

## RADIO TEST REPORT

**Test Report No. : 25HE0087-HO-1**

**Applicant** : SHARP CORPORATION  
**Type of Equipment** : Wireless PDA  
**Model No.** : PV200  
**FCC ID** : APYNAR0060  
**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.

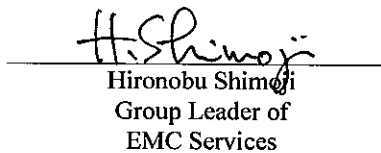
**Date of test:** February 27 to March 25, 2006

**Tested by:**

  
Yutaka Yoshida  
EMC Services

  
Takumi Shimada  
EMC Services

**Approved by :**

  
Hironobu Shimaji  
Group Leader of  
EMC Services

**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(01.06.05)

| <b>CONTENTS</b>                                                | <b>PAGE</b> |
|----------------------------------------------------------------|-------------|
| SECTION 1: Client information .....                            | 3           |
| SECTION 2: Equipment under test (E.U.T.).....                  | 3           |
| SECTION 3: Test specification, procedures & results.....       | 4           |
| SECTION 4: Operation of E.U.T. during testing.....             | 7           |
| SECTION 5: Conducted Emission.....                             | 8           |
| SECTION 6: Spurious Emission .....                             | 9           |
| SECTION 7: Bandwidth .....                                     | 10          |
| SECTION 8: Maximum Peak Output Power .....                     | 10          |
| SECTION 9: Carrier Frequency Separation .....                  | 10          |
| SECTION 10: Number of Hopping Frequency .....                  | 10          |
| SECTION 11: Dwell time .....                                   | 10          |
| APPENDIX 1: Photographs of test setup .....                    | 11          |
| Conducted Emission.....                                        | 11          |
| Spurious Emission (Radiated).....                              | 12          |
| Worst Case Position (Horizontal: Y-axis/ Vertical:X-axis)..... | 13          |
| APPENDIX 2: Test instruments .....                             | 14          |
| APPENDIX 3: Data of EMI test.....                              | 16          |
| Conducted Emission.....                                        | 16          |
| Carrier Frequency Separation.....                              | 21          |
| 20dB Bandwidth .....                                           | 23          |
| Number of Hopping Frequency .....                              | 25          |
| Dwell time .....                                               | 27          |
| Maximum Peak Output Power .....                                | 30          |
| Radiated Spurious Emission .....                               | 32          |
| Conducted Spurious Emission .....                              | 40          |
| 99% Occupied Bandwidth.....                                    | 44          |

## **SECTION 1: Client information**

Company Name : SHARP CORPORATION  
Address : 492 Minosho-cho, Yamatokoriyama-city, NARA 639-1186,  
JAPAN  
Telephone Number : +81-743-55-4022  
Facsimile Number : +81-743-55-2553  
Contact Person : Takahiro Inoue

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

### **2.1 Identification of E.U.T.**

Type of Equipment : Wireless PDA  
Model No. : PV200  
Serial No. : 5 for Conducted Emission / Radiated Emission tests  
001 for Antenna Terminal Conducted test  
Country of Manufacture : Japan  
Rating : AC120V/60Hz (AC Adapter)  
Receipt Date of Sample : February 23, 2006  
Condition of EUT : Engineering prototype  
(Not for Sale: This sample is equivalent to mass-produced items.)

### **2.2 Product Description**

Model No: PV200 (referred to as the EUT in this report) is the Wireless PDA.

Clock frequency(ies) in the system : 32.768kHz, 12MHz, 26MHz, 32MHz  
Equipment Type : Transceiver  
Frequency of Operation : 2402 - 2480MHz  
Bandwidth & Channel spacing : 1MHz & 1MHz  
Modulation : FHSS  
ITU code : F1D  
Power Supply (inner) : DC 3.0V  
Antenna Type : Chip Antenna (AF216M245001T)  
Antenna Gain : -6.6dBi max

---

**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(01.06.05)

### **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  
Section 15.247 Operation within the bands 902-928MHz,  
2400-2483.5MHz, and 5725-5850MHz

#### **FCC 15.31 (e)**

This EUT provides stable voltage (DC3.0V) 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

| No. | Item                         | Test Procedure                                                          | Specification                               | Remarks                | Deviation | Worst Margin*0)                                                                                | Results  |
|-----|------------------------------|-------------------------------------------------------------------------|---------------------------------------------|------------------------|-----------|------------------------------------------------------------------------------------------------|----------|
| 1   | Conducted emission           | FCC: ANSI C63.4:2003<br>7. AC powerline conducted emission measurements | FCC: Section 15.207                         | -                      | N/A       | 17.6dB<br>0.43325MHz<br>AV, N                                                                  | Complied |
|     |                              | IC: RSS-Gen 7.2.2                                                       | IC: RSS-Gen 7.2.2                           |                        |           |                                                                                                |          |
| 2   | Carrier Frequency Separation | FCC: ANSI C63.4:2003<br>13. Measurement of intentional radiators        | FCC: Section15.247(a)(1)                    | Conducted              | N/A       | See data.                                                                                      | Complied |
|     |                              | IC: -                                                                   | IC: RSS-210 A8.1 (2)                        |                        |           |                                                                                                |          |
| 3   | 20dB Bandwidth               | FCC: ANSI C63.4:2003<br>13. Measurement of intentional radiators        | FCC: Section15.247(a)(1)                    | Conducted              | N/A       |                                                                                                | Complied |
|     |                              | IC: -                                                                   | IC: RSS-210 A8.1 (1)                        |                        |           |                                                                                                |          |
| 4   | Number of Hopping Frequency  | FCC: ANSI C63.4:2003<br>13. Measurement of intentional radiators        | FCC: Section15.247(a)(1)(iii)               | Conducted              | N/A       |                                                                                                | Complied |
|     |                              | IC: -                                                                   | IC: RSS-210 A8.1 (4)                        |                        |           |                                                                                                |          |
| 5   | Dwell time                   | FCC: ANSI C63.4:2003<br>13. Measurement of intentional radiators        | FCC: Section15.247(a)(1)(iii)               | Conducted              | N/A       |                                                                                                | Complied |
|     |                              | IC: -                                                                   | IC: RSS-210 A8.1 (4)                        |                        |           |                                                                                                |          |
| 6   | Maximum Peak Output Power    | FCC: ANSI C63.4:2003<br>13. Measurement of intentional radiators        | FCC: Section15.247(b)(1)                    | Conducted              | N/A       | Complied                                                                                       |          |
|     |                              | IC: RSS-Gen 4.6                                                         | IC: RSS-210 A8.4 (2)                        |                        |           |                                                                                                |          |
| 7   | Band Edge Compliance         | FCC: ANSI C63.4:2003<br>13. Measurement of intentional radiators        | FCC: Section15.247(d)                       | Conducted              | N/A       | Complied                                                                                       |          |
|     |                              | IC: -                                                                   | IC: RSS-210 A8.5                            |                        |           |                                                                                                |          |
| 8   | Spurious Emission            | FCC: ANSI C63.4:2003<br>13. Measurement of intentional radiators        | FCC: Section15.247(d)                       | Conducted/<br>Radiated | N/A       | [Tx]<br>4.0 dB<br>58.440MHz, QP,<br>Vert., Ch: High<br>[Rx]<br>3.0dB<br>64.001MHz, QP,<br>Vert | Complied |
|     |                              | IC: RSS-Gen 4.7<br>RSS-Gen 4.8                                          | IC: RSS-210 A8.5<br>RSS-Gen 7.2.1 and 7.2.3 |                        |           |                                                                                                |          |

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.

**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(01.06.05)

### 3.3 Addition to standards

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

### 3.4 Uncertainty

#### Conducted Emission

The measurement uncertainty (with a 95% confidence level) for this test is  $\pm 2.6$ dB.  
The data listed in this test report has enough margin, more than the site margin.

#### Spurious Emission (Radiated)

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

### 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 | 846015                  | IC4247A-2              | 7.5 x 5.8 x 5.2m           | 4.0 x 4.0m                                                       | -                |
| No.3 measurement room      | -                       | -                      | 4.0 x 6.0 x 2.7m           | N/A                                                              | -                |
| No.4 measurement 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 preparation 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.

#### **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(01.06.05)

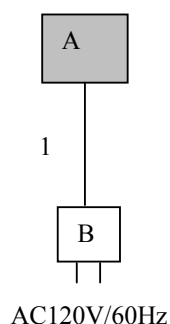
## SECTION 4: Operation of E.U.T. during testing

### 4.1 Operating Modes

The mode used for test : [FHSS:Bluetooth]  
Transmitting mode (Packet size DH5, Data packet: PRBS9)  
- Low Channel : 2402MHz  
- Mid Channel : 2441MHz  
- High Channel : 2480MHz  
- Inquiry  
Receiving mode  
- Mid Channel : 2441MHz

Test was not performed at AFH mode, because the decrease of number of channel (min: 20ch) at AFH mode does not influence on the output power and bandwidth of the EUT. However, the limit level 125mW of AFH mode was used for the test.

### 4.2 Configuration and peripherals



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

\* The EUT (Wireless PDA) has USB and Headset ports. The EUT with USB and Headset cables connected were tested under FCC Part 15 Subpart B (Class B).

#### Description of Support equipment

| No. | Item         | Model number | Serial number                        | Manufacturer              | Remarks |
|-----|--------------|--------------|--------------------------------------|---------------------------|---------|
| A   | Wireless PDA | PV200        | 5 for CE/RE tests<br>001 for AT test | Sharp Corporation         | EUT     |
| B   | AC Adaptor   | ADP-5FH B    | -                                    | DELTA<br>ELECTRONICS, INC | -       |

#### List of cables used

| No. | Name     | Length (m) | Shield |
|-----|----------|------------|--------|
| 1   | DC Cable | 1.5        | N      |

**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(01.06.05)

## **SECTION 5: Conducted Emission**

### **Test Procedure and conditions**

EUT was placed on a platform of nominal size, 1m by 1.5m, raised 80cm above the conducting ground plane. The rear of tabletop was located 40cm to the vertical conducting plane. The rear of EUT, including peripherals aligned and flushed with rear of tabletop. All other surfaces of tabletop were at least 80cm from any other grounded conducting surface. EUT was located 80cm from a Line Impedance Stabilization Network (LISN)/ Artificial mains Network (AMN) and excess AC cable was bundled in center.

#### For the tests on EUT itself (as a stand alone equipment)

Each EUT current-carrying power lead, except the ground (safety) lead, was individually connected through a LISN /(AMN) to the input power source. All unused 50ohm connectors of the LISN(AMN) were resistivity terminated in 50ohm when not connected to the measuring equipment.

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT in a Semi Anechoic Chamber or a Measurement Room.

The EUT was connected to a LISN (AMN).

An overview sweep with peak detection has been performed.

|                          |                                                              |
|--------------------------|--------------------------------------------------------------|
| <b>Detector</b>          | <b>: CISPR quasi-peak and average detector (IF BW 9 kHz)</b> |
| <b>Measurement range</b> | <b>: 0.15-30MHz</b>                                          |
| <b>Test data</b>         | <b>: APPENDIX 3</b>                                          |
| <b>Test result</b>       | <b>: Pass</b>                                                |

Date: March 25, 2006

Test engineer: Yutaka Yoshida

---

**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(01.06.05)

## **SECTION 6: Spurious Emission**

### **[Conducted]**

#### **Test Procedure**

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

**Test data : APPENDIX 3**

**Test result : Pass**

### **[Radiated]**

#### **Test Procedure**

EUT was placed on a platform of nominal size, 0.5m 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.**

| 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<br>VBW: 300kHz (S/A) | AV: RBW:1MHz/VBW:10Hz<br>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 9, 23, 25 and 27, 2006

Test engineer: Yutaka Yoshida

---

**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(01.06.05)

## **SECTION 7: Bandwidth**

### **Test Procedure**

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

|             |              |
|-------------|--------------|
| Test data   | : APPENDIX 3 |
| Test result | : Pass       |

## **SECTION 8: Maximum Peak Output Power**

### **Test Procedure**

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

|             |              |
|-------------|--------------|
| Test data   | : APPENDIX 3 |
| Test result | : Pass       |

## **SECTION 9: Carrier Frequency Separation**

### **Test Procedure**

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

|             |              |
|-------------|--------------|
| Test data   | : APPENDIX 3 |
| Test result | : Pass       |

## **SECTION 10: Number of Hopping Frequency**

### **Test Procedure**

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

|             |              |
|-------------|--------------|
| Test data   | : APPENDIX 3 |
| Test result | : Pass       |

## **SECTION 11: Dwell time**

### **Test Procedure**

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

|             |              |
|-------------|--------------|
| Test data   | : APPENDIX 3 |
| Test result | : Pass       |

**APPENDIX 1: Photographs of test setup**

**Conducted Emission**

This page has been submitted for a separate exhibit.

**Spurious Emission (Radiated)**

This page has been submitted for a separate exhibit.

This page has been submitted for a separate exhibit.

