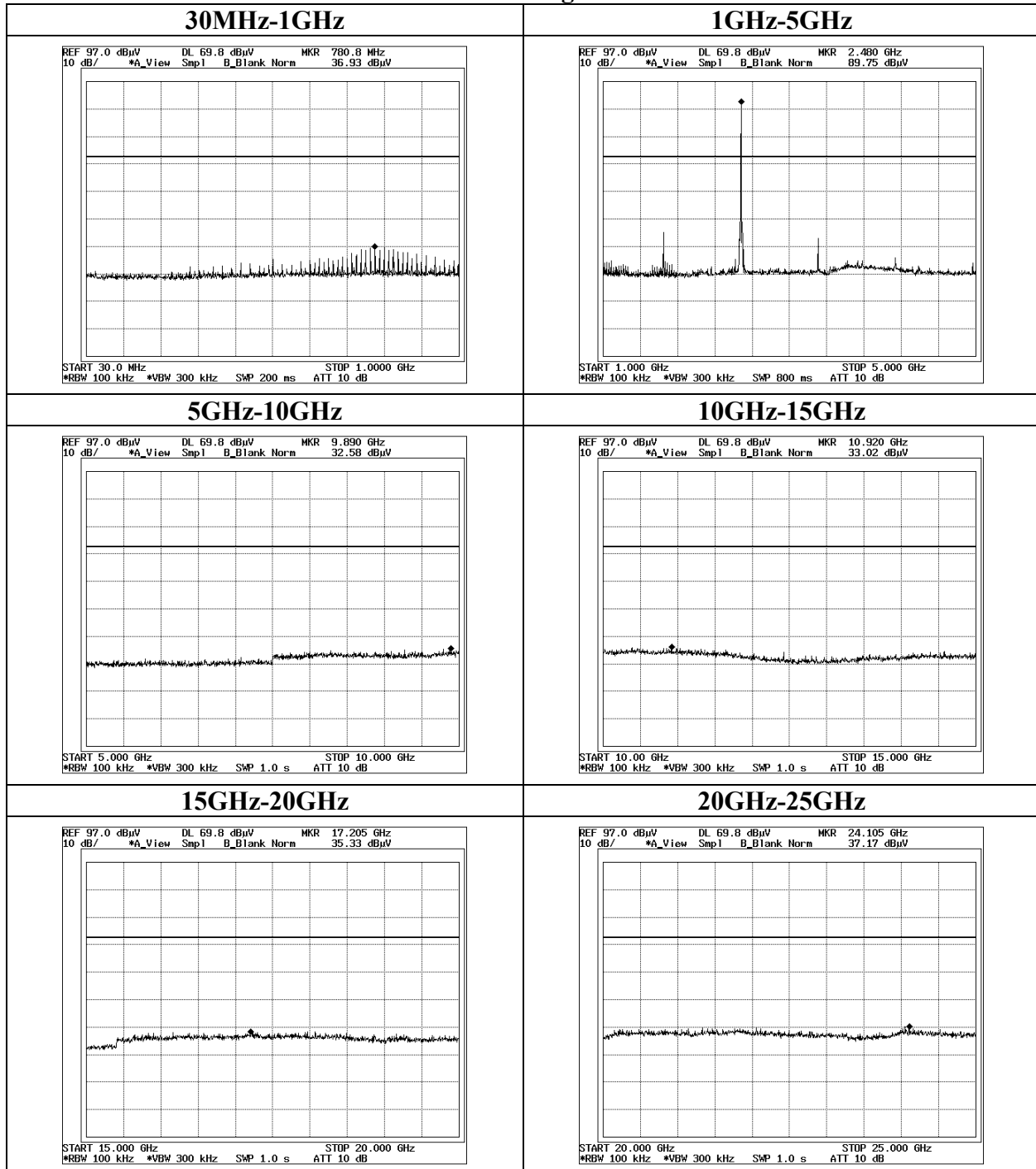


Conducted Spurious Emission
Ch:Mid

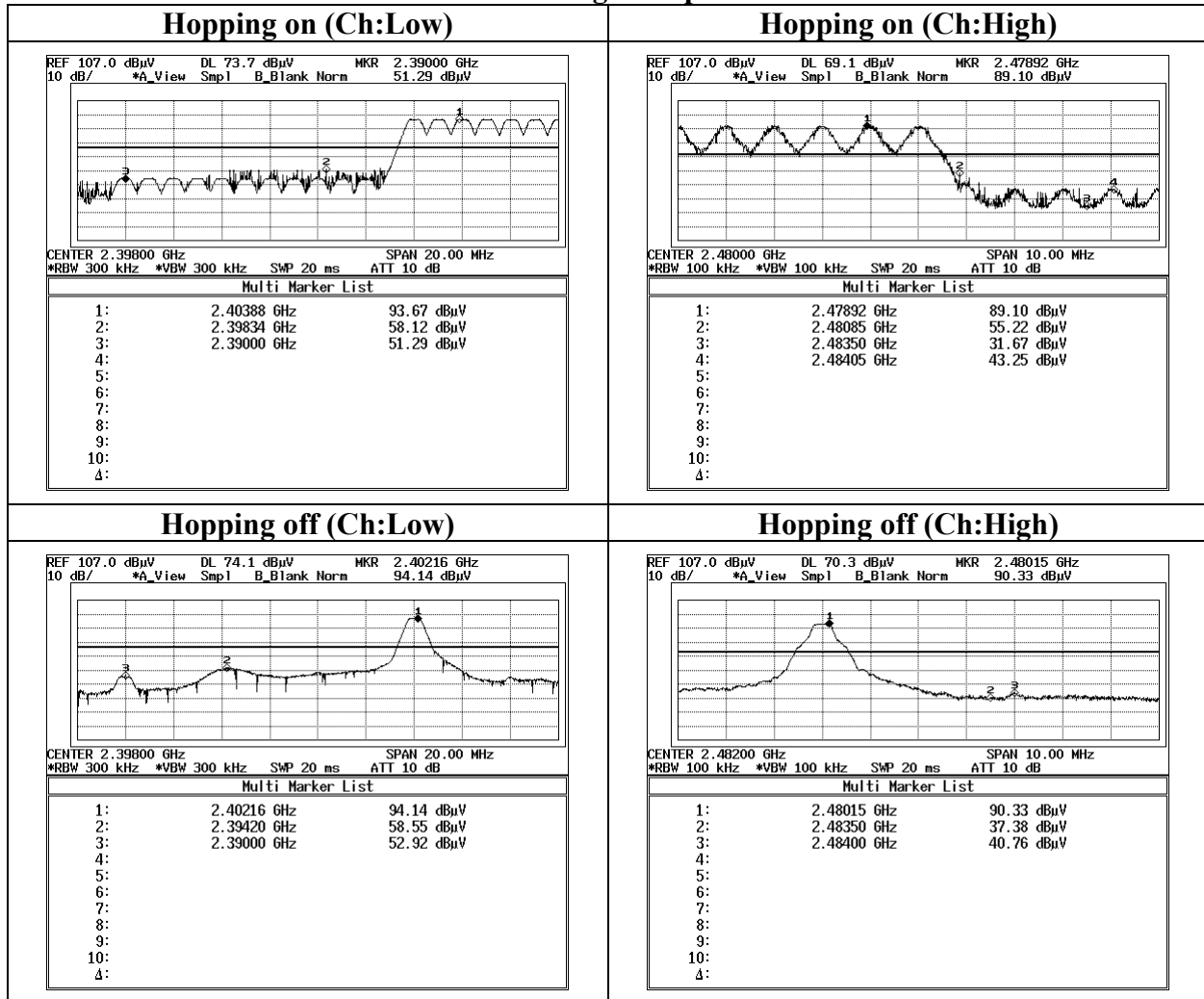


Conducted Spurious Emission

Ch:High



Conducted Spurious Emission Band Edge compliance



99% Occupied Bandwidth

