



## EMI TEST REPORT

Test Report No.: 26BE0270-HO-1b

Applicant : FUJITSU TEN Limited  
Type of Equipment : DISPLAY  
Model No. : BT005A  
FCC ID : BABBT005A  
Test standard : FCC Part 15 Subpart C  
Section 15.207, Section 15.247: 2005  
Test Result : Complied

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

Date of test:

Nov. 1, 2, and Dec. 8, 2005

Tested by:

Makoto Kosaka  
EMC Services

Mitsuru Fujimura  
EMC Services

Approved by :

Naoki Sakamoto  
Group Leader of  
EMC Services

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## **SECTION 1: Client information**

|                  |   |                                                         |
|------------------|---|---------------------------------------------------------|
| Company Name     | : | FUJITSU TEN Limited                                     |
| Brand Name       | : | FUJITSU TEN                                             |
| Address          | : | 2-28 Goshō-Dori 1-chome, Hyogo-ku, Kobe, 652-8510 Japan |
| Telephone Number | : | +81-78-682-2159                                         |
| Facsimile Number | : | +81-78-671-7160                                         |
| Contact Person   | : | Naoto Nishimura                                         |

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

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

|                        |   |                                                                                           |
|------------------------|---|-------------------------------------------------------------------------------------------|
| Type of Equipment      | : | DISPLAY                                                                                   |
| Model No.              | : | BT005A                                                                                    |
| Serial No.             | : | 2M-No.16                                                                                  |
| Country of Manufacture | : | Japan                                                                                     |
| Condition of EUT       | : | Production prototype<br>(Not for Sale: This sample is equivalent to mass-produced items.) |
| Rating                 | : | DC13.2V                                                                                   |
| Receipt Date of Sample | : | October 24, 2005                                                                          |

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## 2.2 Product Description

Model No: BT005A (referred to as the EUT in this report) is the DISPLAY with built-in Bluetooth. It is installed in vehicle, and displays the information on navigation, audio & visual, and others on a screen. It has the interface which can be operated by touching a screen top. Moreover, Bluetooth is used and the service linked to a cellular phone is offered.

|                                    |   |                                                                                                                                     |
|------------------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------|
| Clock frequency(ies) in the system | : | 12.55MHz, 5MHz, 4MHz for Microprocessor,<br>12.079MHz, 14.549MHz(CPU),<br>16.616MHz, 33.231MHz, 27MHz, 32.768KHz(Drawing dot clock) |
| Equipment Type                     | : | Transceiver                                                                                                                         |
| Frequency of Operation             | : | 2402-2480MHz                                                                                                                        |
| Bandwidth & Channel spacing        | : | 79MHz & 1MHz                                                                                                                        |
| Modulation                         | : | FHSS                                                                                                                                |
| Mode of Operation                  | : | Duplex                                                                                                                              |
| ITU code                           | : | F1D                                                                                                                                 |
| Power Supply                       | : | DC13.2V (EUT)<br>DC3.3V (RF Module part)                                                                                            |
| Antenna Type                       | : | Reverse F type (ANT0450-16B/U-BT)                                                                                                   |
| Antenna Connector Type             | : | U.FL (SMT Type )                                                                                                                    |
| Antenna Gain                       | : | -1.26dBi                                                                                                                            |

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

The stable voltage (DC3.3V) is constantly supplied to RF Module by DC-DC converter. Therefore, this EUT complies with the requirement

### **FCC Part 15.203 Antenna requirement**

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

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### **SECTION 3: Test specification, procedures & results**

#### **3.1 Test Specification**

Test Specification : FCC Part15 Subpart C : 2005

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

### 3.2 Procedures and results

| No. | Item                         | Test Procedure                                                                               | Specification                                          | Remarks            | Deviation | Worst Margin*0)                 | Results  |
|-----|------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------|-----------|---------------------------------|----------|
| 1   | Conducted Emission           | FCC: ANSI C63.4:2003<br>7. AC powerline conducted emission measurements<br>IC: RSS-Gen 7.2.2 | FCC: Section 15.207<br>IC: RSS-Gen 7.2.2               | -                  | N/A       | N/A                             | N/A*1)   |
| 2   | Carrier Frequency Separation | FCC: ANSI C63.4:2003<br>13. Measurement of intentional radiators<br>IC: -                    | FCC: Section 15.247(a)(1)<br>IC: RSS-210 A8.1 (2)      | Conducted          | N/A       | See data.                       | Complied |
| 3   | 20dB Bandwidth               | FCC: ANSI C63.4:2003<br>13. Measurement of intentional radiators<br>IC: -                    | FCC: Section 15.247(a)(1)<br>IC: RSS-210 A8.1 (1)      | Conducted          | N/A       |                                 | Complied |
| 4   | Number of Hopping Frequency  | FCC: ANSI C63.4:2003<br>13. Measurement of intentional radiators<br>IC: -                    | FCC: Section 15.247(a)(1)(iii)<br>IC: RSS-210 A8.1 (4) | Conducted          | N/A       |                                 | Complied |
| 5   | Dwell time                   | FCC: ANSI C63.4:2003<br>13. Measurement of intentional radiators<br>IC: -                    | FCC: Section 15.247(a)(1)(iii)<br>IC: RSS-210 A8.1 (4) | Conducted          | N/A       |                                 | Complied |
| 6   | Maximum Peak Output Power    | FCC: ANSI C63.4:2003<br>13. Measurement of intentional radiators<br>IC: RSS-Gen 4.6          | FCC: Section 15.247(b)(1)<br>IC: RSS-210 A8.4 (2)      | Conducted          | N/A       |                                 | Complied |
| 7   | Band Edge Compliance         | FCC: ANSI C63.4:2003<br>13. Measurement of intentional radiators<br>IC: -                    | FCC: Section 15.247(d)<br>IC: RSS-210 A8.5             | Conducted          | N/A       |                                 | Complied |
| 8   | Spurious Emission            | FCC: ANSI C63.4:2003<br>13. Measurement of intentional radiators<br>IC: RSS-Gen 4.7          | FCC: Section 15.247(d)<br>IC: RSS-210 A8.5             | Conducted Radiated | N/A       | 0.7dB<br>(731.095MHz, Vert, QP) | Complied |

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

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

\*1) This test is not applicable, because the EUT does not have AC mains and is installed into vehicle.

#### Uncertainty:

##### Spurious Emission (Radiated)

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

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

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

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

##### Other test except Conducted Emission and Spurious Emission (Radiated)

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

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

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

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

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### 3.3 Addition to standards

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

### 3.4 Test Location

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|                            | FCC Registration Number | IC Registration Number | Width x Depth x Height (m) | Size of reference ground plane (m) / horizontal conducting plane | Other rooms      |
|----------------------------|-------------------------|------------------------|----------------------------|------------------------------------------------------------------|------------------|
| No.1 semi-anechoic chamber | 313583                  | IC4247A                | 19.2 x 11.2 x 7.7m         | 7.0 x 6.0m                                                       | Preparation room |
| No.2 semi-anechoic chamber | 846015                  | IC4247A-2              | 7.5 x 5.8 x 5.2m           | 4.0 x 4.0m                                                       | -                |
| No.3 shielded room         | -                       | -                      | 4.7 x 7.5 x 2.7m           | 4.7 x 7.5m                                                       | -                |
| No.4 measurement room      | -                       | -                      | 3.1 x 5.0 x 2.7m           | N/A                                                              | -                |

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

### 3.5 Test set up, Test instruments and Data of EMI

Refer to APPENDIX 1 to 3.

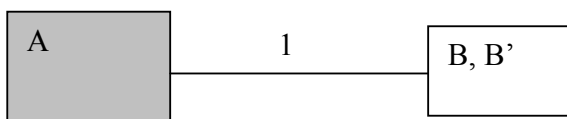
## **SECTION 4: Operation of E.U.T. during testing**

### **4.1 Operating Modes**

The mode used for test: Transmitting mode(Packet size DH5)  
Low Channel : 2402MHz  
Mid Channel : 2441MHz  
High Channel : 2480MHz  
Inquiry

\*Remarks: 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 125mWof AFH mode was used for the test.

### **4.2 Configuration and peripherals**



#### **Description of EUT and Support equipment**

| No. | Item            | Model number | Serial number | Manufacturer | FCC ID    | Remarks                              |
|-----|-----------------|--------------|---------------|--------------|-----------|--------------------------------------|
| A   | DISPLAY (EUT)   | BT005A       | 2M-No.16      | FUJITSU TEN  | BABBT005A | -                                    |
| B   | Car Battery     | 40B10L       | A030402       | YUASA        | -         | Used for Radiated Emission (RE) test |
| B'  | DC Power Supply | 6654A        | MY40000510    | Agilent      | -         | Used for other tests than RE         |

#### **List of cables used**

| No. | Name     | Length (m) | Shield |
|-----|----------|------------|--------|
| 1   | DC Cable | 1.6        | N      |

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## **SECTION 5: Spurious Emission**

### **[Conducted]**

#### **Test Procedure**

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

**Test data** : APPENDIX 3

**Test result** : Pass

### **[Radiated]**

#### **Test Procedure**

EUT was placed on a platform of nominal size, 0.5m by 1.0m, raised 80cm above the conducting ground plane.

The Radiated Electric Field Strength intensity has been measured in a Semi Anechoic Chamber with a ground plane and at a distance of 3m(Below 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 |

**Test data** : APPENDIX 3

**Test result** : Pass

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## **SECTION 6: Bandwidth**

### **Test Procedure**

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

**Test data** : APPENDIX 3

**Test result** : Pass

## **SECTION 7: Maximum Peak Output Power**

### **Test Procedure**

The test was made with the spectrum analyzer that has a function of channel-power measurements.

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

**Test data** : APPENDIX 3

**Test result** : Pass

## **SECTION 8: Carrier Frequency Separation**

### **Test Procedure**

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

**Test data** : APPENDIX 3

**Test result** : Pass

## **SECTION 9: Number of Hopping Frequency**

### **Test Procedure**

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

**Test data** : APPENDIX 3

**Test result** : Pass

## **SECTION 10: Dwell time**

### **Test Procedure**

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

**Test data** : APPENDIX 3

**Test result** : Pass

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## **APPENDIX 1: Photographs of test setup**

### **Spurious Emission (Radiated)**

**Front**



**Rear**



## **APPENDIX 2:Test instruments**

### **EMI test equipment**

| <b>Control No.</b> | <b>Instrument</b>           | <b>Manufacturer</b>      | <b>Model No</b>           | <b>Test Item</b> | <b>Calibration Date *<br/>Interval(month)</b> |
|--------------------|-----------------------------|--------------------------|---------------------------|------------------|-----------------------------------------------|
| MAEC-01            | Anechoic Chamber            | TDK                      | Semi Anechoic Chamber 10m | RE               | 2004/11/13 * 12                               |
| MTR-01             | Test Receiver               | Rohde & Schwarz          | ESI40                     | RE               | 2004/11/12 * 12                               |
| MCC-01             | Coaxial Cable 0.1-3000MHz   | Suhner/storm/Agilent/TSJ | -                         | RE               | 2004/12/19 * 12                               |
| MPA-04             | Pre Amplifier               | Agilent                  | 8447D                     | RE               | 2005/05/24 * 12                               |
| MAT-06             | Attenuator(6dB)             | Weinschel Corp           | 2                         | RE               | 2004/12/16 * 12                               |
| MBA-01             | Biconical Antenna           | Schwarzbeck              | BBA9106                   | RE               | 2005/10/10 * 12                               |
| MLA-01             | Logperiodic Antenna         | Schwarzbeck              | USLP9143                  | RE               | 2005/10/14 * 12                               |
| MCC-18             | Microwave Cable 1G-26.5GHz  | Suhner                   | SUCOFLEX 104              | RE               | 2005/02/03 * 12                               |
| MCC-26             | Microwave Cable 1G-26.5GHz  | Suhner                   | SUCOFLEX104               | RE               | 2005/08/30 * 12                               |
| MPA-05             | Pre Amplifier               | TSJ                      | TSJ 1-26.5GHz PreAmp      | RE               | 2005/07/08 * 12                               |
| MHF-02             | High Pass Filter            | Tokimec                  | TF323DCA                  | RE               | 2005/09/27 * 12                               |
| MHA-05             | Horn Antenna                | Schwarzbeck              | BBHA9120D                 | RE               | 2005/01/10 * 12                               |
| MHA-01             | Horn Antenna                | EMCO                     | 3160-09                   | RE               | 2005/01/10 * 12                               |
| MRENT-21           | Spectrum Analyzer           | Advantest                | R3273                     | AT               | 2005/08/19 * 12                               |
| MAT-23             | Attenuator(10dB)(above1GHz) | Orient Microwave         | BX10-0476-00              | AT               | 2005/03/16 * 12                               |
| MDPS-02            | DC Power Supply             | Agilent                  | 6654A                     | AT               | Pre-check                                     |
| MSA-03             | Spectrum Analyzer           | Agilent                  | E4448A                    | AT               | 2005/09/16 * 12                               |
| MAT-24             | Attenuator(10dB)(above1GHz) | Agilent                  | 8493C                     | AT               | 2005/06/03 * 12                               |