## **APPENDIX 2:Test instruments**

| Control No. | Instrument                   | Manufacturer             | Model No                  | Test Item | Calibration Date<br>*<br>Interval(month) |
|-------------|------------------------------|--------------------------|---------------------------|-----------|------------------------------------------|
| MSA-03      | Spectrum Analyzer            | Agilent                  | E4448A                    | AT        | 2005/09/16 * 12                          |
| MAT-25      | Attenuator(10dB)(above 1GHz) | Agilent                  | 8493C                     | AT        | 2005/06/03 * 12                          |
| MOS-04      | Digital Humidity Indicator   | N.T                      | NT-1800                   | AT        | 2004/11/25 * 24                          |
| MAEC-01     | Anechoic Chamber             | TDK                      | Semi Anechoic Chamber 10m | RE        | 2005/11/14 * 12                          |
| MHA-05      | Horn Antenna                 | Schwarzbeck              | BBHA9120D                 | RE        | 2006/01/09 * 12                          |
| MHA-01      | Horn Antenna                 | EMCO                     | 3160-09                   | RE        | 2006/01/09 * 12                          |
| MPA-01      | Pre Amplifier                | Agilent                  | 8449B                     | RE        | 2006/02/09 * 12                          |
| MCC-26      | Microwave Cable 1G-26.5GHz   | Suhner                   | SUCOFLEX104               | RE        | 2005/08/30 * 12                          |
| MCC-18      | Microwave Cable 1G-26.5GHz   | Suhner                   | SUCOFLEX 104              | RE        | 2006/02/02 * 12                          |
| MCC-15      | Microwave Cable 1G-26.5GHz   | Suhner                   | SUCOFLEX 104              | RE        | 2006/02/02 * 12                          |
| MTR-01      | Test Receiver                | Rohde & Schwarz          | ES140                     | RE        | 2005/11/10 * 12                          |
| MHF-05      | High Pass Filter             | Tokimec                  | TF323DCA                  | RE        | 2006/01/24 * 12                          |
| MBA-01      | Biconical Antenna            | Schwarzbeck              | BBA9106                   | RE        | 2005/10/10 * 12                          |
| MLA-01      | Logperiodic Antenna          | Schwarzbeck              | USLP9143                  | RE        | 2005/10/14 * 12                          |
| MCC-01      | Coaxial Cable 0.1-3000MHz    | Suhner/storm/Agilent/TSJ | -                         | RE        | 2006/02/20 * 12                          |
| MTR-01      | Test Receiver                | Rohde & Schwarz          | ES140                     | RE        | 2005/11/10 * 12                          |
| MAT-07      | Attenuator(6dB)              | Weinschel Corp           | 2                         | RE        | 2005/12/16 * 12                          |
| MPA-04      | Pre Amplifier                | Agilent                  | 8447D                     | RE        | 2005/05/24 * 12                          |
| MOS-01      | Digital Humidity Indicator   | N.T                      | NT-1800                   | RE        | 2004/11/25 * 24                          |
| MAEC-02     | Anechoic Chamber             | TDK                      | Semi Anechoic Chamber 3m  | RE/CE     | 2005/04/11 * 12                          |
| MBA-02      | Biconical Antenna            | Schwarzbeck              | BBA9106                   | RE        | 2005/10/10 * 12                          |
| MLA-02      | Logperiodic Antenna          | Schwarzbeck              | USLP9143                  | RE        | 2005/10/14 * 12                          |
| MAT-07      | Attenuator(6dB)              | Weinschel Corp           | 2                         | RE        | 2005/12/16 * 12                          |
| MCC-12      | Coaxial Cable                | Fujikura/Agilent         | -                         | RE        | 2006/02/23 * 12                          |
| MPA-09      | Pre Amplifier                | Agilent                  | 8447D                     | RE        | 2005/09/07 * 12                          |
| MRENT-26    | Spectrum Analyzer            | Advantest                | R3273                     | RE/CE     | 2006/02/15 * 12                          |
| MTR-02      | Test Receiver                | Rohde & Schwarz          | ESCS30                    | RE/CE     | 2006/02/02 * 12                          |
| MCC-13      | Coaxial Cable                | Fujikura/Agilent         | -                         | CE        | 2006/02/23 * 12                          |
| MLS-06      | LISN(AMN)                    | Schwarzbeck              | NSLK8127                  | CE        | 2006/02/06 * 12                          |
| MOS-02      | Digital Humidity Indicator   | N.T                      | NT-1800                   | RE/CE     | 2004/11/25 * 24                          |
| MCC-05      | Microwave Cable 1G-50GHz     | Storm                    | 421-011 ( 90-1394-079 )   | RE        | 2006/01/04 * 12                          |

**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(01.06.05)

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

**Test Item:**

**CE: Conducted Emission**

**RE: Radiated Emission**

**AT: Antenna Terminal Conducted test**

---

**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(01.06.05)

APPENDIX 3: Data of EMI test

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber  
Date : 2006/03/25 14:17:17

Company : Sharp Corporation

Kind of EUT : Wireless PDA

Model No. : PV200

Serial No. : 5

Report No. : 25HE0087-HO

Power : AC120V/60Hz

Temp°C/Humi% : 24deg. C / 30%

Operator : Yutaka Yoshida

Mode / Remarks : Bluetooth Cont. Tx 2402MHz

LIMIT : FCC15C § 15.207 (QP) / RSS-Gen  
FCC15C § 15.207 (AV) / RSS-Gen

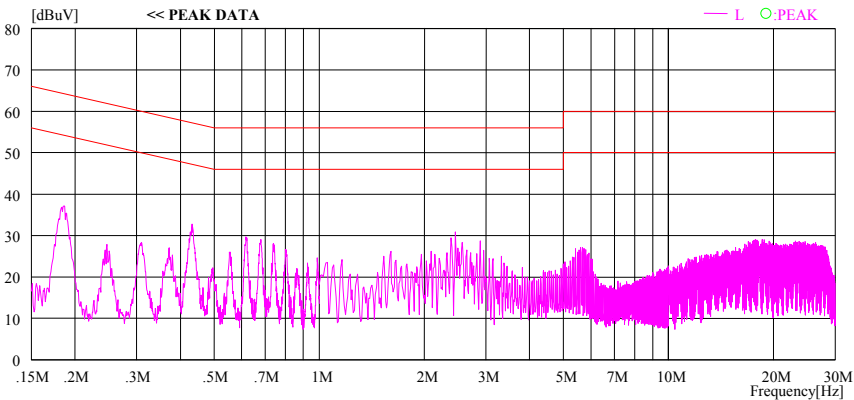
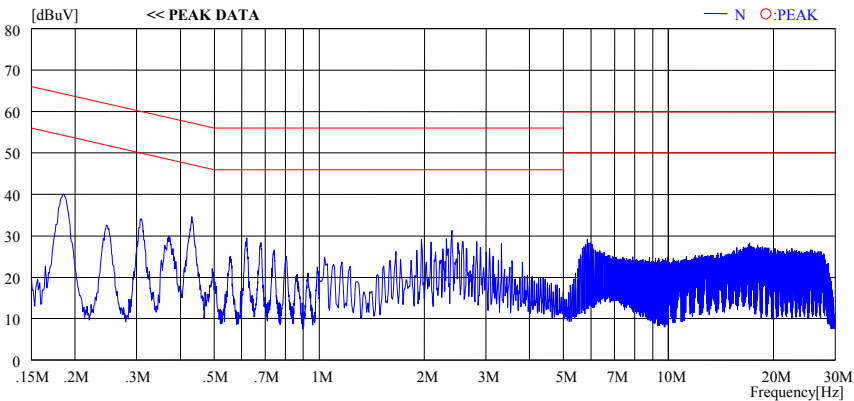


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCURATION: RESULT=READING+C. F (LISN LOSS+CABLE LOSS)  
Except for the above table : adequate margin data below the limits.

## Conducted Emission

### DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber  
Date : 2006/03/25 14:25:06

Company : Sharp Corporation  
Kind of EUT : Wireless PDA  
Model No. : PV200  
Serial No. : 5  
Report No. : 25HE0087-HO  
Power : AC120V/60Hz  
Temp/C/Humi% : 24deg. C / 30%  
Operator : Yutaka Yoshida

Mode / Remarks : Bluetooth Cont. Tx 2441MHz

LIMIT : FCC15C § 15.207 (QP) / RSS-Gen  
FCC15C § 15.207 (AV) / RSS-Gen

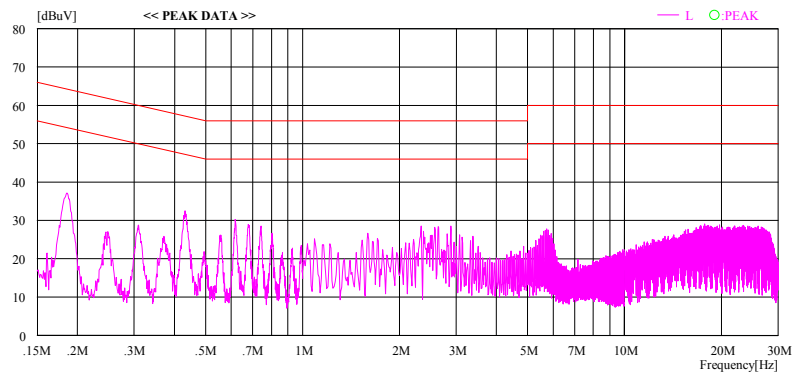
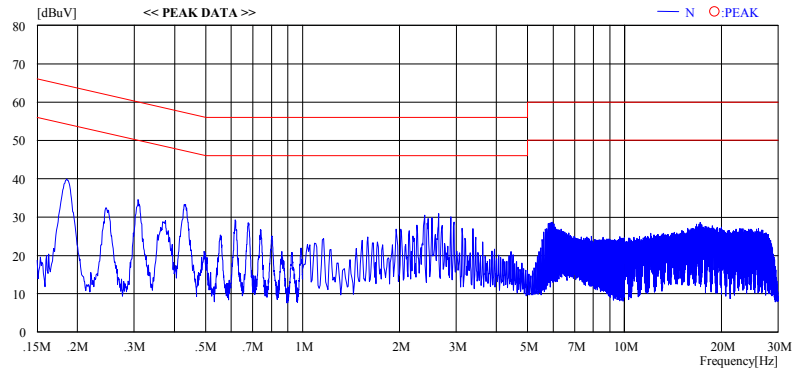


CHART: WITH FACTOR, Peak hold data, Data is uncorrected. CALCULATION: RESULT=READING+C.F.(L1SN LOSS+CABLE LOSS)  
Except for the above table : adequate margin data below the limits.

## Conducted Emission

### DATA OF CONDUCTED EMISSION TEST

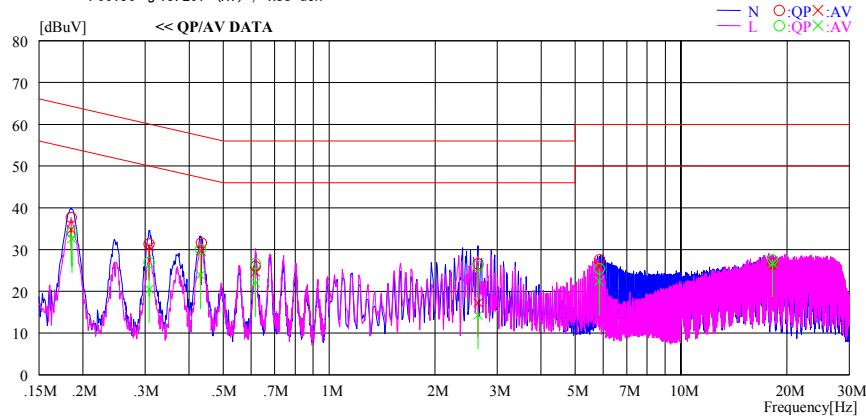
UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber  
Date : 2006/03/25 14:25:06

Company : Sharp Corporation  
Kind of EUT : Wireless PDA  
Model No. : PV200  
Serial No. : 5

Report No. : 25HE0087-HO  
Power : AC120V/60Hz  
Temp°C/Humi% : 24deg. C / 30%  
Operator : Yutaka Yoshida

Mode / Remarks : Bluetooth Cont. Tx 2441MHz

LIMIT : FCC15C § 15.207 (QP) / RSS-Gen  
FCC15C § 15.207 (AV) / RSS-Gen



| Frequency<br>[MHz] | Reading Level |              | Corr.<br>Factor<br>[dB] | Results      |              | Limit        |              | Margin     |            | Phase |
|--------------------|---------------|--------------|-------------------------|--------------|--------------|--------------|--------------|------------|------------|-------|
|                    | QP<br>[dBuV]  | AV<br>[dBuV] |                         | QP<br>[dBuV] | AV<br>[dBuV] | QP<br>[dBuV] | AV<br>[dBuV] | QP<br>[dB] | AV<br>[dB] |       |
| 0.18512            | 37.5          | 34.6         | 0.2                     | 37.7         | 34.8         | 64.3         | 54.3         | 26.6       | 19.5       | N     |
| 0.30810            | 31.1          | 30.4         | 0.3                     | 31.4         | 30.7         | 60.0         | 50.0         | 28.6       | 19.3       | N     |
| 0.43325            | 31.3          | 29.3         | 0.3                     | 31.6         | 29.6         | 57.2         | 47.2         | 25.6       | 17.6       | N     |
| 0.61705            | 25.7          | 24.2         | 0.3                     | 26.0         | 24.5         | 56.0         | 46.0         | 30.0       | 21.5       | N     |
| 2.64787            | 26.1          | 16.8         | 0.5                     | 26.6         | 17.3         | 56.0         | 46.0         | 29.4       | 28.7       | N     |
| 5.85571            | 26.8          | 25.2         | 0.8                     | 27.6         | 26.0         | 60.0         | 50.0         | 32.4       | 24.0       | N     |
| 18.18157           | 25.4          | 24.9         | 1.2                     | 26.6         | 26.1         | 60.0         | 50.0         | 33.4       | 23.9       | N     |
| 0.18560            | 33.9          | 32.4         | 0.2                     | 34.1         | 32.6         | 64.2         | 54.2         | 30.1       | 21.6       | L     |
| 0.30796            | 26.6          | 20.2         | 0.3                     | 26.9         | 20.5         | 60.0         | 50.0         | 33.1       | 29.5       | L     |
| 0.43060            | 29.8          | 23.6         | 0.3                     | 30.1         | 23.9         | 57.2         | 47.2         | 27.1       | 23.3       | L     |
| 0.61710            | 26.4          | 21.7         | 0.3                     | 26.7         | 22.0         | 56.0         | 46.0         | 29.3       | 24.0       | L     |
| 2.64976            | 25.6          | 13.8         | 0.5                     | 26.1         | 14.3         | 56.0         | 46.0         | 29.9       | 31.7       | L     |
| 5.85459            | 24.6          | 21.6         | 0.8                     | 25.4         | 22.4         | 60.0         | 50.0         | 34.6       | 27.6       | L     |
| 18.18244           | 26.4          | 25.5         | 1.2                     | 27.6         | 26.7         | 60.0         | 50.0         | 32.4       | 23.3       | L     |

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

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber  
Date : 2006/03/25 14:33:55

Company : Sharp Corporation  
Kind of EUT : Wireless PDA  
Model No. : PV200  
Serial No. : 5

Report No. : 25HE0087-HO  
Power : AC120V/60Hz  
Temp°C/Humi% : 24deg.C / 30%  
Operator : Yutaka Yoshida

Mode / Remarks : Bluetooth Cont. Tx 2480MHz

LIMIT : FCC15C §15.207 (QP) / RSS-Gen  
FCC15C §15.207 (AV) / RSS-Gen

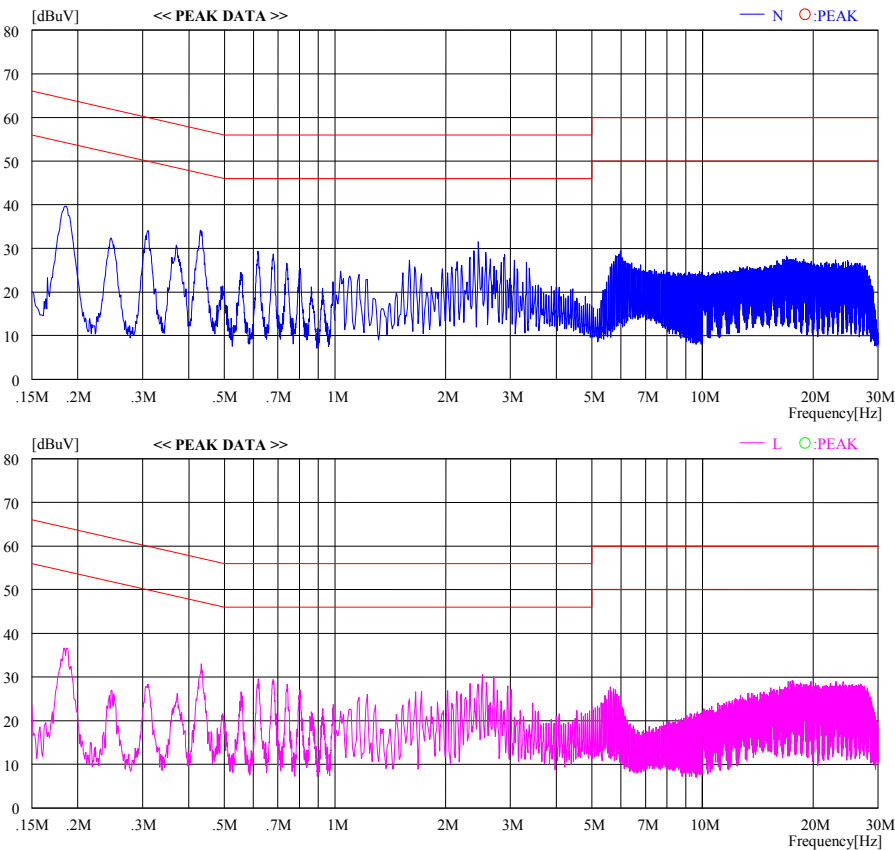


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)  
Except for the above table : adequate margin data below the limits.

## Conducted Emission

### DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber  
Date : 2006/03/25 15:04:35

Company : Sharp Corporation  
Kind of EUT : Wireless PDA  
Model No. : PV200  
Serial No. : 5

Report No. : 25HE0087-HO  
Power : AC120V/60Hz  
Temp°C/Humi% : 24deg.C / 30%  
Operator : Yutaka Yoshida

Mode / Remarks : Bluetooth Cont. Rx 2441MHz

LIMIT : FCC15C §15.207 (QP) / RSS-Gen  
FCC15C §15.207 (AV) / RSS-Gen

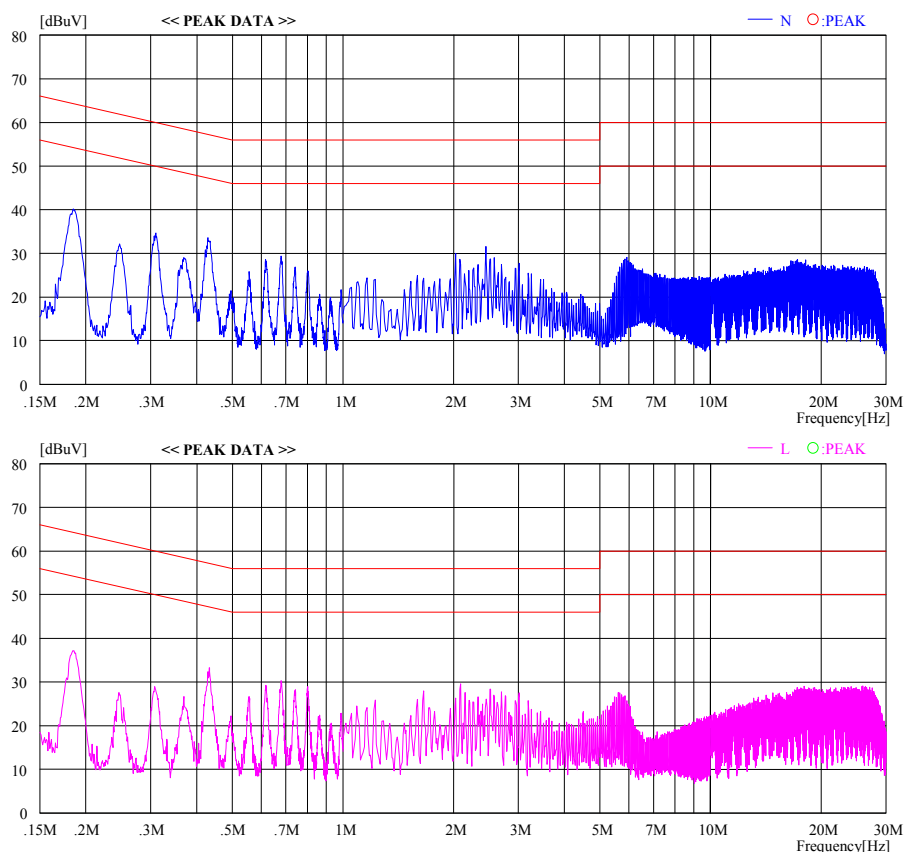


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)  
Except for the above table : adequate margin data below the limits.

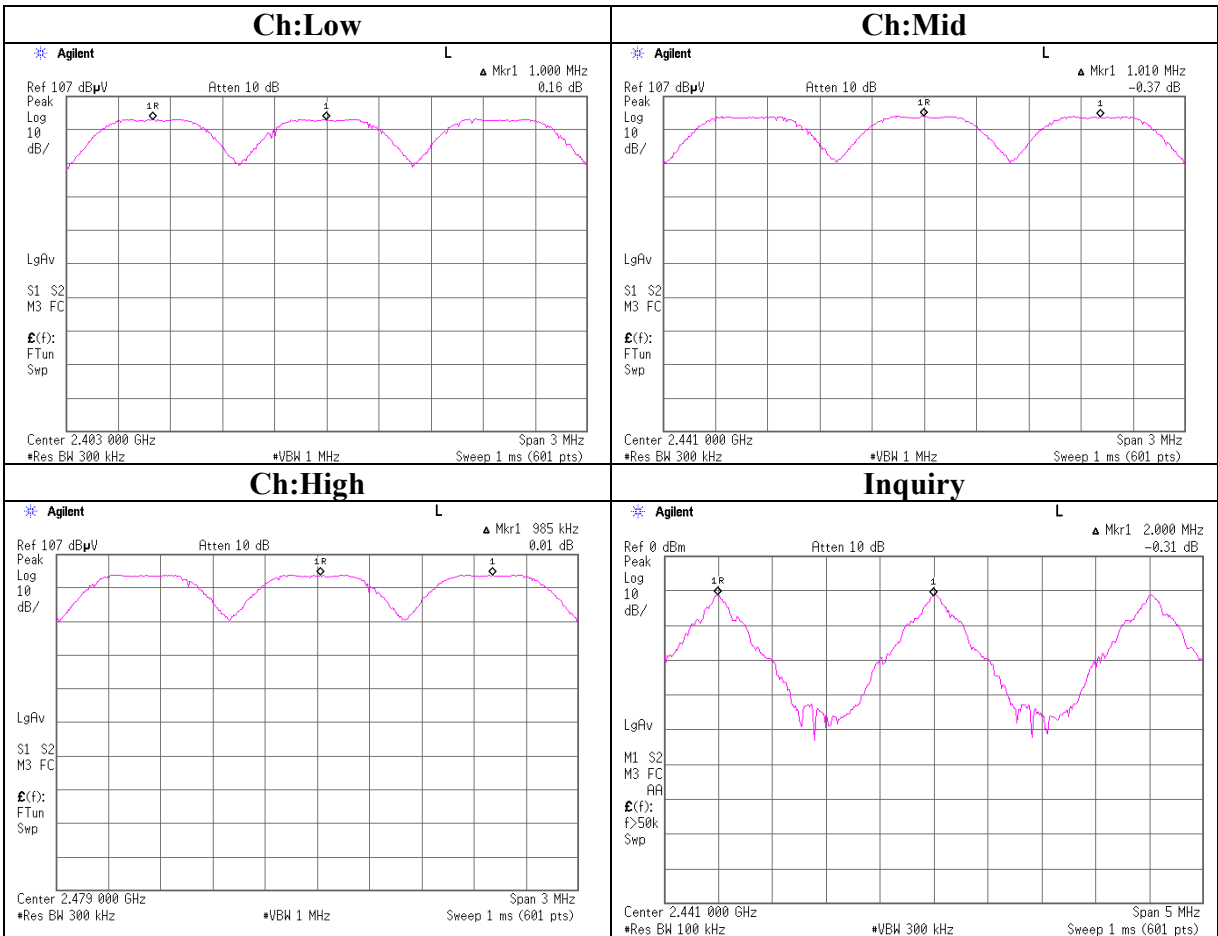
### **Carrier Frequency Separation**

UL Apex Co., Ltd.  
Head Office EMC Lab. No.7 Shielded Room

|           |                          |               |                                     |
|-----------|--------------------------|---------------|-------------------------------------|
| COMPANY   | : Sharp Corporation      | REGULATION    | : FCC Part15 Subpart C 15.247(a)(1) |
| EQUIPMENT | : Wireless PDA           | TEST DISTANCE | : -                                 |
| MODEL     | : PV200                  | DATE          | : 02/27/2006 , 03/10/2006           |
| S/ N      | : 001                    | TEMPERATURE   | : 30deg.C , 32deg.C                 |
| POWER     | : AC120V/60Hz            | HUMIDITY      | : 28% , 38%                         |
| MODE      | : Tx(Hopping on)/Inquiry | ENGINEER      | : Takumi Shimada<br>Yutaka Yoshida  |

| Ch      | Freq.<br>[MHz] | Channel separation<br>[MHz] | Limit                                                               |
|---------|----------------|-----------------------------|---------------------------------------------------------------------|
| Low     | 2402.0         | 1.000                       | >two-thirds of the 20dB Bandwidth or 25[kHz] (whichever is greater) |
| Mid     | 2441.0         | 1.010                       | >two-thirds of the 20dB Bandwidth or 25[kHz] (whichever is greater) |
| High    | 2480.0         | 0.985                       | >two-thirds of the 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



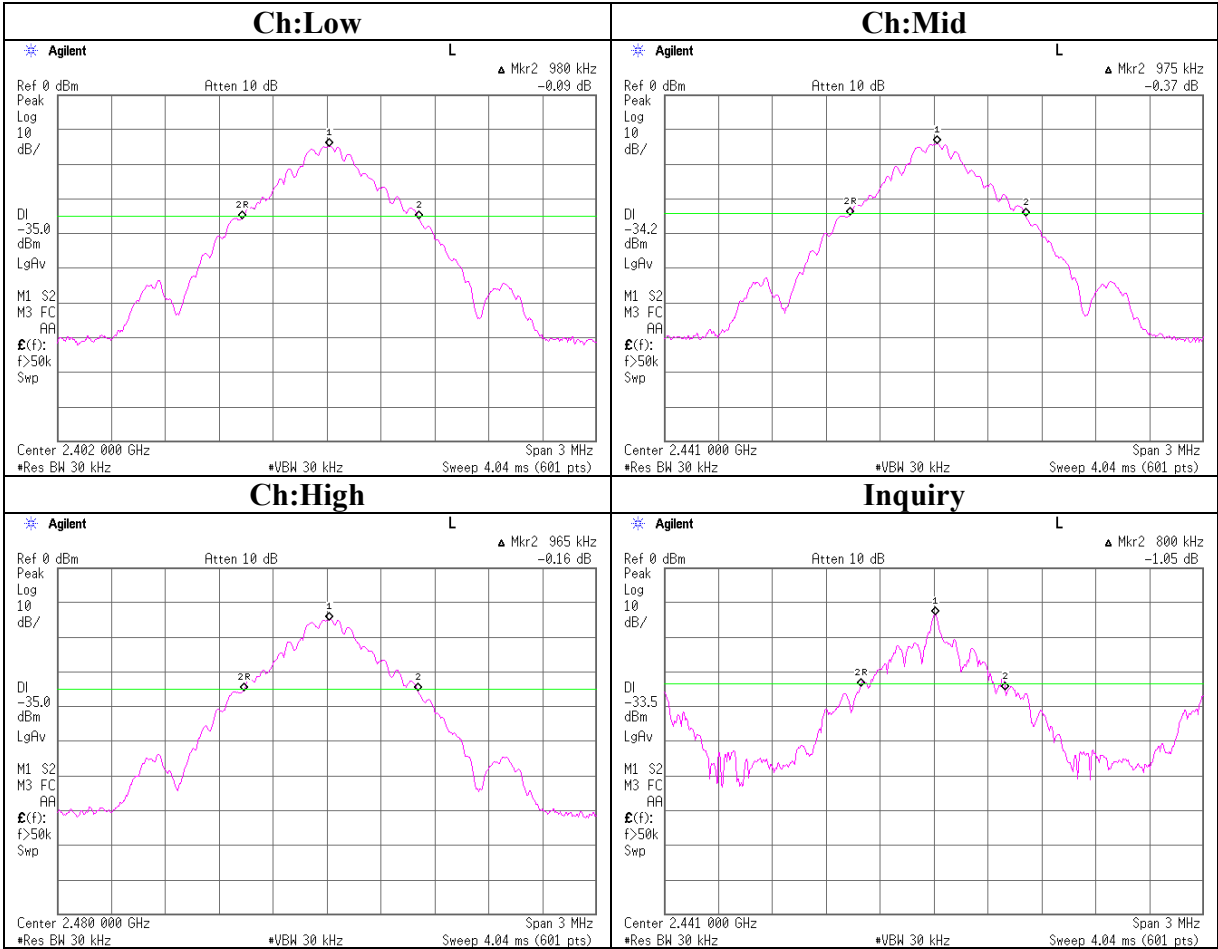
## **20dB Bandwidth**

UL Apex Co., Ltd.  
Head Office EMC Lab. No.7 Shielded Room

|           |                             |               |                                     |
|-----------|-----------------------------|---------------|-------------------------------------|
| COMPANY   | : Sharp Corporation         | REGULATION    | : FCC Part15 Subpart C 15.247(a)(1) |
| EQUIPMENT | : Wireless PDA              | TEST DISTANCE | : -                                 |
| MODEL     | : PV200                     | DATE          | : 02/27/2006                        |
| S/ N      | : 001                       | TEMPERATURE   | : 30deg.C                           |
| POWER     | : AC120V/60Hz               | HUMIDITY      | : 28%                               |
| MODE      | : Tx (Hopping off) /Inquiry | ENGINEER      | : Takumi Shimada                    |

| Ch      | Freq.  | 20dB Bandwidth | Limit |
|---------|--------|----------------|-------|
|         | [MHz]  | [MHz]          | [MHz] |
| Low     | 2402.0 | 0.980          | -     |
| Mid     | 2441.0 | 0.975          | -     |
| High    | 2480.0 | 0.965          | -     |
| Inquiry | 2441.0 | 0.800          | -     |