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

#### **Test Item:**

**RE: Radiated emission,**

**AT: Antenna terminal measurements**

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### **APPENDIX 3: Data of EMI test**

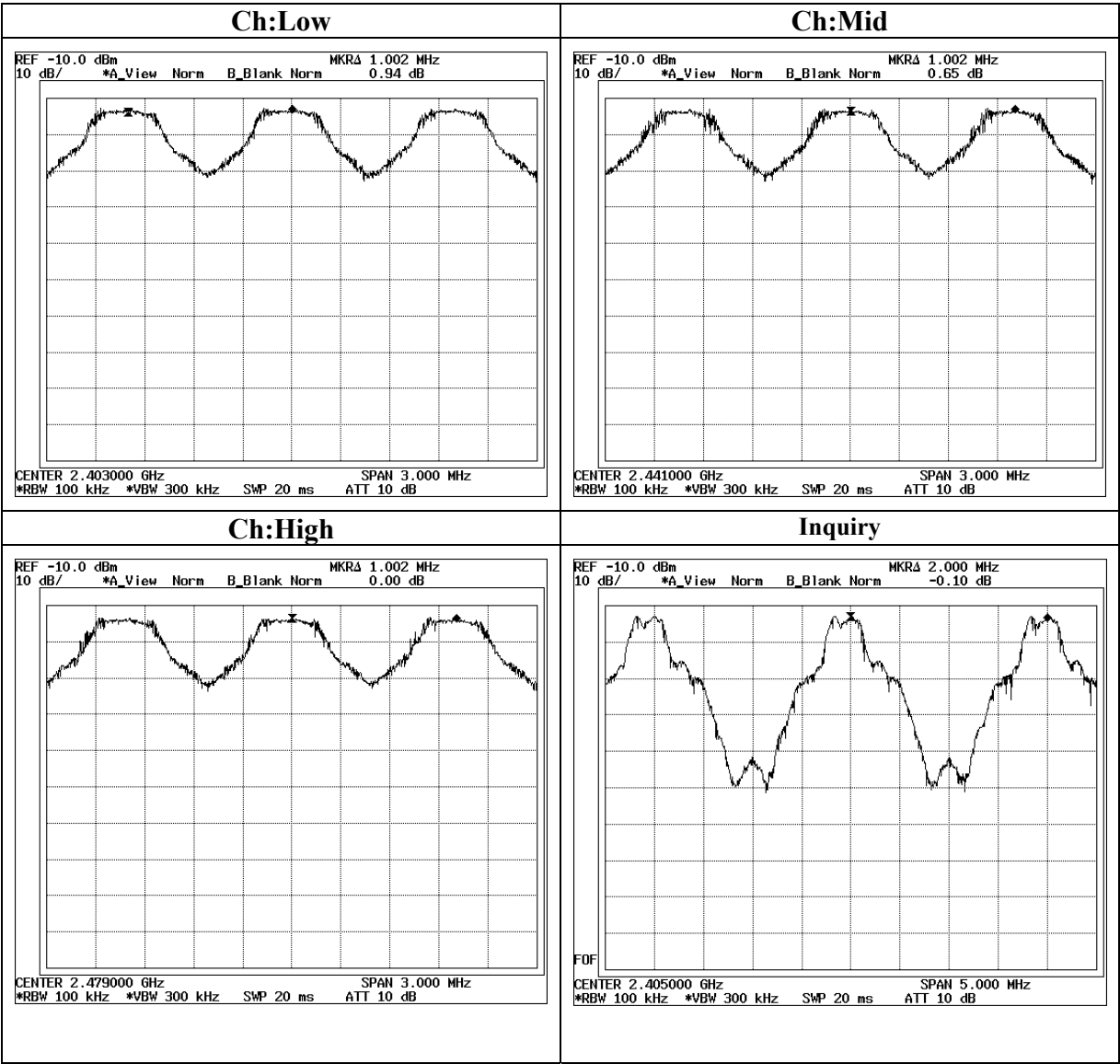
#### **Carrier Frequency Separation**

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

|           |                          |               |                                     |
|-----------|--------------------------|---------------|-------------------------------------|
| COMPANY   | : FUJITSU TEN LIMITED    | REGULATION    | : Fcc Part15 Subpart C 15.247(a)(1) |
| EQUIPMENT | : DISPLAY                | TEST DISTANCE | : -                                 |
| MODEL     | : BT005A                 | DATE          | : 11/01/2005                        |
| S/N       | : 2M-No.16               | TEMPERATURE   | : 23deg.C                           |
| POWER     | : DC13.2V                | HUMIDITY      | : 36%                               |
| MODE      | : Tx(Hopping on)/Inquiry | ENGINEER      | : Makoto Kosaka                     |

| Ch      | Freq.<br>[MHz] | Channel separation<br>[MHz] | Limit                       |
|---------|----------------|-----------------------------|-----------------------------|
| Low     | 2402.0         | 1.002                       | >20dB Bandwidth and 25[kHz] |
| Mid     | 2441.0         | 1.002                       | >20dB Bandwidth and 25[kHz] |
| High    | 2480.0         | 1.002                       | >20dB Bandwidth and 25[kHz] |
| Inquiry | 2441.0         | 2.000                       | >20dB Bandwidth and 25[kHz] |

Carrier Frequency Separation



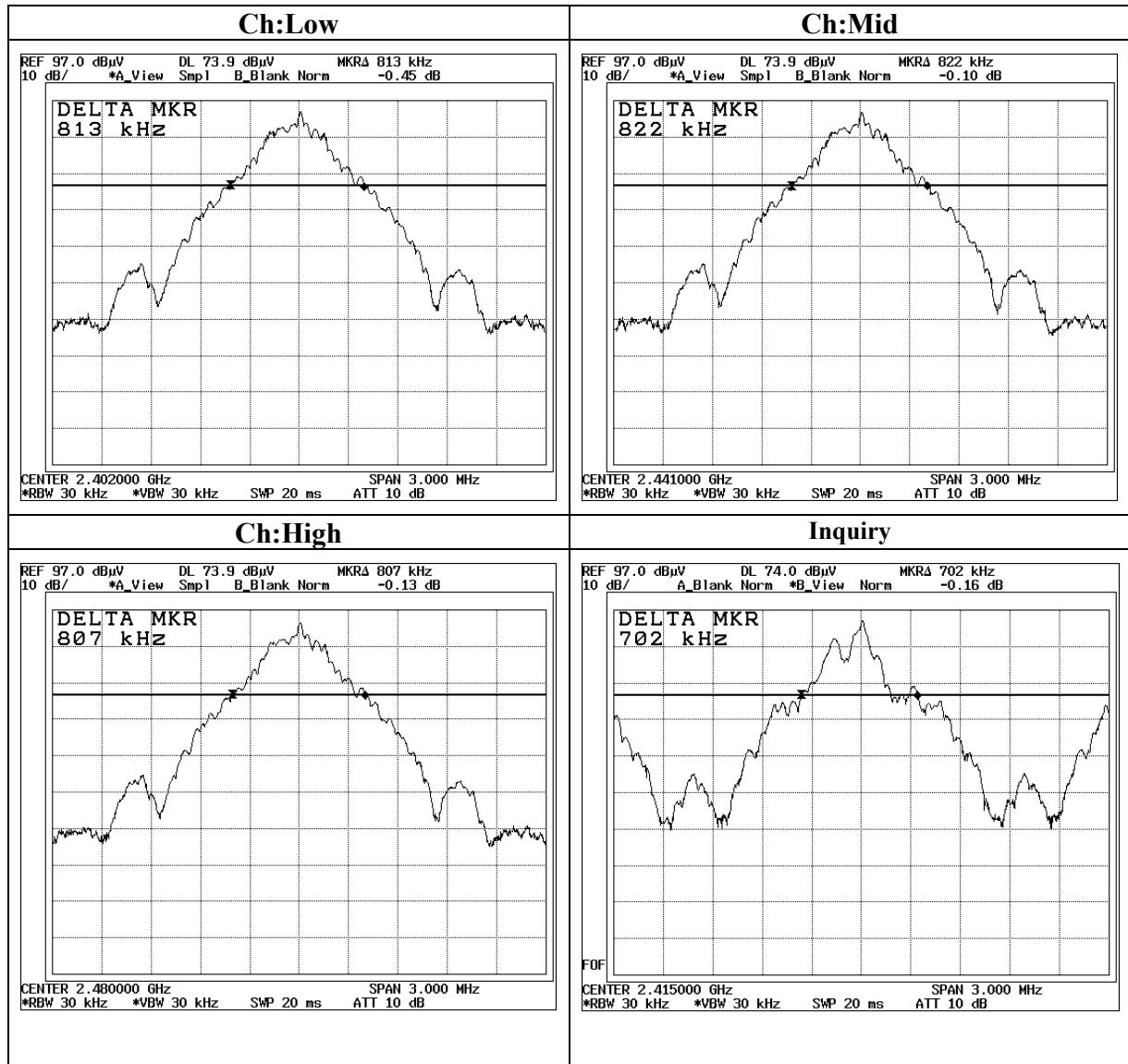
## **20dB Bandwidth**

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Head Office EMC Lab. No.3 Shielded Room

|           |                           |               |                                     |
|-----------|---------------------------|---------------|-------------------------------------|
| COMPANY   | : FUJITSU TEN LIMITED     | REGULATION    | : Fcc Part15 Subpart C 15.247(a)(1) |
| EQUIPMENT | : DISPLAY                 | TEST DISTANCE | : -                                 |
| MODEL     | : BT005A                  | DATE          | : 11/01/2005                        |
| S/ N      | : 2M-No.16                | TEMPERATURE   | : 23deg.C                           |
| POWER     | : DC13.2V                 | HUMIDITY      | : 36%                               |
| MODE      | : Tx(Hopping off)/Inquiry | ENGINEER      | : Makoto Kosaka                     |

| Ch      | Freq.  | 20dB Bandwidth | Limit |
|---------|--------|----------------|-------|
|         | [MHz]  | [MHz]          | [MHz] |
| Low     | 2402.0 | 0.813          | -     |
| Mid     | 2441.0 | 0.822          | -     |
| High    | 2480.0 | 0.807          | -     |
| Inquiry | 2441.0 | 0.702          | -     |