20dB Bandwidth



### Number of Hopping Frequency

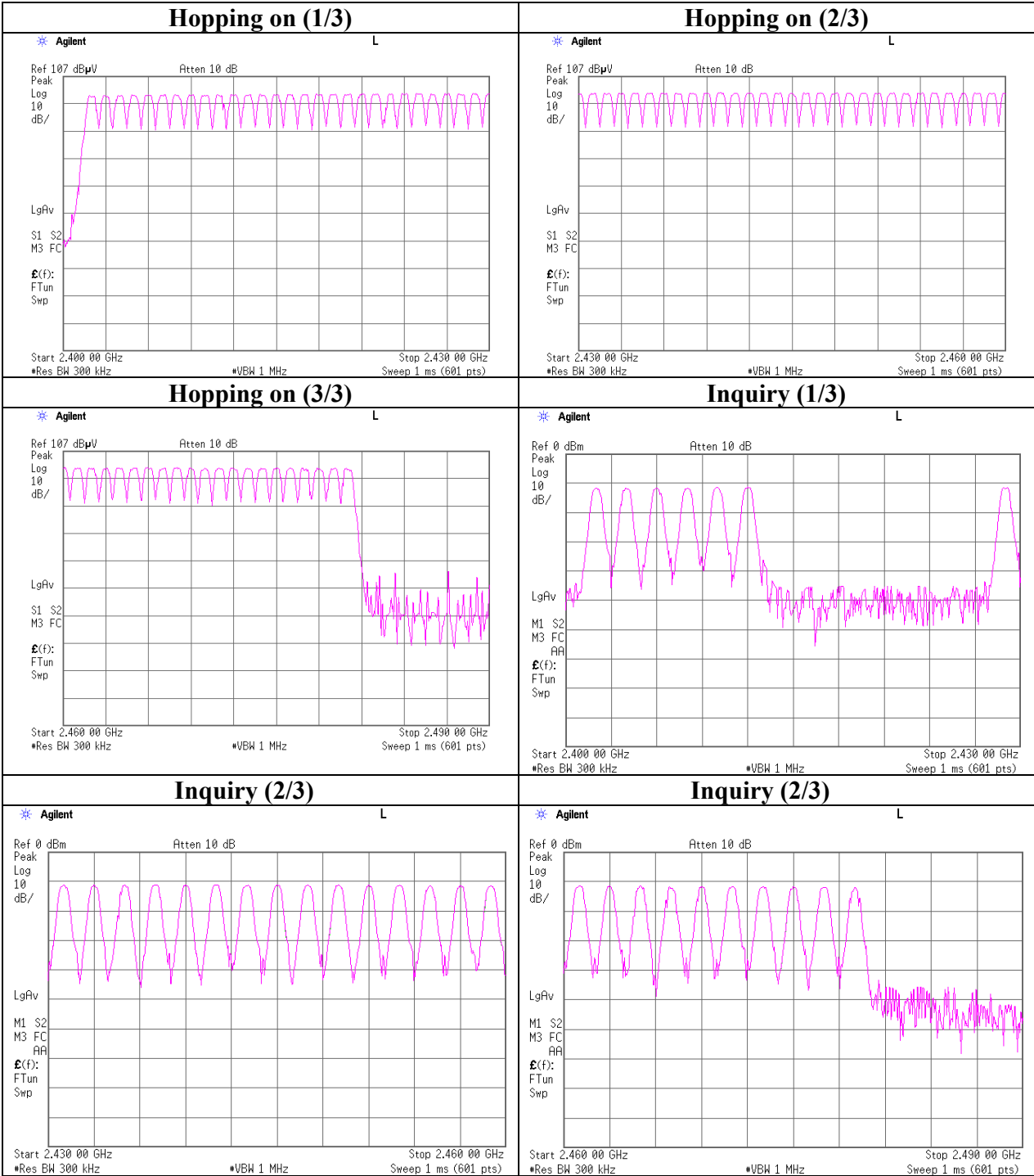
UL Apex Co., Ltd.  
Head Office EMC Lab. No.7 Shielded Room

|           |                            |               |                                          |
|-----------|----------------------------|---------------|------------------------------------------|
| COMPANY   | : Sharp Corporation        | REGULATION    | : FCC Part15 Subpart C 15.247(a)(1)(iii) |
| EQUIPMENT | : Wireless PDA             | TEST DISTANCE | : -                                      |
| MODEL     | : PV200                    | DATE          | : 02/27/2006 , 03/10/2006                |
| S/ N      | : 001                      | TEMPERATURE   | : 30deg.C , 32deg.C                      |
| POWER     | : AC120V/60Hz              | HUMIDITY      | : 28% , 38%                              |
| MODE      | : Tx (Hopping on) /Inquiry | ENGINEER      | : Takumi Shimada<br>Yutaka Yoshida       |

| Mode          | Number of channel<br>[time] | Limit<br>[time] |
|---------------|-----------------------------|-----------------|
| Tx(Hoppng on) | 79                          | $\geq 15$       |

| Mode    | Number of channel<br>[time] | Limit<br>[time] |
|---------|-----------------------------|-----------------|
| Inquiry | 32                          | $\geq 15$       |

Number of Hopping Frequency



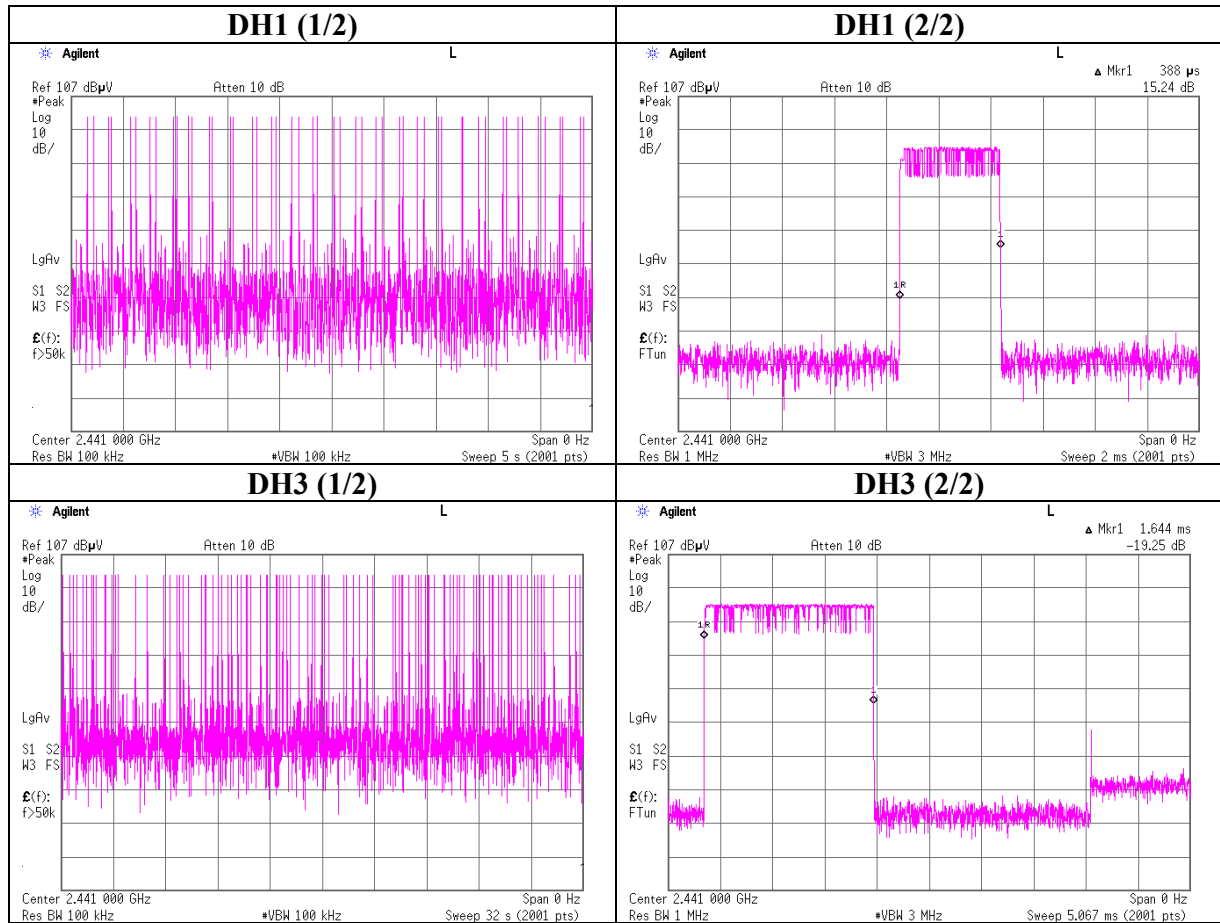
## Dwell time

UL Apex Co., Ltd.  
Head Office EMC Lab. No.7 Shielded Room

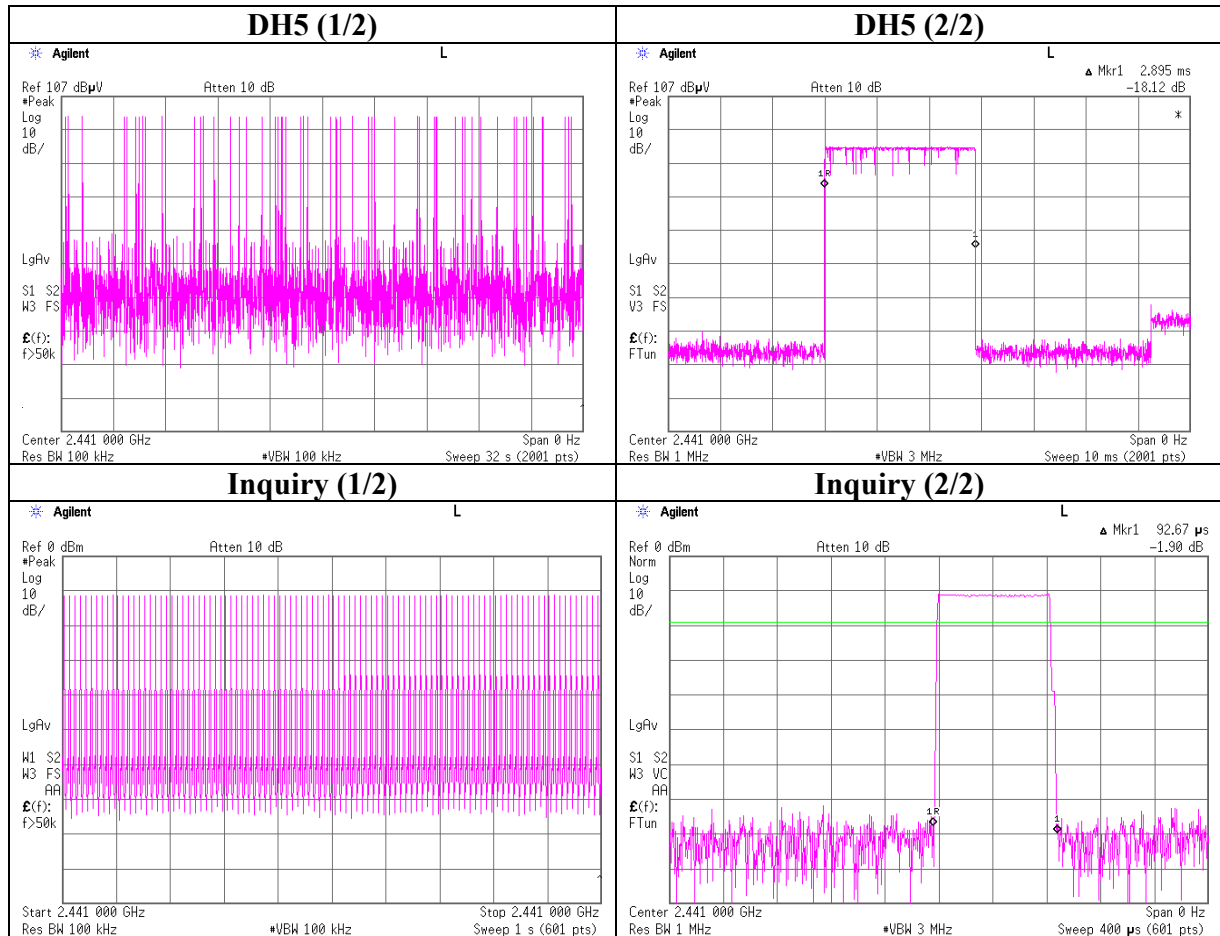
|           |                            |               |                                          |
|-----------|----------------------------|---------------|------------------------------------------|
| COMPANY   | : Sharp Corporation        | REGULATION    | : FCC Part15 Subpart C 15.247(a)(1)(iii) |
| EQUIPMENT | : Wireless PDA             | TEST DISTANCE | : -                                      |
| MODEL     | : PV200                    | DATE          | : 02/27/2006 , 03/10/2006                |
| S/ N      | : 001                      | TEMPERATURE   | : 30deg.C , 32deg.C                      |
| POWER     | : AC120V/60Hz              | HUMIDITY      | : 28% , 38%                              |
| MODE      | : Tx (Hopping on) /Inquiry | ENGINEER      | : Takumi Shimada<br>Yutaka Yoshida       |

| Mode    | Number of transmission<br>in a 31.6(79 Hopping x 0.4)<br>/ 12.8(32 Hopping x 0.4)second period | Length of<br>transmission time<br>[msec] | Result<br>[msec] | Limit<br>[msec] |
|---------|------------------------------------------------------------------------------------------------|------------------------------------------|------------------|-----------------|
| DH1     | 50 times /5sec. x 31.6 = 316 times                                                             | 0.388                                    | 123              | 400             |
| DH3     | 99 times                                                                                       | 1.644                                    | 163              | 400             |
| DH5     | 55 times                                                                                       | 2.895                                    | 159              | 400             |
| Inquiry | 100 times / 1sec. x 12.8 = 1280 times                                                          | 0.093                                    | 119              | 400             |