## 20dB Bandwidth



### Number of Hopping Frequency

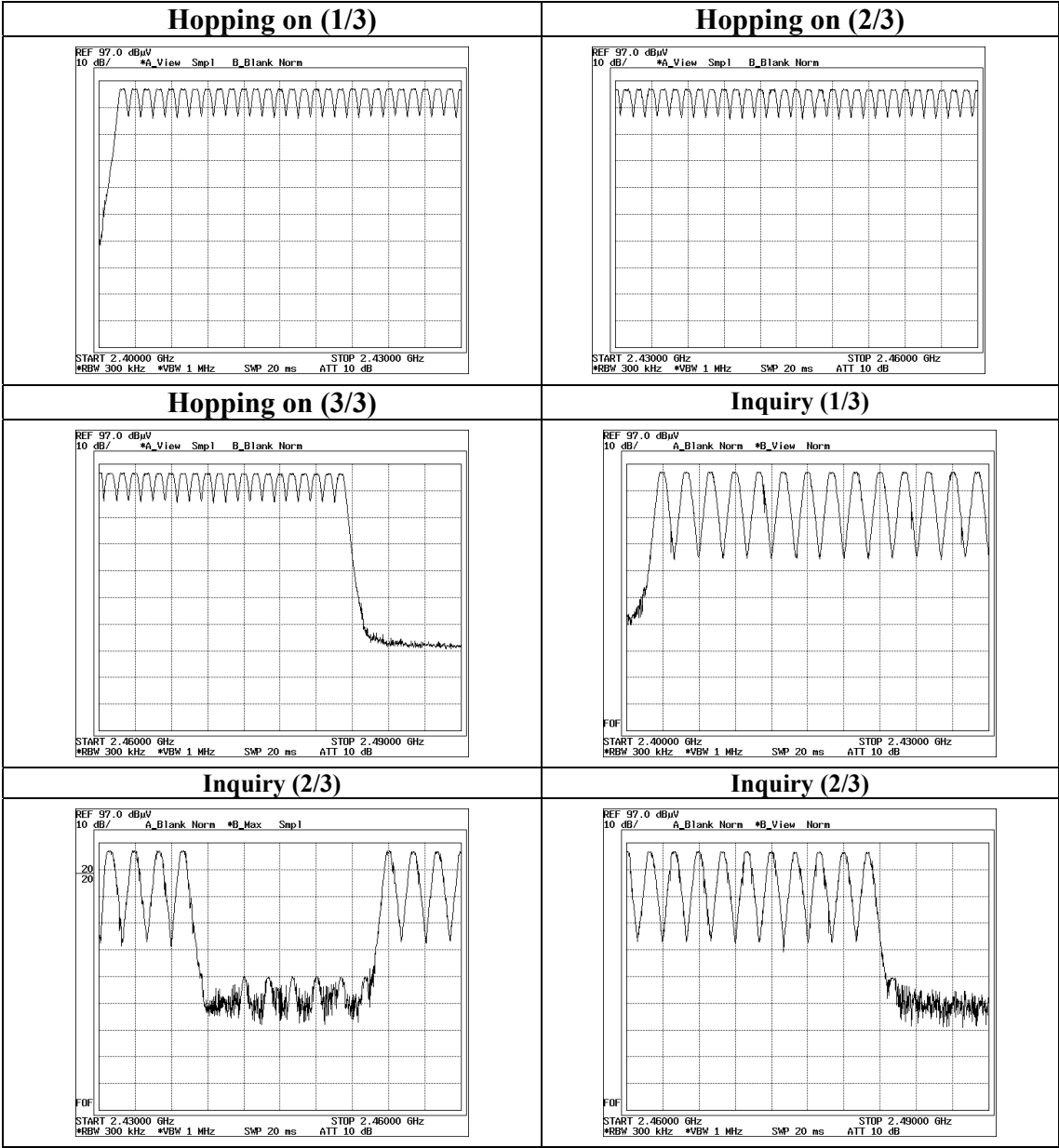
UL Apex Co., Ltd.  
Head Office EMC Lab. No.3 Shielded Room

|           |                          |               |                                          |
|-----------|--------------------------|---------------|------------------------------------------|
| COMPANY   | : FUJITSU TEN LIMITED    | REGULATION    | : Fcc Part15 Subpart C 15.247(a)(1)(iii) |
| EQUIPMENT | : DISPLAY                | TEST DISTANCE | : -                                      |
| MODEL     | : BT005A                 | DATE          | : 11/01/2005                             |
| S/ N      | : 2M-No.16               | TEMPERATURE   | : 23deg.C                                |
| POWER     | : DC13.2V                | HUMIDITY      | : 36%                                    |
| MODE      | : Tx(Hopping on)/Inquiry | ENGINEER      | : Makoto Kosaka                          |

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

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

Number of Hopping Frequency



## Dwell time

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|           |                            |               |                                          |
|-----------|----------------------------|---------------|------------------------------------------|
| COMPANY   | : FUJITSU TEN LIMITED      | REGULATION    | : Fcc Part15 Subpart C 15.247(a)(1)(iii) |
| EQUIPMENT | : DISPLAY                  | TEST DISTANCE | : -                                      |
| MODEL     | : BT005A                   | DATE          | : 11/01 and 12/08/2005                   |
| S/ N      | : 2M-No.16                 | TEMPERATURE   | : 23deg.C 26deg.C                        |
| POWER     | : DC13.2V                  | HUMIDITY      | : 36% 22%                                |
| MODE      | : Tx (Hopping on) /Inquiry | ENGINEER      | : Makoto Kosaka                          |

| 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     | 27 times /5sec. x 31.6 = 170.6 times                                                           | 0.474                                    | 81               | 400             |
| DH3     | 18 times / 5sec. x 31.6 = 113.8 times                                                          | 1.725                                    | 196              | 400             |
| DH5     | 13 times / 5 sec. x 31.6 = 82.2 times                                                          | 2.975                                    | 245              | 400             |
| Inquiry | 38times / 1sec. x 12.8 = 1280 times                                                            | 0.188                                    | 241              | 400             |

※Average data of 5 tests

## **Dwell time factor**

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

= $20\log_{10}((1.8\text{times} \times 2.975\text{ms})/100\text{ms})$

= $20\log_{10}((5.355\text{ms})/100\text{ms})$

= -25.4

---

**UL Apex Co., Ltd.**

**Head Office EMC Lab.**

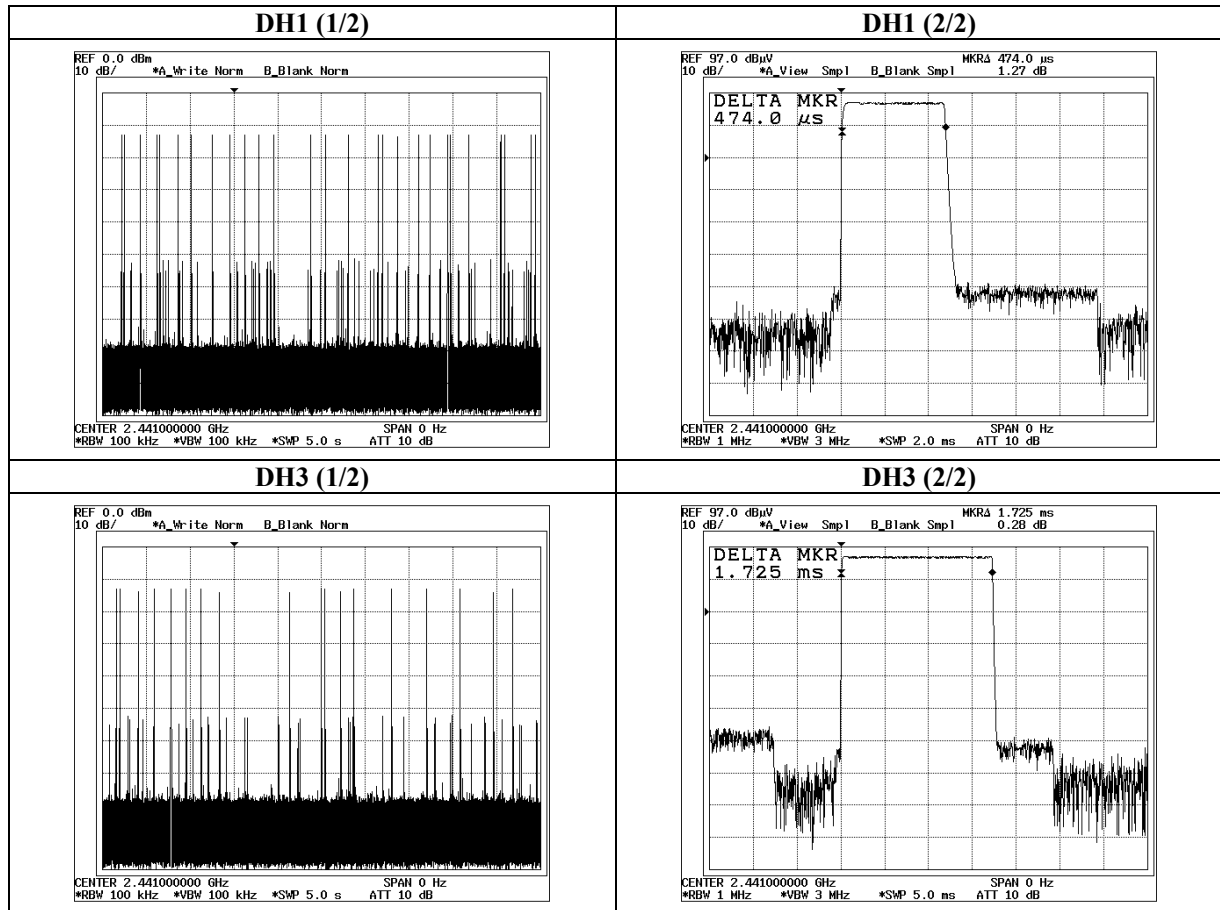
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

Telephone : +81 596 24 8116

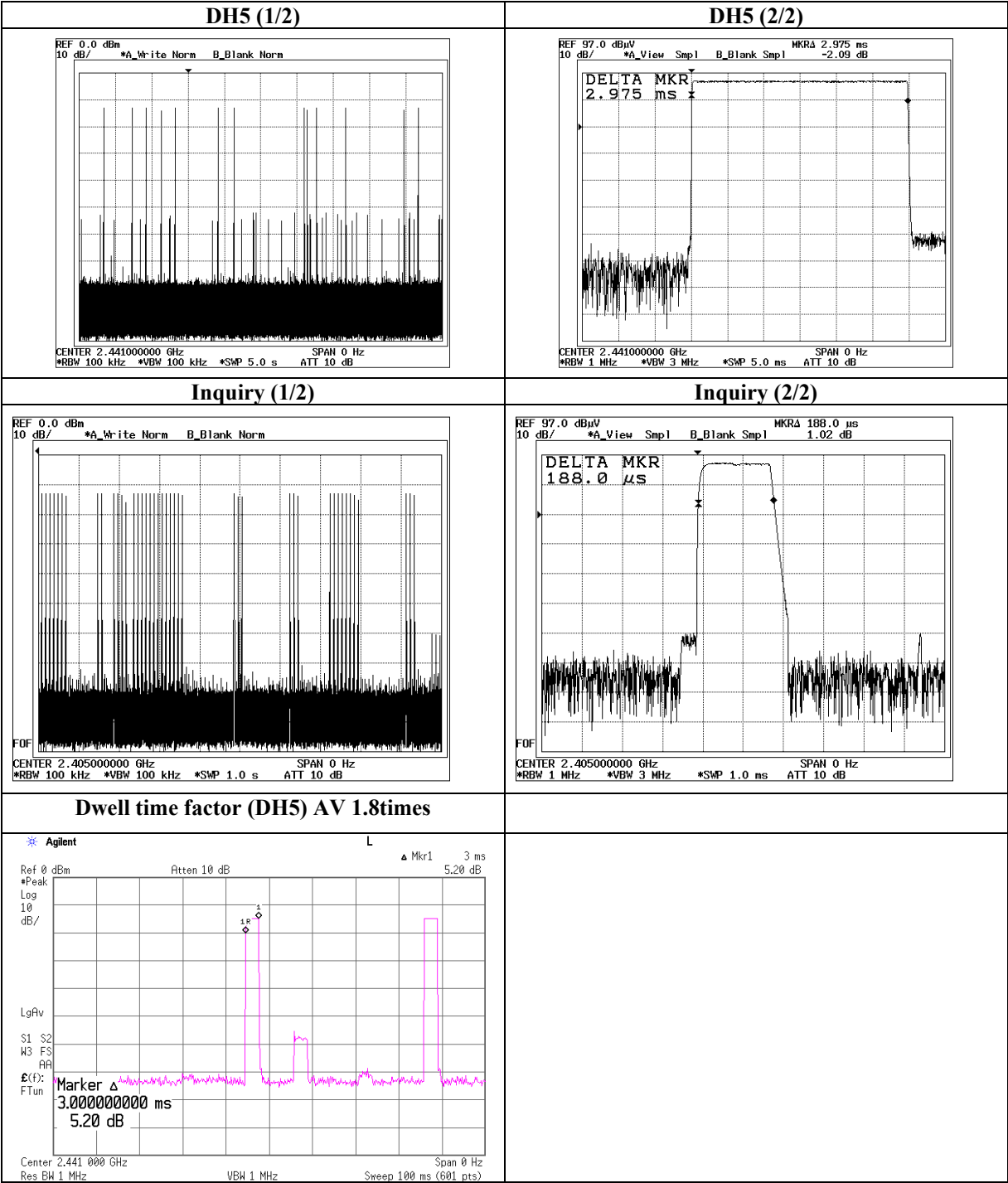
Facsimile : +81 596 24 8124

MF060b(01.06.05)

## Dwell time



Dwell time



### Maximum Peak Output Power

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

|           |                             |               |                                     |
|-----------|-----------------------------|---------------|-------------------------------------|
| COMPANY   | : FUJITSU TEN LIMITED       | REGULATION    | : Fcc Part15 Subpart C 15.247(b)(1) |
| EQUIPMENT | : DISPLAY                   | TEST DISTANCE | : -                                 |
| MODEL     | : BT005A                    | DATE          | : 11/01/2005                        |
| S/ N      | : 2M-No.16                  | TEMPERATURE   | : 23deg.C                           |
| POWER     | : DC13.2V                   | HUMIDITY      | : 36%                               |
| MODE      | : Tx (Hopping off) /Inquiry | ENGINEER      | : Makoto Kosaka                     |

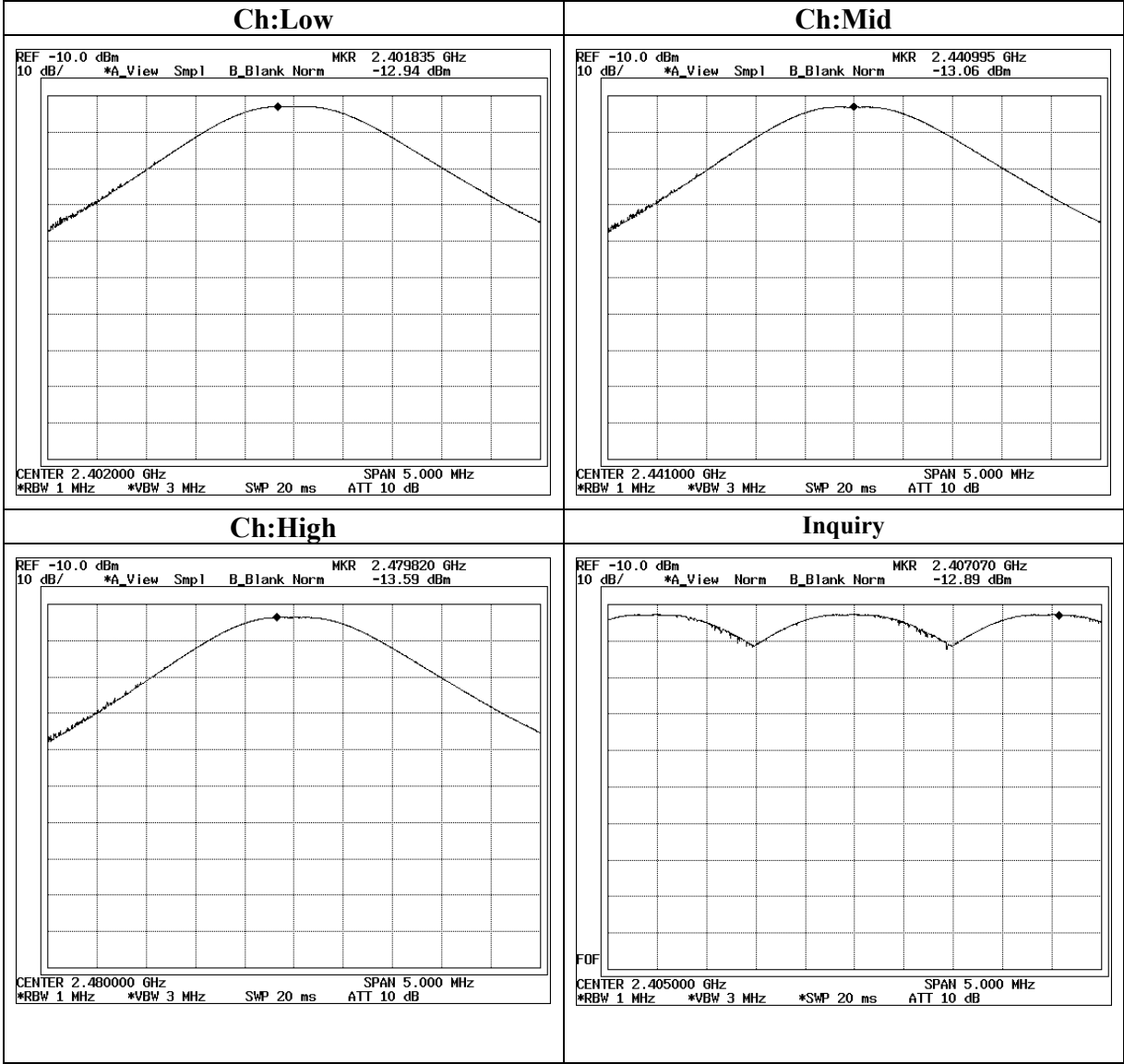
| Ch      | Freq.<br>[MHz] | S/A<br>Reading<br>[dBm] | Cable<br>Loss<br>[dB] | Atten.<br>[dB] | Result<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] |
|---------|----------------|-------------------------|-----------------------|----------------|-----------------|----------------|----------------|
| Low     | 2402.0         | -12.94                  | 0.46                  | 10.68          | -1.80           | 20.96          | 22.76          |
| Mid     | 2441.0         | -13.06                  | 0.42                  | 10.68          | -1.96           | 20.96          | 22.92          |
| High    | 2480.0         | -13.59                  | 0.39                  | 10.68          | -2.52           | 20.96          | 23.48          |
| Inquiry | 2441.0         | -12.89                  | 0.42                  | 10.68          | -1.79           | 20.96          | 22.75          |

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** **(30MHz-1GHz)**

\* 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 : 2005/11/02 00:42:58

Applicant : FUJITSU TEN Limited  
Kind of EUT : DISPLAY  
Model No. : BT005A  
Serial No. : 2M-No.16

Report No. : 26BE0270-HO  
Power : DC12V  
Temp./Humi. : 21deg.C / 40%  
Operator : Mitsuru Fujimura

Mode / Remarks : Bluetooth Transmitting 2402MHz

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV  
All other spurious emissions were less than 20dB for the limit.

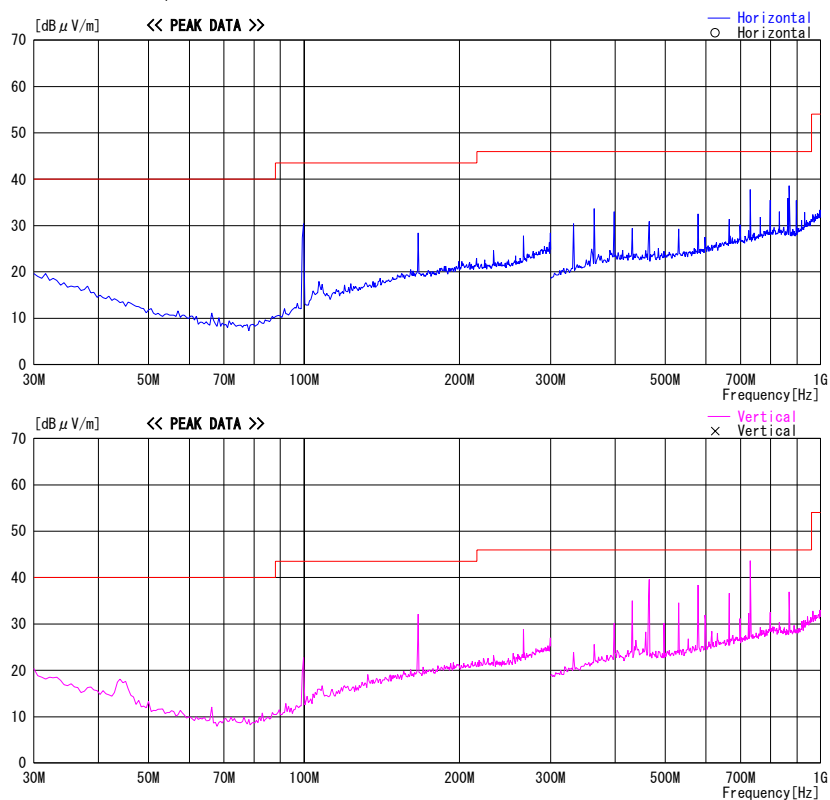


CHART:WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
CALCULATION:RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)  
Except for the data below : adequate margin data below the limits.

## Radiated Spurious Emission (30MHz-1GHz)

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

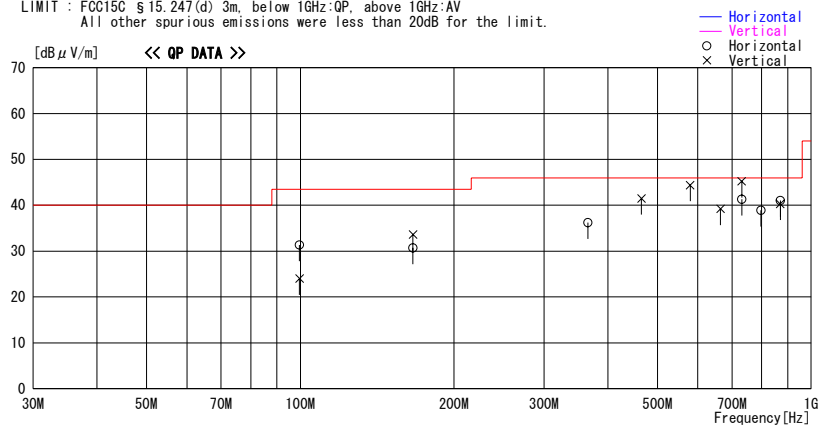
### DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
Date : 2005/11/02 00:42:58

Applicant : FUJITSU TEN Limited  
Kind of EUT : DISPLAY  
Model No. : BT005A  
Serial No. : 2M-No.16  
Report No. : 26BE0270-HO  
Power : DC12V  
Temp./Humi. : 21deg.C / 40%  
Operator : Mitsuru Fujimura

Mode / Remarks : Bluetooth Transmitting 2402MHz

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV  
All other spurious emissions were less than 20dB for the limit.



| Frequency<br>[MHz] | Reading<br>[dB $\mu$ V] | DET | Antenna          | Loss &       | Level<br>[dB $\mu$ V/m] | Angle<br>[Deg] | Height<br>[cm] | Polar. | Limit<br>[dB $\mu$ V/m] | Margin<br>[dB] | Comment |
|--------------------|-------------------------|-----|------------------|--------------|-------------------------|----------------|----------------|--------|-------------------------|----------------|---------|
|                    |                         |     | Factor<br>[dB/m] | Gain<br>[dB] |                         |                |                |        |                         |                |         |
| 99.701             | 40.6                    | QP  | 10.4             | -19.7        | 31.3                    | 279            | 330            | Hori.  | 43.5                    | 12.2           |         |
| 99.700             | 33.3                    | QP  | 10.4             | -19.7        | 24.0                    | 121            | 100            | Vert.  | 43.5                    | 19.5           |         |
| 166.165            | 33.2                    | QP  | 16.1             | -18.6        | 30.7                    | 285            | 344            | Hori.  | 43.5                    | 12.8           |         |
| 166.161            | 36.1                    | QP  | 16.1             | -18.6        | 33.6                    | 184            | 100            | Vert.  | 43.5                    | 9.9            |         |
| 365.543            | 36.6                    | QP  | 16.6             | -17.0        | 36.2                    | 213            | 100            | Hori.  | 46.0                    | 9.8            |         |
| 465.242            | 41.0                    | QP  | 17.8             | -17.3        | 41.5                    | 242            | 118            | Vert.  | 46.0                    | 4.5            |         |
| 579.810            | 42.4                    | QP  | 18.9             | -16.9        | 44.4                    | 172            | 100            | Vert.  | 46.0                    | 1.6            |         |
| 664.623            | 35.7                    | QP  | 20.0             | -16.5        | 39.2                    | 332            | 100            | Vert.  | 46.0                    | 6.8            |         |
| 731.093            | 40.5                    | QP  | 20.9             | -16.2        | 45.2                    | 0              | 100            | Vert.  | 46.0                    | 0.8            |         |
| 731.093            | 36.6                    | QP  | 20.9             | -16.2        | 41.3                    | 303            | 120            | Hori.  | 46.0                    | 4.7            |         |
| 797.548            | 33.0                    | QP  | 21.6             | -15.7        | 38.9                    | 46             | 100            | Hori.  | 46.0                    | 7.1            |         |
| 869.701            | 34.6                    | QP  | 21.1             | -15.4        | 40.3                    | 176            | 104            | Vert.  | 46.0                    | 5.7            |         |
| 869.713            | 35.3                    | QP  | 21.1             | -15.4        | 41.0                    | 83             | 100            | Hori.  | 46.0                    | 5.0            |         |

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

## **Radiated Spurious Emission** **(30MHz-1GHz)**

\*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 : 2005/11/02 02:00:23

Applicant : FUJITSU TEN Limited  
Kind of EUT : DISPLAY  
Model No. : BT005A  
Serial No. : 2M-No.16

Report No. : 26BE0270-HO  
Power : DC12V  
Temp./Humi. : 21deg.C / 40%  
Operator : Mitsuru Fujimura

Mode / Remarks : Bluetooth Transmitting 2441MHz

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV  
All other spurious emissions were less than 20dB for the limit.