### Dwell time



## Dwell time



### Maximum Peak Output Power

UL Apex Co., Ltd.  
Head Office EMC Lab. No.7 Shielded Room

|           |                           |               |                                     |
|-----------|---------------------------|---------------|-------------------------------------|
| COMPANY   | : Sharp Corporation       | REGULATION    | : FCC Part15 Subpart C 15.247(b)(1) |
| EQUIPMENT | : Wireless PDA            | TEST DISTANCE | : -                                 |
| MODEL     | : PV200                   | DATE          | : 02/27/2006                        |
| S/ N      | : 001                     | TEMPERATURE   | : 30deg.C                           |
| POWER     | : AC120V/60Hz             | HUMIDITY      | : 28%                               |
| MODE      | : Tx(Hopping Off)/Inquiry | ENGINEER      | : Takumi Shimada                    |

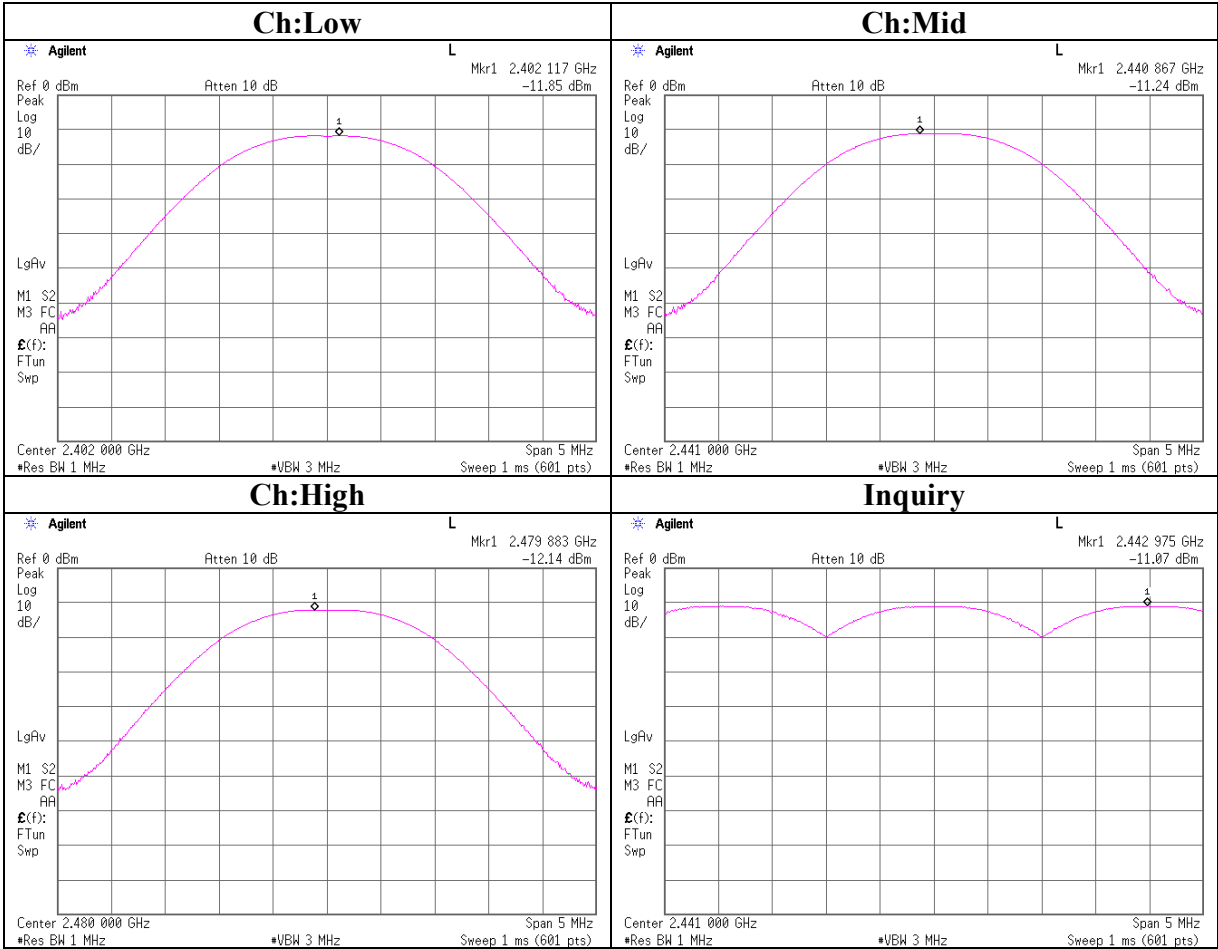
| Ch      | Freq.  | S/A<br>Reading | Cable<br>Loss | Atten. | Result |      | Limit |      | Margin |
|---------|--------|----------------|---------------|--------|--------|------|-------|------|--------|
|         | [MHz]  | [dBm]          | [dB]          | [dB]   | [dBm]  | [mW] | [dBm] | [mW] | [dB]   |
| Low     | 2402.0 | -11.85         | 0.95          | 10.12  | -0.78  | 0.84 | 20.96 | 125  | 21.74  |
| Mid     | 2441.0 | -11.24         | 0.95          | 10.14  | -0.15  | 0.97 | 20.96 | 125  | 21.11  |
| High    | 2480.0 | -12.14         | 0.95          | 10.15  | -1.04  | 0.79 | 20.96 | 125  | 22.00  |
| Inquiry | 2443.0 | -11.07         | 0.95          | 10.14  | 0.02   | 1.00 | 20.96 | 125  | 20.94  |

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.

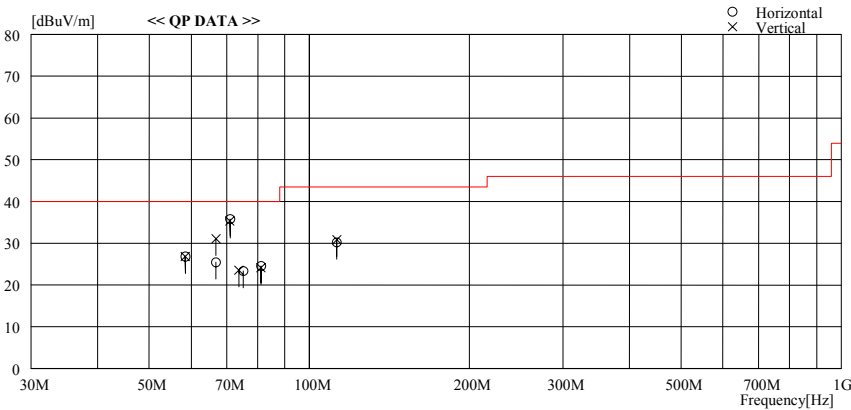
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
Date : 2006/03/23 15:48:26

Company : Sharp Corporation  
Kind of EUT : Wireless PDA  
Model No. : PV200  
Serial No. : 5  
Report No. : 25HE0087-HO  
Power : AC120V/60Hz  
Temp./Humi. : 24deg. C. / 30%  
Operator : Yutaka Yoshida

Mode / Remarks : Bluetooth Cont.Tx 2402MHz / Hor:Y-axis, Ver:X-axis

LIMIT : FCC15C §15.209, 3m, below1GHz / RSS-210  
Except for the data below : adeauate margin data below the limits.



| Frequency | Reading | DET | Antenna<br>Factor | Loss&<br>Gain | Level    | Angle | Height | Polar. | Limit    | Margin |
|-----------|---------|-----|-------------------|---------------|----------|-------|--------|--------|----------|--------|
| [MHz]     | [dBuV]  |     | [dB/m]            | [dB]          | [dBuV/m] | [Deg] | [cm]   |        | [dBuV/m] | [dB]   |
| 58.440    | 38.0    | QP  | 8.9               | -20.1         | 26.8     | 125   | 292    | Hori.  | 40.0     | 13.2   |
| 58.433    | 38.0    | QP  | 8.9               | -20.1         | 26.8     | 359   | 287    | Vert.  | 40.0     | 13.2   |
| 66.780    | 37.7    | QP  | 7.5               | -19.8         | 25.4     | 205   | 188    | Hori.  | 40.0     | 14.6   |
| 66.779    | 43.4    | QP  | 7.5               | -19.8         | 31.1     | 215   | 175    | Vert.  | 40.0     | 8.9    |
| 70.961    | 48.6    | QP  | 7.0               | -19.8         | 35.8     | 172   | 395    | Hori.  | 40.0     | 4.2    |
| 70.957    | 48.1    | QP  | 7.0               | -19.8         | 35.3     | 255   | 388    | Vert.  | 40.0     | 4.7    |
| 75.135    | 36.1    | QP  | 6.9               | -19.6         | 23.4     | 248   | 400    | Hori.  | 40.0     | 16.6   |
| 73.734    | 36.2    | QP  | 7.0               | -19.6         | 23.6     | 0     | 347    | Vert.  | 40.0     | 16.4   |
| 81.191    | 37.1    | QP  | 7.1               | -19.6         | 24.6     | 217   | 215    | Hori.  | 40.0     | 15.4   |
| 81.186    | 36.6    | QP  | 7.1               | -19.6         | 24.1     | 0     | 348    | Vert.  | 40.0     | 15.9   |
| 112.691   | 37.0    | QP  | 12.2              | -19.0         | 30.2     | 166   | 262    | Hori.  | 43.5     | 13.3   |
| 112.692   | 37.6    | QP  | 12.2              | -19.0         | 30.8     | 117   | 165    | Vert.  | 43.5     | 12.7   |

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)

## Radiated Spurious Emission

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

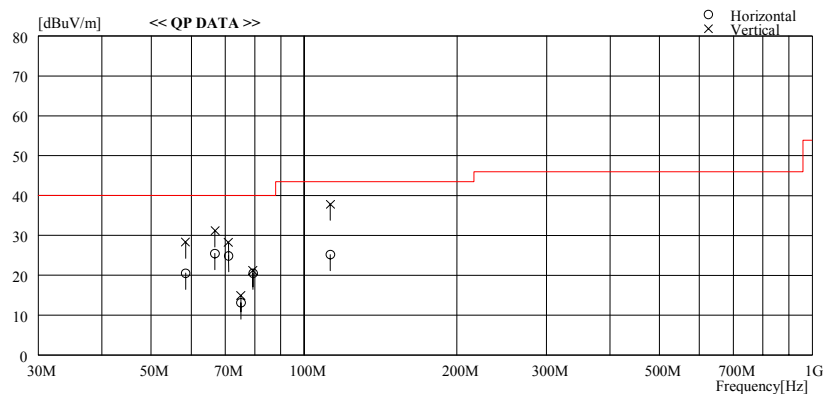
### DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
Date : 2006/03/23 16:40:40

Company : Sharp Corporation  
Kind of EUT : Wireless PDA  
Model No. : PV200  
Serial No. : 5  
Report No. : 25HE0087-HO  
Power : AC120V/60Hz  
Temp./Humi. : 24deg.C. / 30%  
Operator : Yutaka Yoshida

Mode / Remarks : Bluetooth Cont.Tx 2441MHz / Hor:Y-axis, Ver:X-axis

LIMIT : FCC15C §15.209, 3m, below1GHz / RSS-210  
Except for the data below : adeauate margin data below the limits.



| Frequency | Reading | DET | Antenna Factor | Loss & Gain | Level    | Angle | Height | Polar. | Limit    | Margin |
|-----------|---------|-----|----------------|-------------|----------|-------|--------|--------|----------|--------|
| [MHz]     | [dBuV]  |     | [dB/m]         | [dB]        | [dBuV/m] | [Deg] | [cm]   |        | [dBuV/m] | [dB]   |
| 58.431    | 31.7    | QP  | 8.9            | -20.1       | 20.5     | 161   | 331    | Hori.  | 40.0     | 19.5   |
| 58.442    | 39.5    | QP  | 8.9            | -20.1       | 28.3     | 76    | 100    | Vert.  | 40.0     | 11.7   |
| 66.786    | 37.8    | QP  | 7.5            | -19.8       | 25.5     | 154   | 267    | Hori.  | 40.0     | 14.5   |
| 66.785    | 43.4    | QP  | 7.5            | -19.8       | 31.1     | 213   | 100    | Vert.  | 40.0     | 8.9    |
| 70.967    | 37.7    | QP  | 7.0            | -19.8       | 24.9     | 181   | 259    | Hori.  | 40.0     | 15.1   |
| 70.955    | 41.0    | QP  | 7.0            | -19.8       | 28.2     | 162   | 100    | Vert.  | 40.0     | 11.8   |
| 75.130    | 25.8    | QP  | 6.9            | -19.6       | 13.1     | -1    | 308    | Hori.  | 40.0     | 26.9   |
| 75.135    | 27.6    | QP  | 6.9            | -19.6       | 14.9     | 241   | 100    | Vert.  | 40.0     | 25.1   |
| 79.299    | 33.2    | QP  | 6.9            | -19.6       | 20.5     | 189   | 252    | Hori.  | 40.0     | 19.5   |
| 79.310    | 33.9    | QP  | 6.9            | -19.6       | 21.2     | 234   | 100    | Vert.  | 40.0     | 18.8   |
| 112.698   | 32.0    | QP  | 12.2           | -19.0       | 25.2     | 0     | 249    | Hori.  | 43.5     | 18.3   |
| 112.699   | 44.6    | QP  | 12.2           | -19.0       | 37.8     | 256   | 100    | Vert.  | 43.5     | 5.7    |