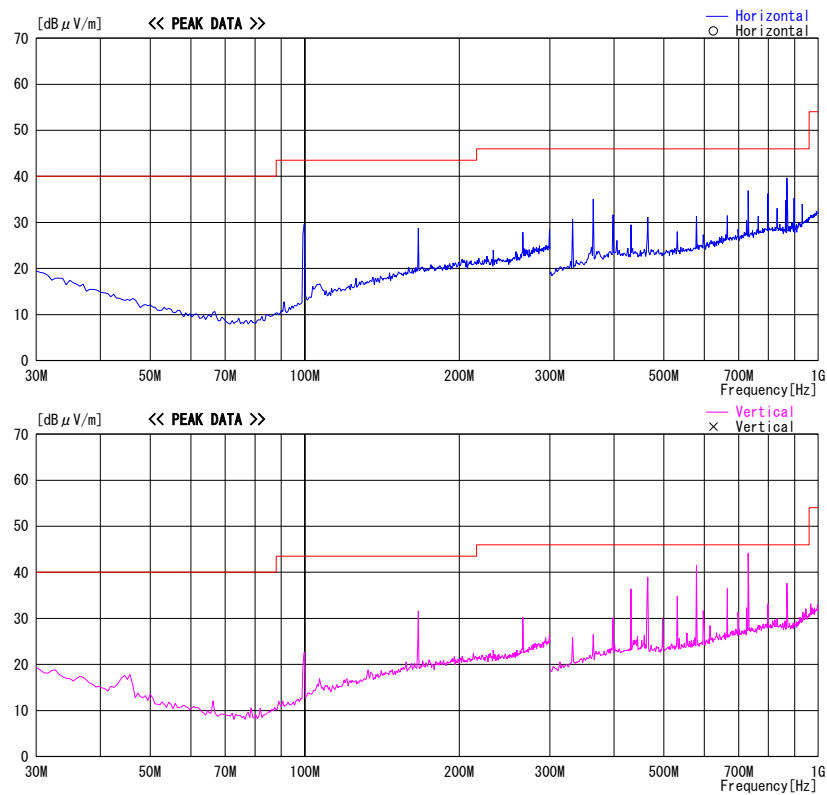


CHART: WITH FACTOR ANT TYPE: ~30MHz LOOP, 30~300MHz BICONICAL, 300MHz~1000MHz LOGPERIODIC, 1000MHz~ HORN  
CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)  
Except for the data below : adequate margin data below the limits.

Test report No. : 26BE0270-HO-1b  
Page : 27 of 37  
Issued date : November 25, 2005  
Revised date : December 8, 2005  
FCC ID : BABBT005A

## Radiated Spurious Emission (30MHz-1GHz)

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

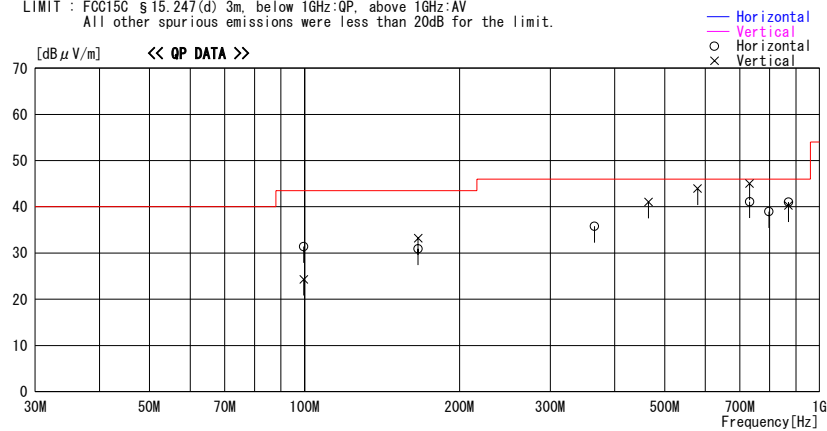
### DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
Date : 2005/11/02 02:00:23

Applicant : FUJITSU TEN Limited  
Kind of EUT : DISPLAY  
Model No. : BT005A  
Serial No. : 2M-No.16  
Report No. : 26BE0270-HO  
Power : DC12V  
Temp./Humi. : 21deg. C / 40%  
Operator : Mitsuru Fujimura

Mode / Remarks : Bluetooth Transmitting 2441MHz

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV  
All other spurious emissions were less than 20dB for the limit.



| Frequency | Reading | DET | Antenna |       | Level    | Angle | Height | Polar. | Limit    | Margin | Comment |
|-----------|---------|-----|---------|-------|----------|-------|--------|--------|----------|--------|---------|
|           |         |     | Factor  | Gain  |          |       |        |        |          |        |         |
| [MHz]     | [dBuV]  |     | [dB/m]  | [dB]  | [dBuV/m] | [Deg] | [cm]   |        | [dBuV/m] | [dB]   |         |
| 99.695    | 40.7    | QP  | 10.4    | -19.7 | 31.4     | 278   | 319    | Hori.  | 43.5     | 12.1   |         |
| 99.693    | 33.6    | QP  | 10.4    | -19.7 | 24.3     | 133   | 109    | Vert.  | 43.5     | 19.2   |         |
| 166.166   | 33.4    | QP  | 16.1    | -18.6 | 30.9     | 279   | 333    | Hori.  | 43.5     | 12.6   |         |
| 166.153   | 35.7    | QP  | 16.1    | -18.6 | 33.2     | 180   | 100    | Vert.  | 43.5     | 10.3   |         |
| 365.545   | 36.2    | QP  | 16.6    | -17.0 | 35.8     | 215   | 106    | Hori.  | 46.0     | 10.2   |         |
| 465.240   | 40.5    | QP  | 17.8    | -17.3 | 41.0     | 243   | 111    | Vert.  | 46.0     | 5.0    |         |
| 579.816   | 41.9    | QP  | 18.9    | -16.9 | 43.9     | 182   | 100    | Vert.  | 46.0     | 2.1    |         |
| 731.096   | 36.4    | QP  | 20.9    | -16.2 | 41.1     | 309   | 125    | Hori.  | 46.0     | 4.9    |         |
| 731.097   | 40.3    | QP  | 20.9    | -16.2 | 45.0     | 0     | 163    | Vert.  | 46.0     | 1.0    |         |
| 797.563   | 33.1    | QP  | 21.6    | -15.7 | 39.0     | 49    | 105    | Hori.  | 46.0     | 7.0    |         |
| 869.713   | 35.3    | QP  | 21.1    | -15.4 | 41.0     | 81    | 100    | Hori.  | 46.0     | 5.0    |         |
| 869.705   | 34.6    | QP  | 21.1    | -15.4 | 40.3     | 161   | 116    | Vert.  | 46.0     | 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)  
Except for the data below : adequate margin data below the limits.

UL Apex Co., Ltd.  
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Facsimile : +81 596 24 8124

MF060b(01.06.05)

## **Radiated Spurious Emission** **(30MHz-1GHz)**

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

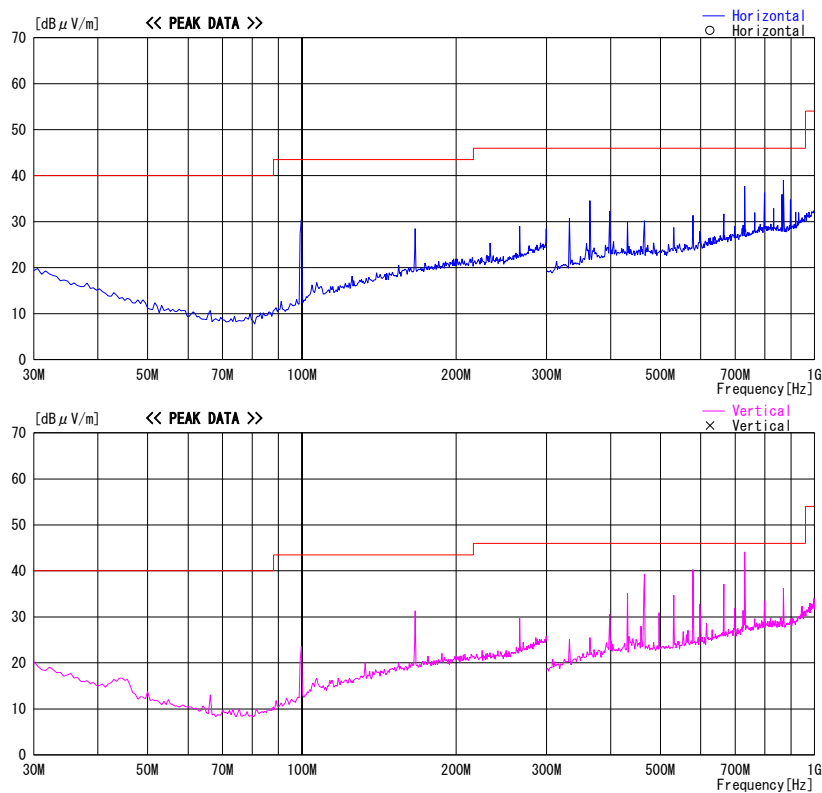
### **DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
Date : 2005/11/02 02:24:58

|             |                       |             |                    |
|-------------|-----------------------|-------------|--------------------|
| Applicant   | : FUJITSU TEN Limited | Report No.  | : 26BE0270-HO      |
| Kind of EUT | : DISPLAY             | Power       | : DC12V            |
| Model No.   | : BT005A              | Temp./Humi. | : 21deg.C / 40%    |
| Serial No.  | : 2M-No.16            | Operator    | : Mitsuru Fujimura |

Mode / Remarks : Bluetooth Transmitting 2480MHz

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:OP, above 1GHz:AV  
All other spurious emissions were less than 20dB for the limit.



\*20dBc is applied (please refer to page 9).

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)  
Except for the data below : adequate margin data below the limits.

Test report No. : 26BE0270-HO-1b  
Page : 29 of 37  
Issued date : November 25, 2005  
Revised date : December 8, 2005  
FCC ID : BABBT005A

## Radiated Spurious Emission (30MHz-1GHz)

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

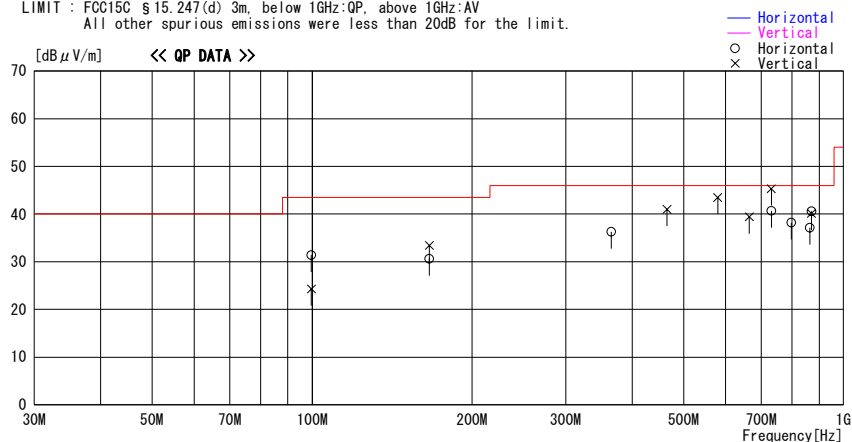
### DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
Date : 2005/11/02 02:31:13

Applicant : FUJITSU TEN Limited  
Kind of EUT : DISPLAY  
Model No. : BT005A  
Serial No. : 2M-No.16  
Report No. : 26BE0270-H0  
Power : DC12V  
Temp./Humi. : 21deg. C / 40%  
Operator : Mitsuru Fujimura

Mode / Remarks : Bluetooth Transmitting 2480MHz

LIMIT : FCC15C §15.247(d) 3m, below 1GHz:QP, above 1GHz:AV  
All other spurious emissions were less than 20dB for the limit.



| Frequency<br>[MHz] | Reading<br>[dB $\mu$ V] | DET | Antenna          |                     | Level<br>[dB $\mu$ V/m] | Angle<br>[Deg] | Height<br>[cm] | Polar. | Limit<br>[dB $\mu$ V/m] | Margin<br>[dB] | Comment |
|--------------------|-------------------------|-----|------------------|---------------------|-------------------------|----------------|----------------|--------|-------------------------|----------------|---------|
|                    |                         |     | Factor<br>[dB/m] | Loss & Gain<br>[dB] |                         |                |                |        |                         |                |         |
| 99.700             | 40.7                    | QP  | 10.4             | -19.7               | 31.4                    | 269            | 314            | Hori.  | 43.5                    | 12.1           |         |
| 99.698             | 33.6                    | QP  | 10.4             | -19.7               | 24.3                    | 126            | 109            | Vert.  | 43.5                    | 19.2           |         |
| 166.164            | 33.1                    | QP  | 16.1             | -18.6               | 30.6                    | 261            | 328            | Hori.  | 43.5                    | 12.9           |         |
| 166.164            | 35.9                    | QP  | 16.1             | -18.6               | 33.4                    | 180            | 100            | Vert.  | 43.5                    | 10.1           |         |
| 365.551            | 36.7                    | QP  | 16.6             | -17.0               | 36.3                    | 216            | 100            | Hori.  | 46.0                    | 9.7            |         |
| 465.245            | 40.5                    | QP  | 17.8             | -17.3               | 41.0                    | 236            | 118            | Vert.  | 46.0                    | 5.0            |         |
| 579.828            | 41.5                    | QP  | 18.9             | -16.9               | 43.5                    | 167            | 100            | Vert.  | 46.0                    | 2.5            |         |
| 664.630            | 35.9                    | QP  | 20.0             | -16.5               | 39.4                    | 325            | 100            | Vert.  | 46.0                    | 6.6            |         |
| 731.089            | 36.0                    | QP  | 20.9             | -16.2               | 40.7                    | 303            | 129            | Hori.  | 46.0                    | 5.3            |         |
| 731.095            | 40.6                    | QP  | 20.9             | -16.2               | 45.3                    | 0              | 100            | Vert.  | 46.0                    | 0.7            |         |
| 797.565            | 32.3                    | QP  | 21.6             | -15.7               | 38.2                    | 305            | 100            | Hori.  | 46.0                    | 7.8            |         |
| 864.024            | 31.4                    | QP  | 21.1             | -15.4               | 37.1                    | 256            | 100            | Hori.  | 46.0                    | 8.9            |         |
| 869.699            | 34.9                    | QP  | 21.1             | -15.4               | 40.6                    | 88             | 100            | Hori.  | 46.0                    | 5.4            |         |
| 869.704            | 34.5                    | QP  | 21.1             | -15.4               | 40.2                    | 180            | 180            | Vert.  | 46.0                    | 5.8            |         |

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz LOGPERIODIC, 1000MHz- HORN  
CALCULATION: RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)  
Except for the data below : adequate margin data below the limits.

UL Apex Co., Ltd.  
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MF060b(01.06.05)

Test report No. : 26BE0270-HO-1b  
Page : 30 of 37  
Issued date : November 25, 2005  
Revised date : December 8, 2005  
FCC ID : BABBT005A

## Radiated Spurious Emission (1GHz-26GHz)

Company : FUJITSU TEN Limited  
Equipment : DISPLAY  
Model : BT005A  
Sample No. : 2M-No. 16  
Power : DC 12V (Car Battery)  
Mode : Bluetooth, Tx 2402MHz(DH5)  
Remarks : X-axis  
PK DETECT (RBW: 1MHz, VBW: 1MHz)

REPORT NO : 26BE0270-HO  
REGULATION : Fcc Part15 Subpart C 15.247(d)  
TEST DISTANCE : 3/1m  
DATE : 11/01/2005  
TEMPERATURE : 21deg.C  
HUMIDITY : 40%  
ENGINEER : Mitsuru Fujimura

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

| 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                                                                                              | 1159.6        | 64.5        | 65.4 | 23.0                    | 41.4                | 2.6                   | 0.0                       | 48.7     | 49.6 | 74.0                    | 25.3   | 24.4 |
| 2                                                                                              | 2390.0        | 51.8        | 52.2 | 30.9                    | 41.2                | 3.1                   | 0.0                       | 44.6     | 45.0 | 74.0                    | 29.4   | 29.0 |
| 3*                                                                                             | 2400.0        | 85.9        | 76.9 | 30.9                    | 41.2                | 3.1                   | 0.0                       | 78.7     | 69.7 | 74.0                    | -4.7   | 4.3  |
| 4                                                                                              | 4804.2        | 62.8        | 61.0 | 34.9                    | 42.5                | 4.3                   | 0.8                       | 60.3     | 58.5 | 74.0                    | 13.7   | 15.5 |
| 5                                                                                              | 7206.0        | 49.1        | 49.0 | 37.6                    | 41.8                | 5.1                   | 0.3                       | 50.3     | 50.2 | 74.0                    | 23.7   | 23.8 |
| 6                                                                                              | 9608.0        | 46.6        | 46.7 | 36.3                    | 40.8                | 6.1                   | 0.7                       | 48.9     | 49.0 | 74.0                    | 25.1   | 25.0 |
| 7                                                                                              | 12010.0       | 49.1        | 48.6 | 41.4                    | 40.3                | 7.2                   | 0.0                       | 57.4     | 56.9 | 74.0                    | 16.6   | 17.1 |
| 8                                                                                              | 14412.0       | 48.5        | 48.3 | 41.7                    | 42.1                | 7.6                   | 0.0                       | 55.7     | 55.5 | 74.0                    | 18.4   | 18.5 |
| 9                                                                                              | 16814.0       | 49.2        | 48.8 | 44.7                    | 41.8                | 8.3                   | 0.0                       | 60.4     | 60.0 | 74.0                    | 13.6   | 14.0 |
| Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac |               |             |      |                         |                     |                       |                           |          |      |                         |        |      |
| 10                                                                                             | 19216.0       | 45.8        | 45.3 | 41.7                    | 40.2                | 9.0                   | 0.0                       | 46.8     | 46.3 | 74.0                    | 27.2   | 27.7 |
| 11                                                                                             | 21618.0       | 45.4        | 45.8 | 40.4                    | 40.2                | 9.3                   | 0.0                       | 45.4     | 45.8 | 74.0                    | 28.6   | 28.2 |
| 12                                                                                             | 24020.0       | 45.5        | 45.1 | 41.0                    | 39.1                | 9.4                   | 0.0                       | 47.3     | 46.9 | 74.0                    | 26.7   | 27.1 |

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                                                                                              | 1159.6        | 54.9        | 56.1 | 23.0                    | 41.4                | 2.6                   | 0.0                       | 39.1     | 40.3 | 54.0                    | 14.9   | 13.7 |
| 2                                                                                              | 2390.0        | 38.4        | 37.6 | 30.9                    | 41.2                | 3.1                   | 0.0                       | 31.2     | 30.4 | 54.0                    | 22.8   | 23.6 |
| 3*                                                                                             | 2400.0        | 72.3        | 65.0 | 30.9                    | 41.2                | 3.1                   | 0.0                       | 65.1     | 57.8 | 54.0                    | -11.1  | -3.8 |
| 4*                                                                                             | 4804.2        | 56.0        | 55.3 | 34.9                    | 42.5                | 4.3                   | 0.8                       | 53.5     | 52.8 | 54.0                    | 0.5    | 1.2  |
| 5                                                                                              | 7206.0        | 35.7        | 35.5 | 37.6                    | 41.8                | 5.1                   | 0.3                       | 36.9     | 36.7 | 54.0                    | 17.1   | 17.3 |
| 6                                                                                              | 9608.0        | 33.2        | 33.3 | 36.3                    | 40.8                | 6.1                   | 0.7                       | 35.5     | 35.6 | 54.0                    | 18.5   | 18.4 |
| 7                                                                                              | 12010.0       | 36.1        | 35.3 | 41.4                    | 40.3                | 7.2                   | 0.0                       | 44.4     | 43.6 | 54.0                    | 9.7    | 10.4 |
| 8                                                                                              | 14412.0       | 35.2        | 35.2 | 41.7                    | 42.1                | 7.6                   | 0.0                       | 42.4     | 42.4 | 54.0                    | 11.6   | 11.6 |
| 9                                                                                              | 16814.0       | 35.7        | 35.7 | 44.7                    | 41.8                | 8.3                   | 0.0                       | 46.9     | 46.9 | 54.0                    | 7.1    | 7.1  |
| Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac |               |             |      |                         |                     |                       |                           |          |      |                         |        |      |
| 10                                                                                             | 19216.0       | 32.1        | 31.8 | 41.7                    | 40.2                | 9.0                   | 0.0                       | 33.1     | 32.8 | 54.0                    | 21.0   | 21.2 |
| 11                                                                                             | 21618.0       | 32.5        | 32.5 | 40.4                    | 40.2                | 9.3                   | 0.0                       | 32.5     | 32.5 | 54.0                    | 21.5   | 21.5 |
| 12                                                                                             | 24020.0       | 32.1        | 32.1 | 41.0                    | 39.1                | 9.4                   | 0.0                       | 33.9     | 33.9 | 54.0                    | 20.1   | 20.1 |

\* Reference data

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

| 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>20dBc<br>[dBuV/m] | MARGIN      |             |
|-----------------------------------------------------------------------------------------|---------------|-------------|-------|-------------------------|---------------------|-----------------------|---------------------------|-----------------|------|----------------------------|-------------|-------------|
|                                                                                         |               | HOR         | VER   |                         |                     |                       |                           | HOR<br>[dBuV/m] | VER  |                            | HOR<br>[dB] | VER<br>[dB] |
|                                                                                         |               | [dBuV]      |       |                         |                     |                       |                           |                 |      |                            |             |             |
| Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss |               |             |       |                         |                     |                       |                           |                 |      |                            |             |             |
| 0                                                                                       | 2402.0        | 109.8       | 101.2 | 30.9                    | 41.2                | 3.2                   | 0.0                       | 102.7           | 94.1 | -                          | -           | -           |
| 3                                                                                       | 2400.0        | 54.5        | 46.1  | 30.9                    | 41.2                | 3.1                   | 0.0                       | 47.3            | 38.9 | Funda-20dB                 | 35.4        | 35.1        |

AV DETECT (Include Dwell-time-factor) (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>filter Loss<br>[dB] | Dwell time<br>Factor<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 + Hi Pass + Dwell Factor |                   |             |      |                         |                     |                               |                              |          |      |                         |        |      |
| 4                                                                                                     | 4804.2            | 56.0        | 55.3 | 34.9                    | 42.5                | 5.1                           | -25.4                        | 28.1     | 27.4 | 54.0                    | 25.9   | 26.6 |

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 Filter was not used for factor 0.0dB of the above table.