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)

## Radiated Spurious Emission

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

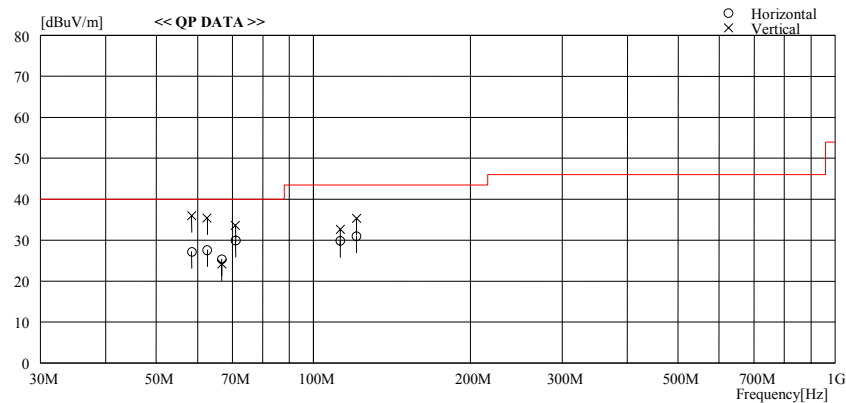
### DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
Date : 2006/03/23 17:57:29

Company : Sharp Corporation  
Kind of EUT : Wireless PDA  
Model No. : PV200  
Serial No. : 5  
Report No. : 25HE0087-HO  
Power : AC120V/60Hz  
Temp./Humi. : 24deg. C. / 30%  
Operator : Yutaka Yoshida

Mode / Remarks : Bluetooth Cont. Tx 2480MHz / Hor:Y-axis, Ver:X-axis

LIMIT : FCC15C §15.209, 3m, below1GHz / RSS-210  
Except for the data below : adequate margin data below the limits.



| 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]   |
| 58.436    | 38.4    | QP  | 8.9     | -20.1 | 27.2     | 147   | 322    | Hori.  | 40.0     | 12.8   |
| 58.440    | 47.2    | QP  | 8.9     | -20.1 | 36.0     | 61    | 100    | Vert.  | 40.0     | 4.0    |
| 62.617    | 39.3    | QP  | 8.2     | -19.9 | 27.6     | 162   | 317    | Hori.  | 40.0     | 12.4   |
| 62.619    | 47.1    | QP  | 8.2     | -19.9 | 35.4     | 248   | 100    | Vert.  | 40.0     | 4.6    |
| 66.783    | 37.7    | QP  | 7.5     | -19.8 | 25.4     | 176   | 243    | Hori.  | 40.0     | 14.6   |
| 66.782    | 36.5    | QP  | 7.5     | -19.8 | 24.2     | 213   | 100    | Vert.  | 40.0     | 15.8   |
| 70.956    | 42.7    | QP  | 7.0     | -19.8 | 29.9     | 360   | 243    | Hori.  | 40.0     | 10.1   |
| 70.961    | 46.4    | QP  | 7.0     | -19.8 | 33.6     | 243   | 100    | Vert.  | 40.0     | 6.4    |
| 112.704   | 36.6    | QP  | 12.2    | -19.0 | 29.8     | 0     | 259    | Hori.  | 43.5     | 13.7   |
| 112.699   | 39.4    | QP  | 12.2    | -19.0 | 32.6     | 280   | 100    | Vert.  | 43.5     | 10.9   |
| 121.051   | 36.6    | QP  | 13.2    | -18.8 | 31.0     | 154   | 160    | Hori.  | 43.5     | 12.5   |
| 121.046   | 40.9    | QP  | 13.2    | -18.8 | 35.3     | 180   | 100    | Vert.  | 43.5     | 8.2    |

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.

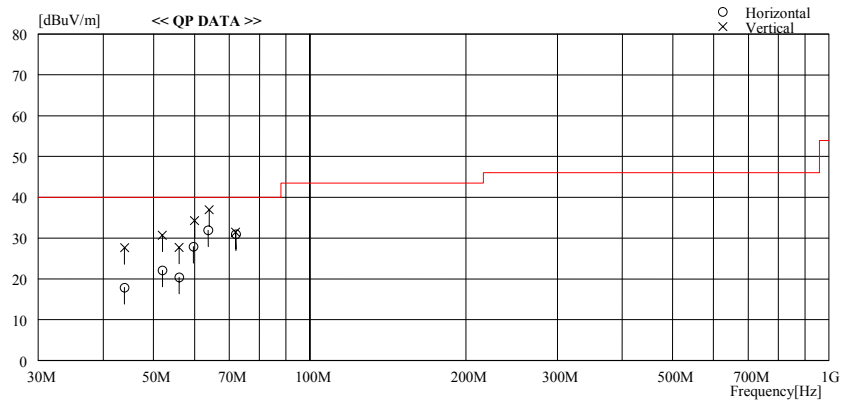
## DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber  
Date : 2006/03/25 10:30:16

Company : Sharp Corporation  
Kind of EUT : Wireless PDA  
Model No. : PV200  
Serial No. : 5  
Report No. : 25HE0087-HO  
Power : AC120V/60Hz  
Temp./Humi. : 24deg. C. / 30%  
Operator : Yutaka Yoshida

Mode / Remarks : Bluetooth Cont. Rx 2441MHz / Hor:Y-axis, Ver:X-axis

LIMIT : FCC15C §15.209, 3m, below1GHz / RSS-Gen  
Except for the data below : adequate margin data below the limits.



| 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]   |
| 44.000    | 27.9    | QP  | 12.1    | -22.1 | 17.9     | 291   | 360    | Hori.  | 40.0     | 22.1   |
| 44.000    | 37.6    | QP  | 12.1    | -22.1 | 27.6     | 7     | 100    | Vert.  | 40.0     | 12.4   |
| 52.000    | 34.4    | QP  | 9.7     | -22.0 | 22.1     | 298   | 367    | Hori.  | 40.0     | 17.9   |
| 52.000    | 43.0    | QP  | 9.7     | -22.0 | 30.7     | 7     | 100    | Vert.  | 40.0     | 9.3    |
| 56.001    | 33.5    | QP  | 8.9     | -22.0 | 20.4     | 300   | 300    | Hori.  | 40.0     | 19.6   |
| 56.001    | 40.8    | QP  | 8.9     | -22.0 | 27.7     | 360   | 100    | Vert.  | 40.0     | 12.3   |
| 59.700    | 41.4    | QP  | 8.3     | -21.8 | 27.9     | 291   | 352    | Hori.  | 40.0     | 12.1   |
| 60.000    | 47.8    | QP  | 8.2     | -21.8 | 34.2     | 352   | 100    | Vert.  | 40.0     | 5.8    |
| 63.750    | 46.2    | QP  | 7.6     | -21.9 | 31.9     | 295   | 391    | Hori.  | 40.0     | 8.1    |
| 64.001    | 51.4    | QP  | 7.5     | -21.9 | 37.0     | 201   | 100    | Vert.  | 40.0     | 3.0    |
| 72.000    | 46.0    | QP  | 6.5     | -21.5 | 31.0     | 295   | 400    | Hori.  | 40.0     | 9.0    |
| 72.001    | 46.4    | QP  | 6.5     | -21.5 | 31.4     | 220   | 100    | Vert.  | 40.0     | 8.6    |

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

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

|                                      |                                             |  |
|--------------------------------------|---------------------------------------------|--|
| Company : Sharp Corporation          | REPORT NO : 25HE0087-HO                     |  |
| Equipment : Wireless PDA             | REGULATION : Fcc Part15 Subpart C 15.247(d) |  |
| Model : PV200                        | TEST DISTANCE : 3/1m                        |  |
| Sample No. : 5                       | DATE : March 9, 2006                        |  |
| Power : AC 120 V / 60 Hz(AC Adapter) | TEMPERATURE : 24deg.C                       |  |
| Mode : Bluetooth, Tx 2402MHz         | HUMIDITY : 30%                              |  |
| Remarks : Hor:Y-axis, Ver:X-axis     | ENGINEER : Yutaka Yoshida                   |  |

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

| No.                                                                                               | FREQ    | S/A READING |           | ANT<br>Factor | AMP<br>GAIN | CABLE<br>LOSS | Hi-Pass<br>Filter | RESULT   |      | Limit<br>PK | MARGIN |      |
|---------------------------------------------------------------------------------------------------|---------|-------------|-----------|---------------|-------------|---------------|-------------------|----------|------|-------------|--------|------|
|                                                                                                   |         | HOR         | VER       |               |             |               |                   | HOR      | VER  |             | HOR    | VER  |
|                                                                                                   | [MHz]   | [dBuV]      |           | [dB/m]        | [dB]        | [dB]          | [dBuV/m]          | [dBuV/m] | [dB] |             |        |      |
| Test distance 3meters    RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss        |         |             |           |               |             |               |                   |          |      |             |        |      |
| 1                                                                                                 | 2390.0  | 44.3        | 44.0      | 30.5          | 36.3        | 3.2           | 0.0               | 41.7     | 41.4 | 74.0        | 32.3   | 32.6 |
| 2                                                                                                 | 4804.0  | 42.7        | 43.3      | 35.3          | 35.9        | 4.4           | 1.4               | 47.9     | 48.5 | 74.0        | 26.1   | 25.5 |
| 3                                                                                                 | 7206.0  | 42.9        | 44.3      | 37.6          | 35.8        | 5.3           | 1.2               | 51.2     | 52.6 | 74.0        | 22.8   | 21.4 |
| 4                                                                                                 | 9608.0  | 43.1        | 43.2      | 36.6          | 36.4        | 6.1           | 1.0               | 50.4     | 50.5 | 74.0        | 23.6   | 23.5 |
| Test distance 1meters    RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac |         |             |           |               |             |               |                   |          |      |             |        |      |
| 5                                                                                                 | 12010.0 | Not found   | Not found | -             | -           | -             | -                 | -        | -    | 74.0        | -      | -    |
| 6                                                                                                 | 14412.0 | Not found   | Not found | -             | -           | -             | -                 | -        | -    | 74.0        | -      | -    |
| 7                                                                                                 | 16814.0 | Not found   | Not found | -             | -           | -             | -                 | -        | -    | 74.0        | -      | -    |
| 8                                                                                                 | 19216.0 | Not found   | Not found | -             | -           | -             | -                 | -        | -    | 74.0        | -      | -    |
| 9                                                                                                 | 21618.0 | Not found   | Not found | -             | -           | -             | -                 | -        | -    | 74.0        | -      | -    |
| 10                                                                                                | 24020.0 | 46.5        | 46.2      | 39.7          | 35.4        | 5.9           | 0.0               | 47.2     | 46.9 | 74.0        | 26.8   | 27.1 |

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

| No.                                                                                               | FREQ<br><br>[MHz] | S/A READING |           | ANT<br>Factor<br>[dB/m] | AMP<br>GAIN<br>[dB] | CABLE<br>LOSS<br>[dB] | Hi-Pass<br>Filter<br>[dB] | RESULT   |      | Limit<br>AV<br>[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                                                                                                 | 2390.0            | 31.0        | 30.9      | 30.5                    | 36.3                | 3.2                   | 0.0                       | 28.4     | 28.3 | 54.0                    | 25.6   | 25.7 |
| 2                                                                                                 | 4804.0            | 29.8        | 29.8      | 35.3                    | 35.9                | 4.4                   | 1.4                       | 35.0     | 35.0 | 54.0                    | 19.0   | 19.0 |
| 3                                                                                                 | 7206.0            | 29.6        | 29.6      | 37.6                    | 35.8                | 5.3                   | 1.2                       | 37.9     | 37.9 | 54.0                    | 16.1   | 16.1 |
| 4                                                                                                 | 9608.0            | 30.1        | 30.2      | 36.6                    | 36.4                | 6.1                   | 1.0                       | 37.4     | 37.5 | 54.0                    | 16.6   | 16.5 |
| Test distance 1meters    RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac |                   |             |           |                         |                     |                       |                           |          |      |                         |        |      |
| 5                                                                                                 | 12010.0           | Not found   | Not found | -                       | -                   | -                     | -                         | -        | -    | 54.0                    | -      | -    |
| 6                                                                                                 | 14412.0           | Not found   | Not found | -                       | -                   | -                     | -                         | -        | -    | 54.0                    | -      | -    |
| 7                                                                                                 | 16814.0           | Not found   | Not found | -                       | -                   | -                     | -                         | -        | -    | 54.0                    | -      | -    |
| 8                                                                                                 | 19216.0           | Not found   | Not found | -                       | -                   | -                     | -                         | -        | -    | 54.0                    | -      | -    |
| 9                                                                                                 | 21618.0           | Not found   | Not found | -                       | -                   | -                     | -                         | -        | -    | 54.0                    | -      | -    |
| 10                                                                                                | 24020.0           | 31.9        | 31.9      | 39.7                    | 35.4                | 5.9                   | 0.0                       | 32.6     | 32.6 | 54.0                    | 21.4   | 21.4 |

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

| No.                                                                                        | FREQ<br><br>[MHz] | S/A READING |      | ANT<br>Factor<br>[dB/m] | AMP<br>GAIN<br>[dB] | CABLE<br>LOSS<br>[dB] | Hi-Pass<br>Filter<br>[dB] | RESULT   |      | Limit<br>20dBc<br>[dBuV/m] | MARGIN |      |
|--------------------------------------------------------------------------------------------|-------------------|-------------|------|-------------------------|---------------------|-----------------------|---------------------------|----------|------|----------------------------|--------|------|
|                                                                                            |                   | HOR         | VER  |                         |                     |                       |                           | HOR      | VER  |                            | HOR    | VER  |
|                                                                                            |                   | [dBuV]      |      |                         |                     |                       |                           | [dBuV/m] |      |                            | [dB]   |      |
| Test distance 3meters    RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss |                   |             |      |                         |                     |                       |                           |          |      |                            |        |      |
| 0                                                                                          | 2402.0            | 98.0        | 98.6 | 30.5                    | 36.3                | 3.2                   | 0.0                       | 95.4     | 96.0 | -                          | -      | -    |
| 2                                                                                          | 2400.0            | 39.3        | 36.9 | 30.5                    | 36.3                | 3.2                   | 0.0                       | 36.7     | 34.3 | Funda-20dB                 | 38.7   | 41.7 |

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

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

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

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

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

**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(01.06.05)

## Radiated Spurious Emission

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

|                                      |                                             |
|--------------------------------------|---------------------------------------------|
| Company : Sharp Corporation          | REPORT NO : 25HE0087-HO                     |
| Equipment : Wireless PDA             | REGULATION : Fcc Part15 Subpart C 15.247(d) |
| Model : PV200                        | TEST DISTANCE : 3/1m                        |
| Sample No. : 5                       | DATE : March 9, 2006                        |
| Power : AC 120 V / 60 Hz(AC Adapter) | TEMPERATURE : 24deg.C                       |
| Mode : Bluetooth, Tx 2441MHz         | HUMIDITY : 30%                              |
| Remarks : Hor:Y-axis, Ver:X-axis     | ENGINEER : Yutaka Yoshida                   |

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

| No.                                                                                               | FREQ<br>[MHz] | S/A READING |           | ANT<br>Factor<br>[dB/m] | AMP<br>GAIN<br>[dB] | CABLE<br>LOSS<br>[dB] | Hi-Pass<br>Filter<br>[dB] | RESULT   |      | Limit<br>PK<br>[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                                                                                                 | 4882.0        | 42.8        | 42.6      | 35.6                    | 35.9                | 4.4                   | 1.4                       | 48.3     | 48.1 | 74.0                    | 25.7   | 25.9 |
| 2                                                                                                 | 7323.0        | 42.8        | 42.3      | 37.7                    | 35.8                | 5.4                   | 1.1                       | 51.2     | 50.7 | 74.0                    | 22.8   | 23.3 |
| 3                                                                                                 | 9764.0        | 43.3        | 42.8      | 36.5                    | 36.5                | 6.1                   | 1.1                       | 50.5     | 50.0 | 74.0                    | 23.5   | 24.0 |
| Test distance 1meters    RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac |               |             |           |                         |                     |                       |                           |          |      |                         |        |      |
| 5                                                                                                 | 12205.0       | Not found   | Not found | -                       | -                   | -                     | -                         | -        | -    | 74.0                    | -      | -    |
| 6                                                                                                 | 14646.0       | Not found   | Not found | -                       | -                   | -                     | -                         | -        | -    | 74.0                    | -      | -    |
| 7                                                                                                 | 17087.0       | Not found   | Not found | -                       | -                   | -                     | -                         | -        | -    | 74.0                    | -      | -    |
| 8                                                                                                 | 19528.0       | Not found   | Not found | -                       | -                   | -                     | -                         | -        | -    | 74.0                    | -      | -    |
| 9                                                                                                 | 21969.0       | Not found   | Not found | -                       | -                   | -                     | -                         | -        | -    | 74.0                    | -      | -    |
| 10                                                                                                | 24410.0       | 45.5        | 45.7      | 39.8                    | 35.9                | 5.8                   | 0.0                       | 45.7     | 45.9 | 74.0                    | 28.3   | 28.1 |

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

| No.                                                                                               | FREQ<br><br>[MHz] | S/A READING |           | ANT<br>Factor<br>[dB/m] | AMP<br>GAIN<br>[dB] | CABLE<br>LOSS<br>[dB] | Hi-Pass<br>Filter<br>[dB] | RESULT   |      | Limit<br>AV<br>[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                                                                                                 | 4882.0            | 29.1        | 29.4      | 35.6                    | 35.9                | 4.4                   | 1.4                       | 34.6     | 34.9 | 54.0                    | 19.4   | 19.1 |
| 2                                                                                                 | 7323.0            | 29.4        | 29.7      | 37.7                    | 35.8                | 5.4                   | 1.1                       | 37.8     | 38.1 | 54.0                    | 16.2   | 15.9 |
| 3                                                                                                 | 9764.0            | 29.7        | 29.7      | 36.5                    | 36.5                | 6.1                   | 1.1                       | 36.9     | 36.9 | 54.0                    | 17.1   | 17.1 |
| Test distance 1meters    RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac |                   |             |           |                         |                     |                       |                           |          |      |                         |        |      |
| 5                                                                                                 | 12205.0           | Not found   | Not found | -                       | -                   | -                     | -                         | -        | -    | 54.0                    | -      | -    |
| 6                                                                                                 | 14646.0           | Not found   | Not found | -                       | -                   | -                     | -                         | -        | -    | 54.0                    | -      | -    |
| 7                                                                                                 | 17087.0           | Not found   | Not found | -                       | -                   | -                     | -                         | -        | -    | 54.0                    | -      | -    |
| 8                                                                                                 | 19528.0           | Not found   | Not found | -                       | -                   | -                     | -                         | -        | -    | 54.0                    | -      | -    |
| 9                                                                                                 | 21969.0           | Not found   | Not found | -                       | -                   | -                     | -                         | -        | -    | 54.0                    | -      | -    |
| 10                                                                                                | 24410.0           | 32.2        | 32.2      | 39.8                    | 35.9                | 5.8                   | 0.0                       | 32.4     | 32.4 | 54.0                    | 21.6   | 21.6 |

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

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

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

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

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

**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(01.06.05)

## Radiated Spurious Emission

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

|                                      |                                             |
|--------------------------------------|---------------------------------------------|
| Company : Sharp Corporation          | REPORT NO : 25HE0087-HO                     |
| Equipment : Wireless PDA             | REGULATION : Fcc Part15 Subpart C 15.247(d) |
| Model : PV200                        | TEST DISTANCE : 3/1m                        |
| Sample No. : 5                       | DATE : March 9, 2006                        |
| Power : AC 120 V / 60 Hz(AC Adapter) | TEMPERATURE : 24deg.C                       |
| Mode : Bluetooth, Tx 2480MHz         | HUMIDITY : 30%                              |
| Remarks : Hor:Y-axis, Ver:X-axis     | ENGINEER : Yutaka Yoshida                   |

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

| No.                                                                                               | FREQ<br><br>[MHz] | S/A READING |           | ANT<br>Factor<br>[dB/m] | AMP<br>GAIN<br>[dB] | CABLE<br>LOSS<br>[dB] | Hi-Pass<br>Filter<br>[dB] | RESULT   |      | Limit<br>PK<br>[dBuV/m] | MARGIN |      |
|---------------------------------------------------------------------------------------------------|-------------------|-------------|-----------|-------------------------|---------------------|-----------------------|---------------------------|----------|------|-------------------------|--------|------|
|                                                                                                   |                   | HOR         | VER       |                         |                     |                       |                           | HOR      | VER  |                         | HOR    | VER  |
|                                                                                                   |                   | [dBuV]      |           |                         |                     |                       |                           | [dBuV/m] |      |                         | [dB]   |      |
| Test distance 3meters    RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss        |                   |             |           |                         |                     |                       |                           |          |      |                         |        |      |
| 1                                                                                                 | 2483.5            | 46.8        | 45.2      | 30.3                    | 36.3                | 3.2                   | 0.0                       | 44.0     | 42.4 | 74.0                    | 30.0   | 31.6 |
| 2                                                                                                 | 4960.0            | 43.0        | 43.3      | 35.9                    | 35.8                | 4.4                   | 1.4                       | 48.9     | 49.2 | 74.0                    | 25.1   | 24.8 |
| 3                                                                                                 | 7440.0            | 42.7        | 43.1      | 37.8                    | 35.8                | 5.5                   | 1.1                       | 51.3     | 51.7 | 74.0                    | 22.7   | 22.3 |
| 4                                                                                                 | 9920.0            | 42.9        | 43.4      | 36.3                    | 36.6                | 6.3                   | 1.2                       | 50.1     | 50.6 | 74.0                    | 23.9   | 23.4 |
| Test distance 1meters    RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - 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           | 46.2        | 45.6      | 40.0                    | 35.4                | 5.8                   | 0.0                       | 47.1     | 46.5 | 74.0                    | 26.9   | 27.5 |

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

| No.                                                                                               | FREQ<br><br>[MHz] | S/A READING |           | ANT<br>Factor<br>[dB/m] | AMP<br>GAIN<br>[dB] | CABLE<br>LOSS<br>[dB] | Hi-Pass<br>Filter<br>[dB] | RESULT   |      | Limit<br>AV<br>[dBuV/m] | MARGIN |      |
|---------------------------------------------------------------------------------------------------|-------------------|-------------|-----------|-------------------------|---------------------|-----------------------|---------------------------|----------|------|-------------------------|--------|------|
|                                                                                                   |                   | HOR         | VER       |                         |                     |                       |                           | HOR      | VER  |                         | HOR    | VER  |
|                                                                                                   |                   | [dBuV]      |           |                         |                     |                       |                           | [dBuV/m] |      |                         | [dB]   |      |
| Test distance 3meters    RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss        |                   |             |           |                         |                     |                       |                           |          |      |                         |        |      |
| 1                                                                                                 | 2483.5            | 42.0        | 37.9      | 30.3                    | 36.3                | 3.2                   | 0.0                       | 39.2     | 35.1 | 54.0                    | 14.8   | 18.9 |
| 2                                                                                                 | 4960.0            | 29.4        | 29.4      | 35.9                    | 35.8                | 4.4                   | 1.4                       | 35.3     | 35.3 | 54.0                    | 18.7   | 18.7 |
| 3                                                                                                 | 7440.0            | 29.6        | 29.6      | 37.8                    | 35.8                | 5.5                   | 1.1                       | 38.2     | 38.2 | 54.0                    | 15.8   | 15.8 |
| 4                                                                                                 | 9920.0            | 29.6        | 29.6      | 36.3                    | 36.6                | 6.3                   | 1.2                       | 36.8     | 36.8 | 54.0                    | 17.2   | 17.2 |
| Test distance 1meters    RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - 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           | 32.4        | 32.4      | 40.0                    | 35.4                | 5.8                   | 0.0                       | 33.3     | 33.3 | 54.0                    | 20.7   | 20.7 |

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

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

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

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

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

## Radiated Spurious Emission

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

|                                      |                                             |
|--------------------------------------|---------------------------------------------|
| Company : Sharp Corporation          | REPORT NO : 25HE0087-HO                     |
| Equipment : Wireless PDA             | REGULATION : Fcc Part15 Subpart C 15.247(d) |
| Model : PV200                        | TEST DISTANCE : 3m                          |
| Sample No. : 5                       | DATE : March 27, 2006                       |
| Power : AC 120 V / 60 Hz(AC Adapter) | TEMPERATURE : 20deg.C                       |
| Mode : Bluetooth, Rx 2441MHz         | HUMIDITY : 37%                              |
| Remarks : Hor:Y-axis, Ver:X-axis     | ENGINEER : Yutaka Yoshida                   |

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

| No.                                                                                     | FREQ<br><br>[MHz] | S/A READING |      | ANT<br>Factor<br>[dB/m] | AMP<br>GAIN<br>[dB] | CABLE<br>LOSS<br>[dB] | Hi-Pass<br>Filter<br>[dB] | RESULT   |      | Limit<br>PK<br>[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                                                                                       | 2441.0            | 43.4        | 44.1 | 30.4                    | 36.3                | 3.3                   | 0.0                       | 40.8     | 41.5 | 74.0                    | 33.2   | 32.5 |
| 2                                                                                       | 4882.0            | 42.4        | 43.0 | 35.6                    | 35.9                | 5.0                   | 0.0                       | 47.1     | 47.7 | 74.0                    | 26.9   | 26.3 |
| 2                                                                                       | 7323.0            | 42.0        | 41.9 | 37.7                    | 35.8                | 6.1                   | 0.0                       | 50.0     | 49.9 | 74.0                    | 24.0   | 24.1 |
| 3                                                                                       | 9764.0            | 42.7        | 42.2 | 36.5                    | 36.5                | 7.5                   | 0.0                       | 50.2     | 49.7 | 74.0                    | 23.8   | 24.3 |

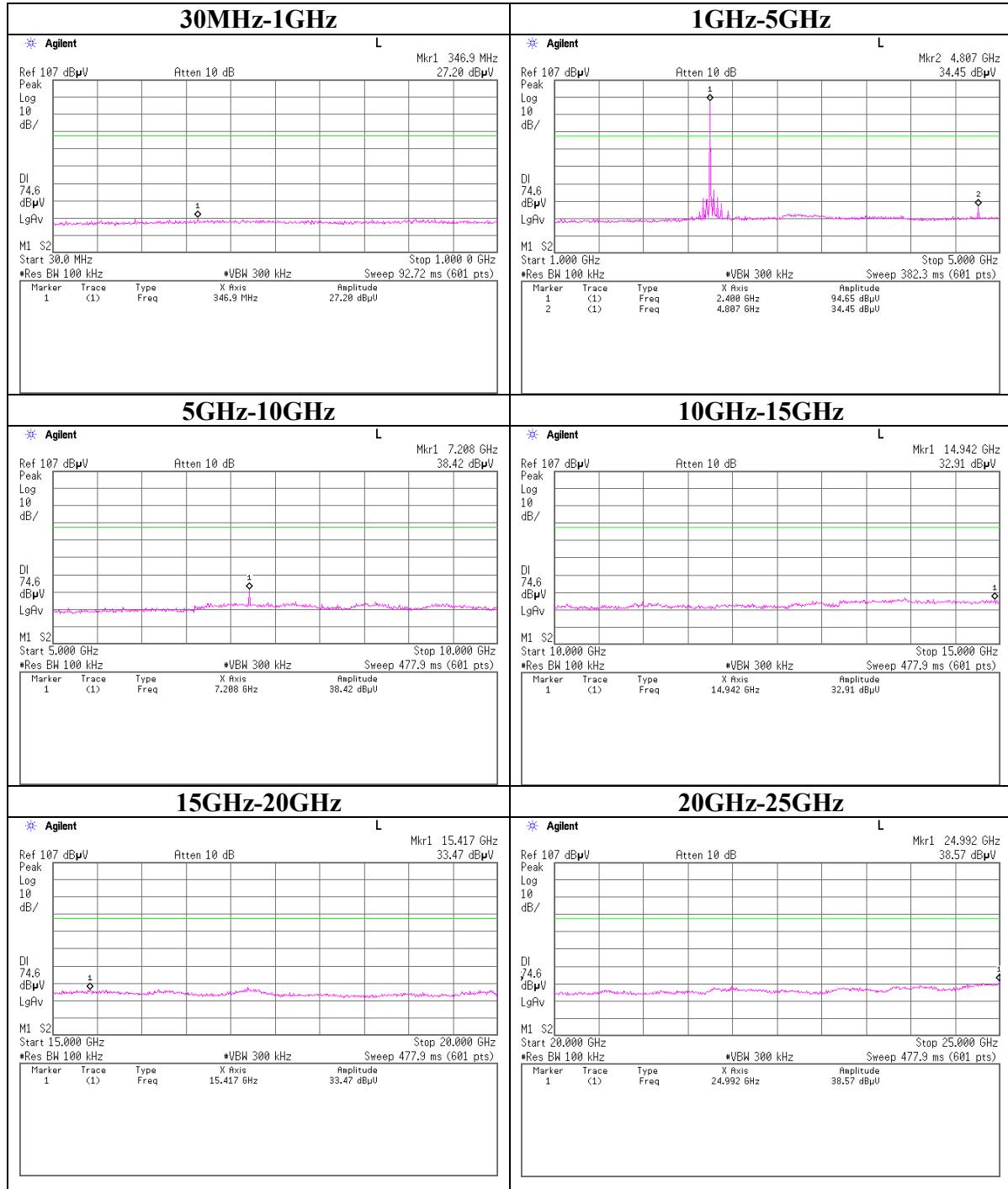
**AV DETECT** (RBW: 1MHz, VBW: 10Hz)