\*Dwell time factor: See dwell time data page 19.

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MF060b(01.06.05)

## Radiated Spurious Emission (1GHz-26GHz)

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

|                                   |                                             |
|-----------------------------------|---------------------------------------------|
| Company : FUJITSU TEN Limited     | REPORT NO : 26BE0270-HO                     |
| Equipment : DISPLAY               | REGULATION : Fcc Part15 Subpart C 15.247(d) |
| Model : BT005A                    | TEST DISTANCE : 3/1m                        |
| Sample No. : 2M-No. 16            | DATE : 11/01/2005                           |
| Power : DC 12V (Car Battery)      | TEMPERATURE : 21deg.C                       |
| Mode : Bluetooth, Tx 2441MHz(DH5) | HUMIDITY : 40%                              |
| Remarks : X-axis                  | ENGINEER : Mitsuru Fujimura                 |

**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                                                                                                 | 1159.6        | 64.0        | 65.0 | 23.0                    | 41.4                | 2.6                   | 0.0                       | 48.2     | 49.2 | 74.0                    | 25.8   | 24.8 |
| 2                                                                                                 | 4882.0        | 63.8        | 61.2 | 35.4                    | 42.5                | 4.3                   | 0.8                       | 61.8     | 59.2 | 74.0                    | 12.2   | 14.8 |
| 3                                                                                                 | 7323.0        | 49.7        | 48.6 | 37.8                    | 41.8                | 5.2                   | 0.3                       | 51.2     | 50.1 | 74.0                    | 22.8   | 23.9 |
| 4                                                                                                 | 9764.0        | 46.6        | 46.7 | 36.2                    | 40.7                | 6.2                   | 0.6                       | 48.9     | 49.0 | 74.0                    | 25.1   | 25.0 |
| 5                                                                                                 | 12205.0       | 48.6        | 48.5 | 41.5                    | 40.6                | 7.2                   | 0.0                       | 56.7     | 56.6 | 74.0                    | 17.3   | 17.5 |
| 6                                                                                                 | 14646.0       | 47.5        | 47.7 | 42.2                    | 41.8                | 7.5                   | 0.0                       | 55.4     | 55.6 | 74.0                    | 18.6   | 18.4 |
| 7                                                                                                 | 17087.0       | 47.5        | 48.2 | 44.5                    | 41.8                | 8.4                   | 0.0                       | 58.6     | 59.3 | 74.0                    | 15.4   | 14.7 |
| Test distance 1meters    RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac |               |             |      |                         |                     |                       |                           |          |      |                         |        |      |
| 8                                                                                                 | 19528.0       | 44.5        | 44.8 | 41.4                    | 40.1                | 9.0                   | 0.0                       | 45.3     | 45.6 | 74.0                    | 28.7   | 28.4 |
| 9                                                                                                 | 21969.0       | 47.8        | 48.1 | 40.5                    | 40.1                | 9.3                   | 0.0                       | 48.0     | 48.3 | 74.0                    | 26.0   | 25.7 |
| 10                                                                                                | 24410.0       | 44.4        | 44.7 | 41.1                    | 39.7                | 9.3                   | 0.0                       | 45.6     | 45.9 | 74.0                    | 28.4   | 28.1 |

**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                                                                                              | 1159.6        | 54.5        | 56.2 | 23.0                    | 41.4                | 2.6                   | 0.0                       | 38.7     | 40.4 | 54.0                    | 15.3   | 13.6 |
| 2*                                                                                             | 4882.0        | 56.7        | 53.9 | 35.4                    | 42.5                | 4.3                   | 0.8                       | 54.7     | 51.9 | 54.0                    | -0.7   | 2.1  |
| 3                                                                                              | 7323.0        | 36.5        | 35.6 | 37.8                    | 41.8                | 5.2                   | 0.3                       | 38.0     | 37.1 | 54.0                    | 16.0   | 16.9 |
| 4                                                                                              | 9764.0        | 33.4        | 33.4 | 36.2                    | 40.7                | 6.2                   | 0.6                       | 35.7     | 35.7 | 54.0                    | 18.3   | 18.3 |
| 5                                                                                              | 12205.0       | 35.7        | 35.7 | 41.5                    | 40.6                | 7.2                   | 0.0                       | 43.8     | 43.8 | 54.0                    | 10.2   | 10.2 |
| 6                                                                                              | 14646.0       | 34.2        | 34.6 | 42.2                    | 41.8                | 7.5                   | 0.0                       | 42.1     | 42.5 | 54.0                    | 11.9   | 11.5 |
| 7                                                                                              | 17087.0       | 34.6        | 34.6 | 44.5                    | 41.8                | 8.4                   | 0.0                       | 45.7     | 45.7 | 54.0                    | 8.3    | 8.3  |
| Test distance 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac |               |             |      |                         |                     |                       |                           |          |      |                         |        |      |
| 8                                                                                              | 19528.0       | 31.9        | 31.8 | 41.4                    | 40.1                | 9.0                   | 0.0                       | 32.7     | 32.6 | 54.0                    | 21.3   | 21.4 |
| 9                                                                                              | 21969.0       | 34.6        | 34.6 | 40.5                    | 40.1                | 9.3                   | 0.0                       | 34.8     | 34.8 | 54.0                    | 19.3   | 19.2 |
| 10                                                                                             | 24410.0       | 31.7        | 31.7 | 41.1                    | 39.7                | 9.3                   | 0.0                       | 32.9     | 32.9 | 54.0                    | 21.1   | 21.1 |

\*Reference data

**AV DETECT (Include Dwell-time-factor)** (RBW: 1MHz, VBW: 10Hz)

| No.                                                                                                | FREQ<br>[MHz] | S/A READING |      | ANT<br>Factor<br>[dB/m] | AMP<br>GAIN<br>[dB] | Cable+<br>filter Loss<br>[dB] | Dwell time<br>Factor<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 + Hi Pass + Dwell Factor |               |             |      |                         |                     |                               |                              |          |      |                         |        |      |
| 2                                                                                                  | 4882.0        | 56.7        | 53.9 | 35.4                    | 42.5                | 5.1                           | -25.4                        | 29.3     | 26.5 | 54.0                    | 24.7   | 27.5 |

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.

\*Dwell time factor: See dwell time data page 19.

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MF060b(01.06.05)

Test report No. : 26BE0270-HO-1b  
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Issued date : November 25, 2005  
Revised date : December 8, 2005  
FCC ID : BABBT005A

## Radiated Spurious Emission (1GHz-26GHz)

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

|            |                              |               |                                  |
|------------|------------------------------|---------------|----------------------------------|
| Company    | : FUJITSU TEN Limited        | REPORT NO     | : 26BE0270-HO                    |
| Equipment  | : DISPLAY                    | REGULATION    | : Fcc Part15 Subpart C 15.247(d) |
| Model      | : BT005A                     | TEST DISTANCE | : 3/1m                           |
| Sample No. | : 2M-No. 16                  | DATE          | : 11/01/2005                     |
| Power      | : DC 12V (Car Battery)       | TEMPERATURE   | : 21deg.C                        |
| Mode       | : Bluetooth, Tx 2480MHz(DH5) | HUMIDITY      | : 40%                            |
| Remarks    | : X-axis                     | ENGINEER      | : Mitsuru Fujimura               |

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                                                                                                   | 1377.1            | 61.0        | 65.7 | 23.3                    | 41.1                | 2.7                   | 0.0                       | 45.9     | 50.6 | 74.0                    | 28.2   | 23.4 |
| 2                                                                                                   | 2483.5            | 62.4        | 57.7 | 30.8                    | 41.3                | 3.1                   | 0.0                       | 55.0     | 50.3 | 74.0                    | 19.0   | 23.7 |
| 3                                                                                                   | 4960.0            | 62.0        | 58.7 | 35.8                    | 42.5                | 4.3                   | 0.8                       | 60.4     | 57.1 | 74.0                    | 13.6   | 16.9 |
| 4                                                                                                   | 7440.0            | 48.7        | 49.7 | 37.9                    | 41.8                | 5.3                   | 0.3                       | 50.4     | 51.4 | 74.0                    | 23.6   | 22.6 |
| 5                                                                                                   | 9920.0            | 48.1        | 49.4 | 36.2                    | 40.6                | 6.3                   | 0.6                       | 50.6     | 51.9 | 74.0                    | 23.4   | 22.1 |
| 6                                                                                                   | 12400.0           | 48.6        | 48.7 | 41.6                    | 41.0                | 7.3                   | 0.0                       | 56.5     | 56.6 | 74.0                    | 17.5   | 17.4 |
| 7                                                                                                   | 14880.0           | 48.3        | 48.3 | 42.6                    | 41.5                | 7.6                   | 0.0                       | 57.0     | 57.0 | 74.0                    | 17.0   | 17.0 |
| 8                                                                                                   | 17360.0           | 48.3        | 48.3 | 44.4                    | 42.0                | 8.6                   | 0.0                       | 59.3     | 59.3 | 74.0                    | 14.7   | 14.7 |
| Test distance 1meters      RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac |                   |             |      |                         |                     |                       |                           |          |      |                         |        |      |
| 9                                                                                                   | 19840.0           | 45.9        | 45.1 | 41.1                    | 40.0                | 9.0                   | 0.0                       | 46.5     | 45.7 | 74.0                    | 27.5   | 28.3 |
| 10                                                                                                  | 22320.0           | 47.0        | 47.1 | 40.4                    | 39.9                | 9.4                   | 0.0                       | 47.4     | 47.5 | 74.0                    | 26.6   | 26.5 |
| 11                                                                                                  | 24800.0           | 46.2        | 46.3 | 41.1                    | 40.2                | 9.4                   | 0.0                       | 47.0     | 47.1 | 74.0                    | 27.0   | 26.9 |

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                                                                                       | 1377.1        | 40.3                                                                             | 45.6 | 23.3                    | 41.1                | 2.7                   | 0.0                       | 25.2     | 30.5 | 54.0                    | 28.9   | 23.5 |
| 2                                                                                       | 2483.5        | 55.6                                                                             | 51.6 | 30.8                    | 41.3                | 3.1                   | 0.0                       | 48.2     | 44.2 | 54.0                    | 5.8    | 9.8  |
| 3*                                                                                      | 4960.0        | 55.0                                                                             | 51.2 | 35.8                    | 42.5                | 4.3                   | 0.8                       | 53.4     | 49.6 | 54.0                    | 0.6    | 4.4  |
| 4                                                                                       | 7440.0        | 35.2                                                                             | 35.7 | 37.9                    | 41.8                | 5.3                   | 0.3                       | 36.9     | 37.4 | 54.0                    | 17.1   | 16.6 |
| 5                                                                                       | 9920.0        | 34.2                                                                             | 35.1 | 36.2                    | 40.6                | 6.3                   | 0.6                       | 36.7     | 37.6 | 54.0                    | 17.3   | 16.4 |
| 6                                                                                       | 12400.0       | 35.5                                                                             | 35.6 | 41.6                    | 41.0                | 7.3                   | 0.0                       | 43.4     | 43.5 | 54.0                    | 10.6   | 10.6 |
| 7                                                                                       | 14880.0       | 34.9                                                                             | 34.8 | 42.6                    | 41.5                | 7.6                   | 0.0                       | 43.6     | 43.5 | 54.0                    | 10.4   | 10.5 |
| 8                                                                                       | 17360.0       | 35.2                                                                             | 35.2 | 44.4                    | 42.0                | 8.6                   | 0.0                       | 46.2     | 46.2 | 54.0                    | 7.8    | 7.8  |
| *Reference data                                                                         |               | 1meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac |      |                         |                     |                       |                           |          |      |                         |        |      |
| 9                                                                                       | 19840.0       | 31.8                                                                             | 31.8 | 41.1                    | 40.0                | 9.0                   | 0.0                       | 32.4     | 32.4 | 54.0                    | 21.6   | 21.7 |
| 10                                                                                      | 22320.0       | 33.7                                                                             | 34.0 | 40.4                    | 39.9                | 9.4                   | 0.0                       | 34.1     | 34.4 | 54.0                    | 19.9   | 19.7 |
| 11                                                                                      | 24800.0       | 33.2                                                                             | 33.2 | 41.1                    | 40.2                | 9.4                   | 0.0                       | 34.0     | 34.0 | 54.0                    | 20.0   | 20.0 |

AV DETECT (Include Dwell-time-factor) (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>filter Loss<br>[dB] | Dwell time<br>Factor<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 + Hi Pass + Dwell Factor |                   |             |      |                         |                     |                               |                              |          |      |                         |        |      |
| 3                                                                                                  | 4960.0            | 55.0        | 51.2 | 35.8                    | 42.5                | 5.1                           | -25.4                        | 28.0     | 24.2 | 54.0                    | 26.0   | 29.8 |

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

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

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

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

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

\*Dwell time factor: See dwell time data page 19.