| No.                                                                                     | FREQ<br>[MHz] | S/A READING |      | ANT<br>Factor<br>[dB/m] | AMP<br>GAIN<br>[dB] | CABLE<br>LOSS<br>[dB] | Hi-Pass<br>Filter<br>[dB] | RESULT   |      | Limit<br>AV<br>[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                                                                                       | 2441.0        | 31.0        | 31.0 | 30.4                    | 36.3                | 3.3                   | 0.0                       | 28.4     | 28.4 | 54.0                    | 25.6   | 25.6 |
| 2                                                                                       | 4882.0        | 29.2        | 29.4 | 35.6                    | 35.9                | 5.0                   | 0.0                       | 33.9     | 34.1 | 54.0                    | 20.1   | 19.9 |
| 2                                                                                       | 7323.0        | 29.1        | 29.2 | 37.7                    | 35.8                | 6.1                   | 0.0                       | 37.1     | 37.2 | 54.0                    | 16.9   | 16.8 |
| 3                                                                                       | 9764.0        | 29.0        | 29.2 | 36.5                    | 36.5                | 7.5                   | 0.0                       | 36.5     | 36.7 | 54.0                    | 17.5   | 17.3 |

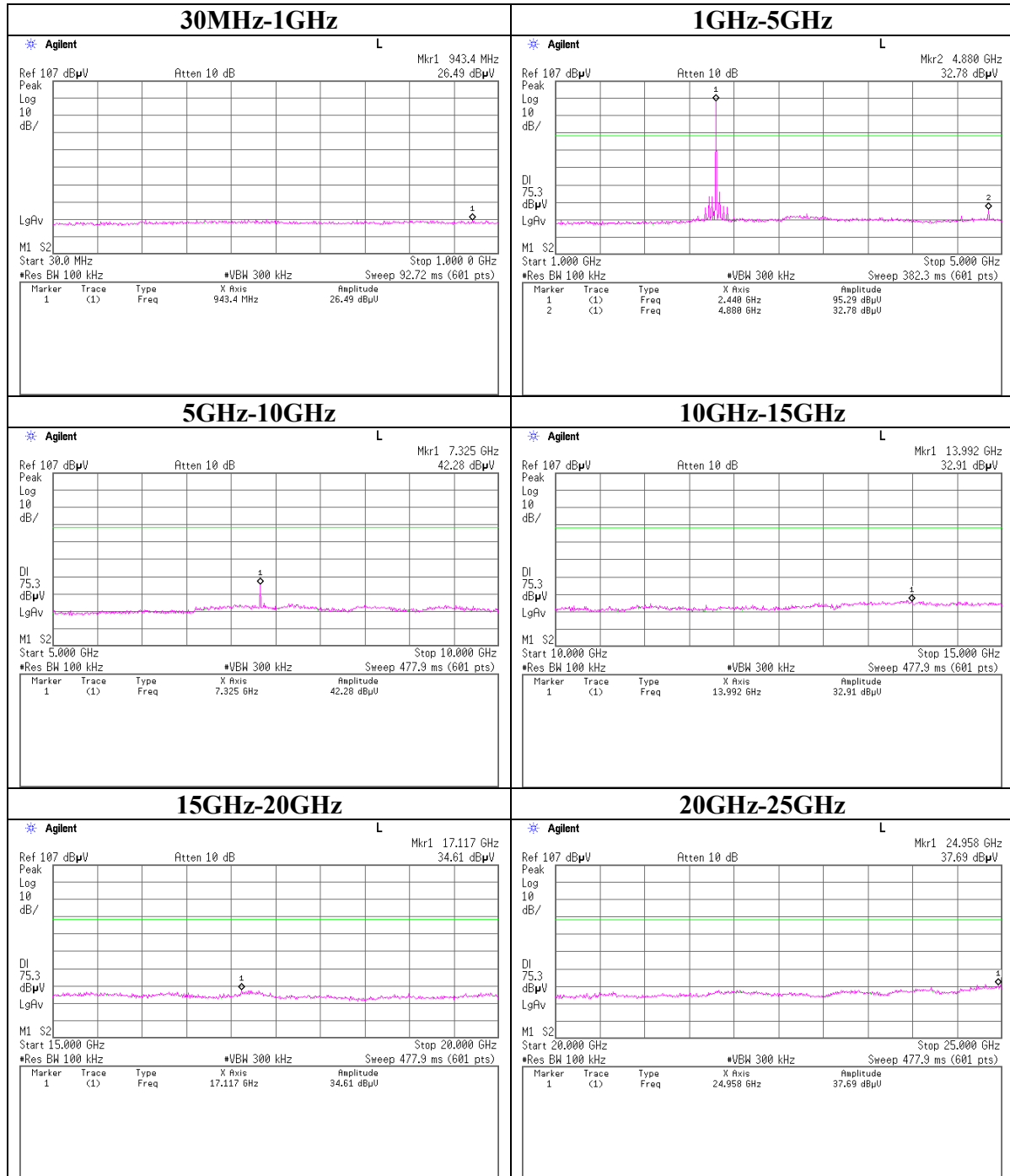
\*Except for the above table : All other spurious emissions were less than 20dB for the limit.  
\*In the frequency over the fifth harmonic, the noise from the EUT was not seen. The data above is its base noise.  
\*The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.  
\*Hi-Pass Fiter was not used for factor 0.0dB of the above table.

## Conducted Spurious Emission

Ch:Low

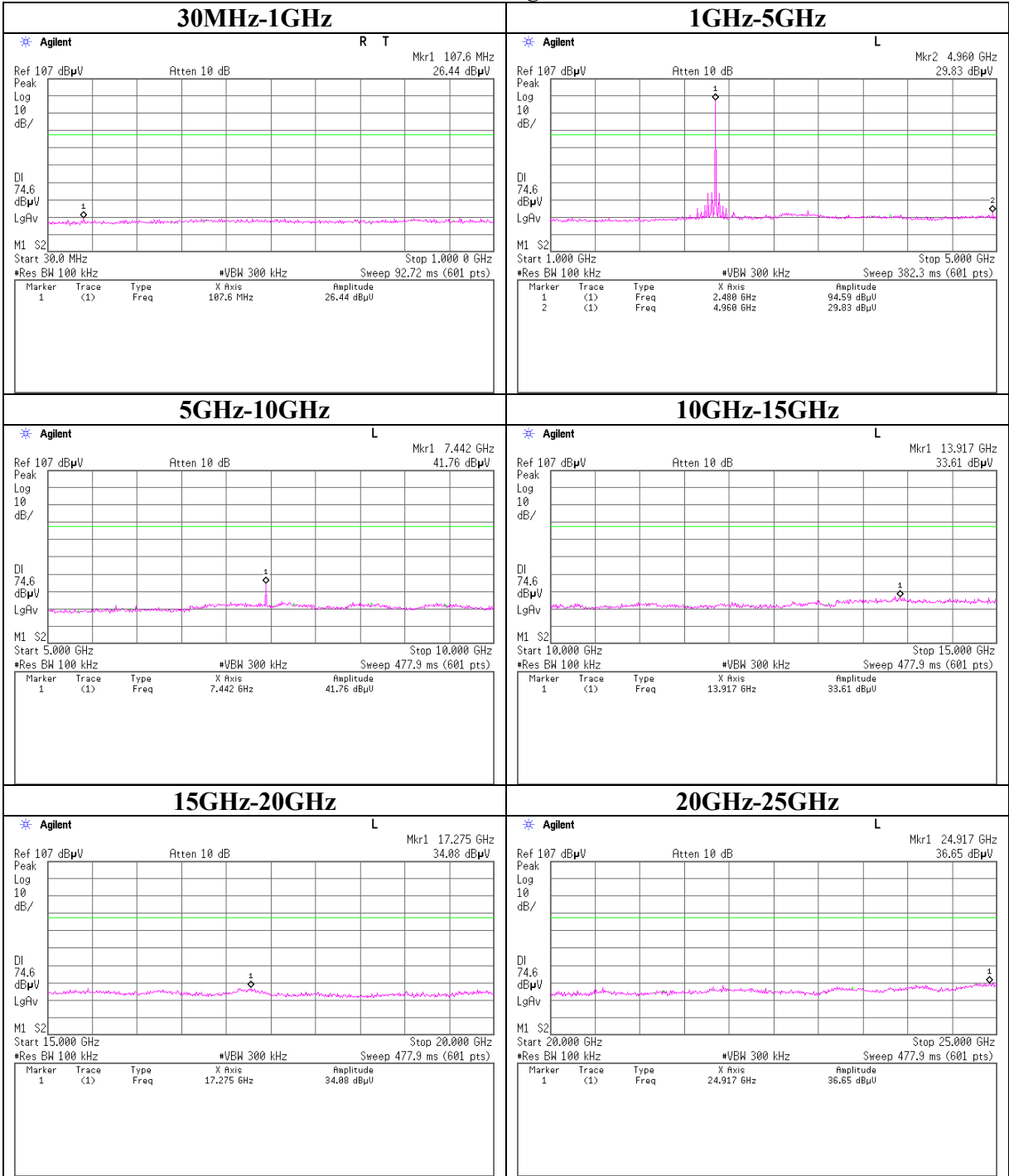


**Conducted Spurious Emission**  
**Ch:Mid**

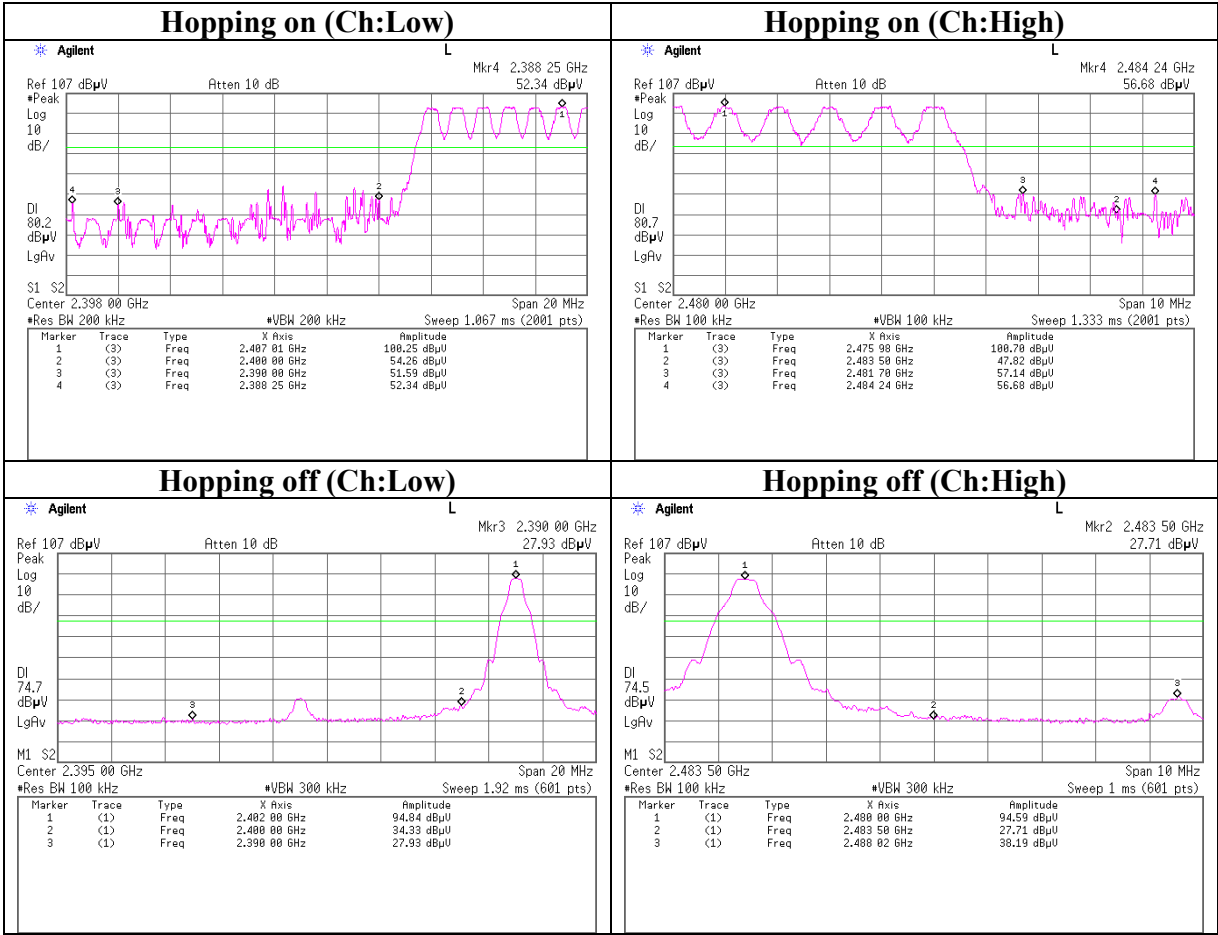


Conducted Spurious Emission

Ch:High



**Conducted Spurious Emission**  
**Band Edge compliance**



99% Occupied Bandwidth