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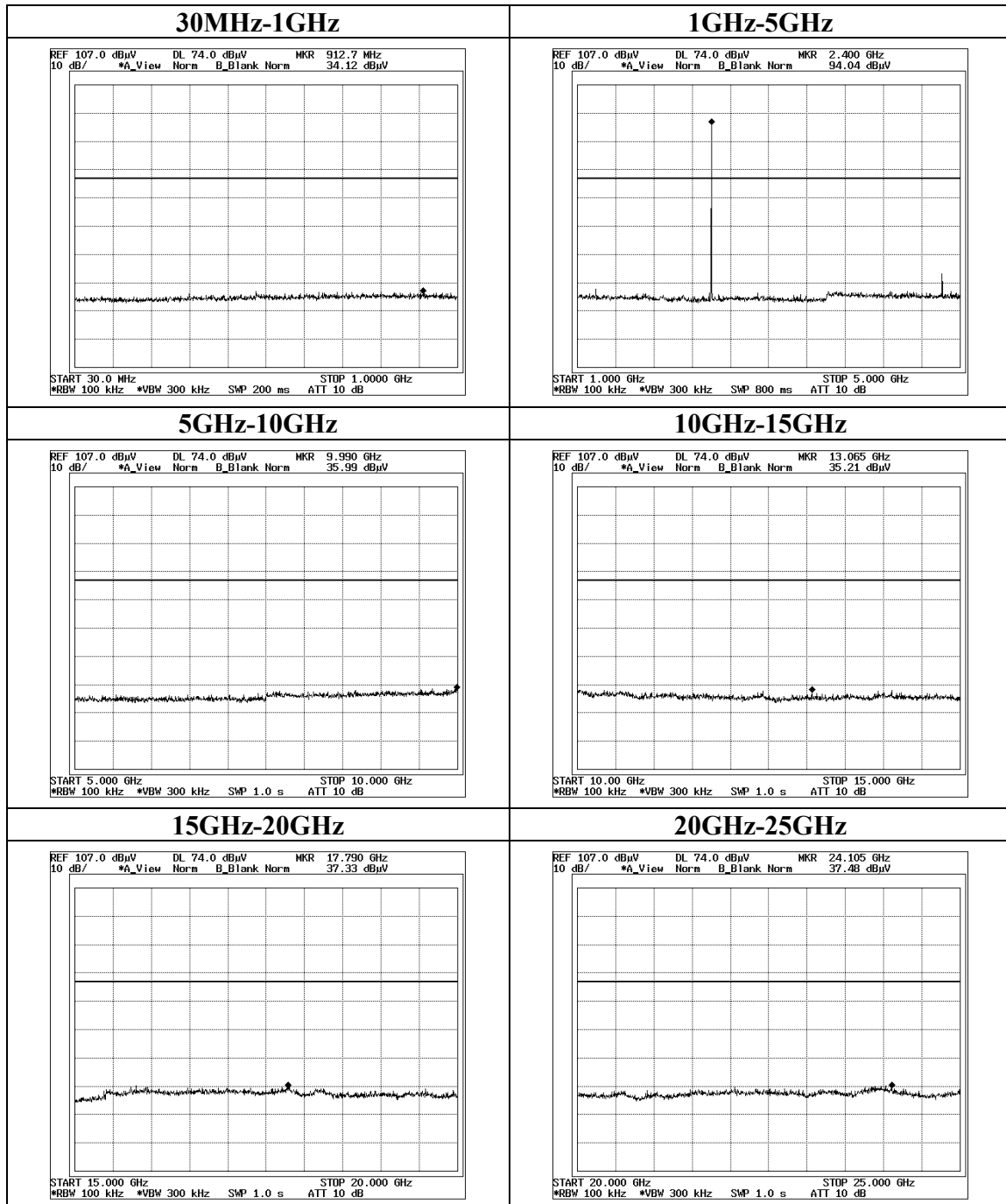
Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(01.06.05)

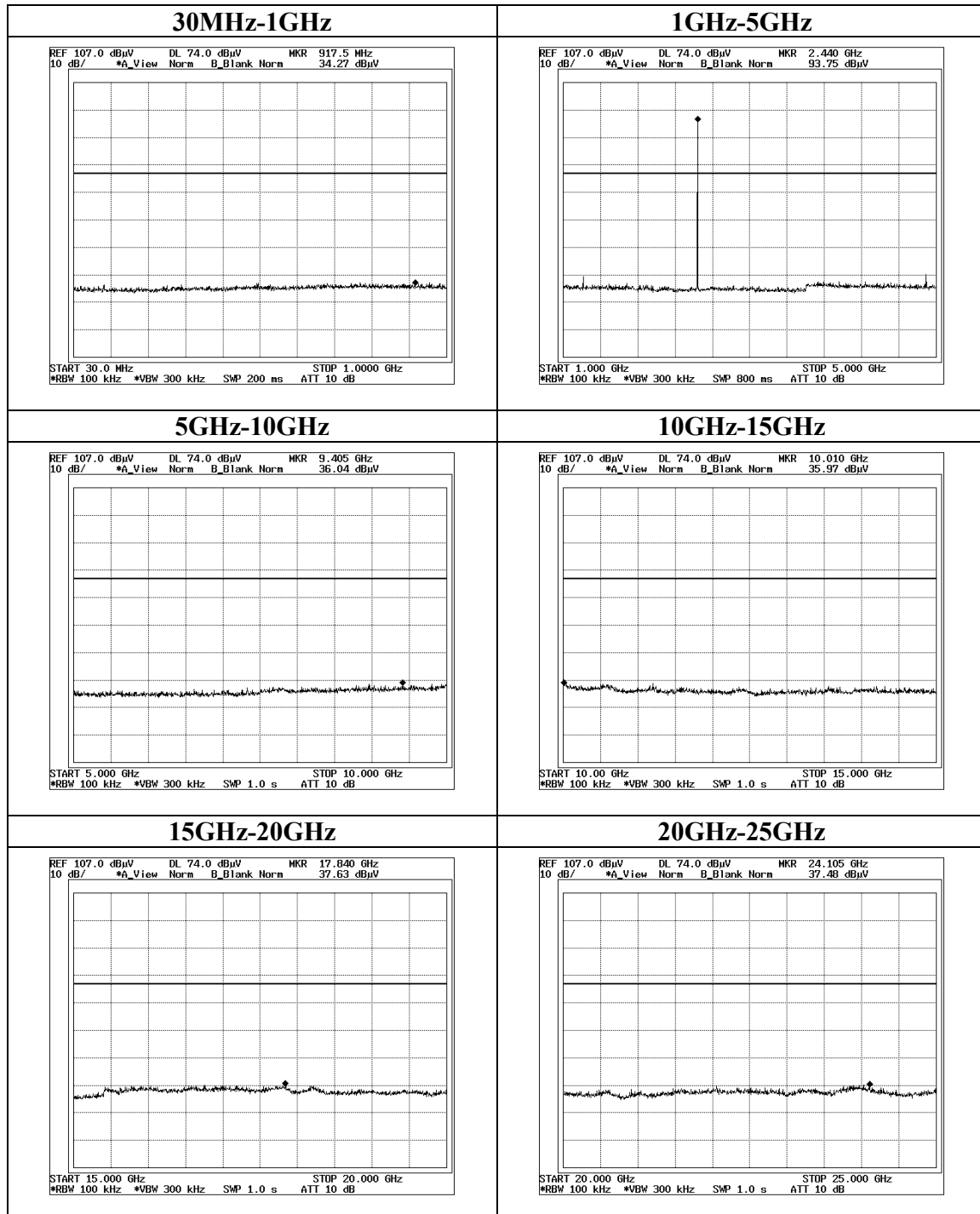
## Conducted Spurious Emission

Ch:Low



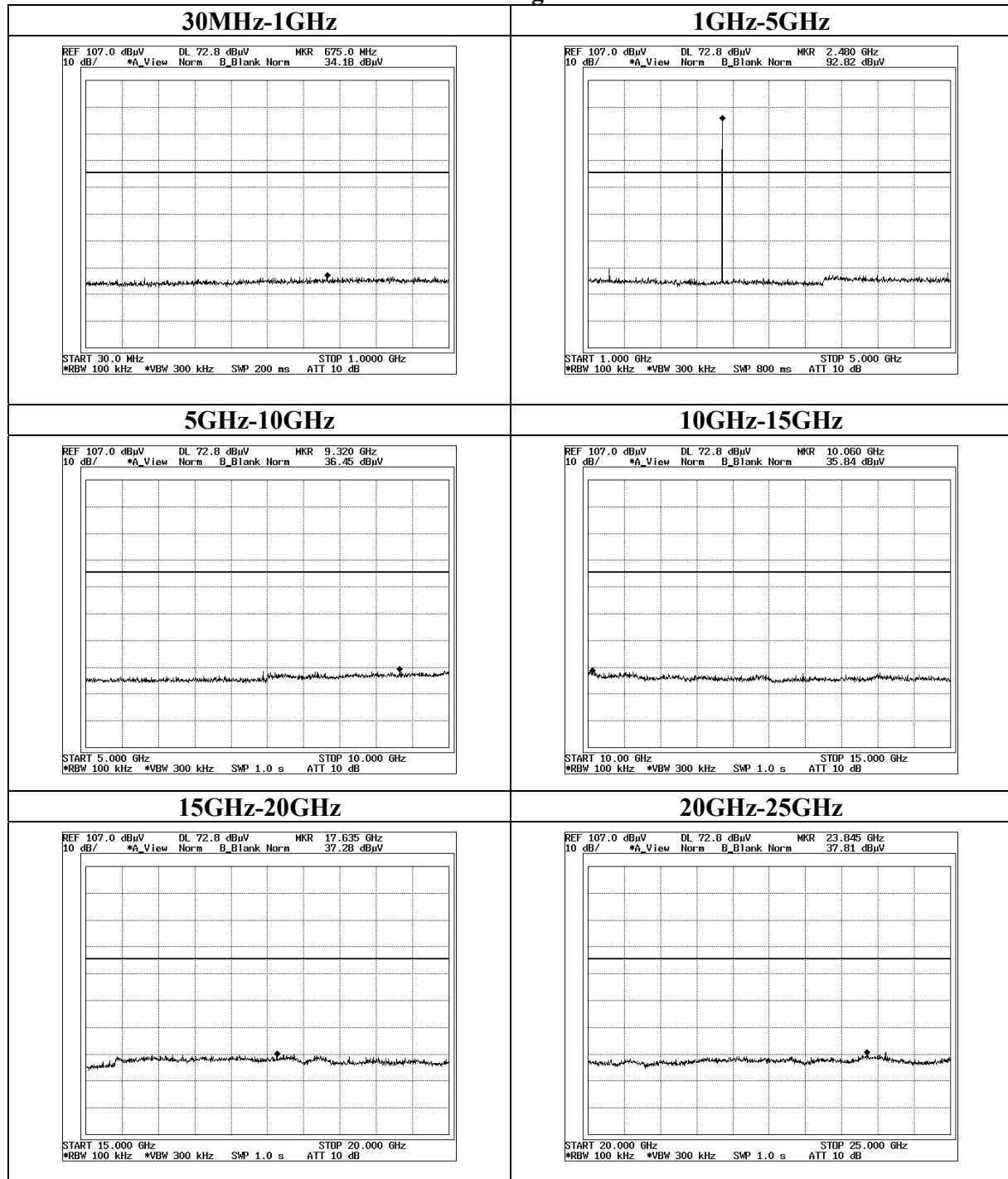
## Conducted Spurious Emission

Ch:Mid

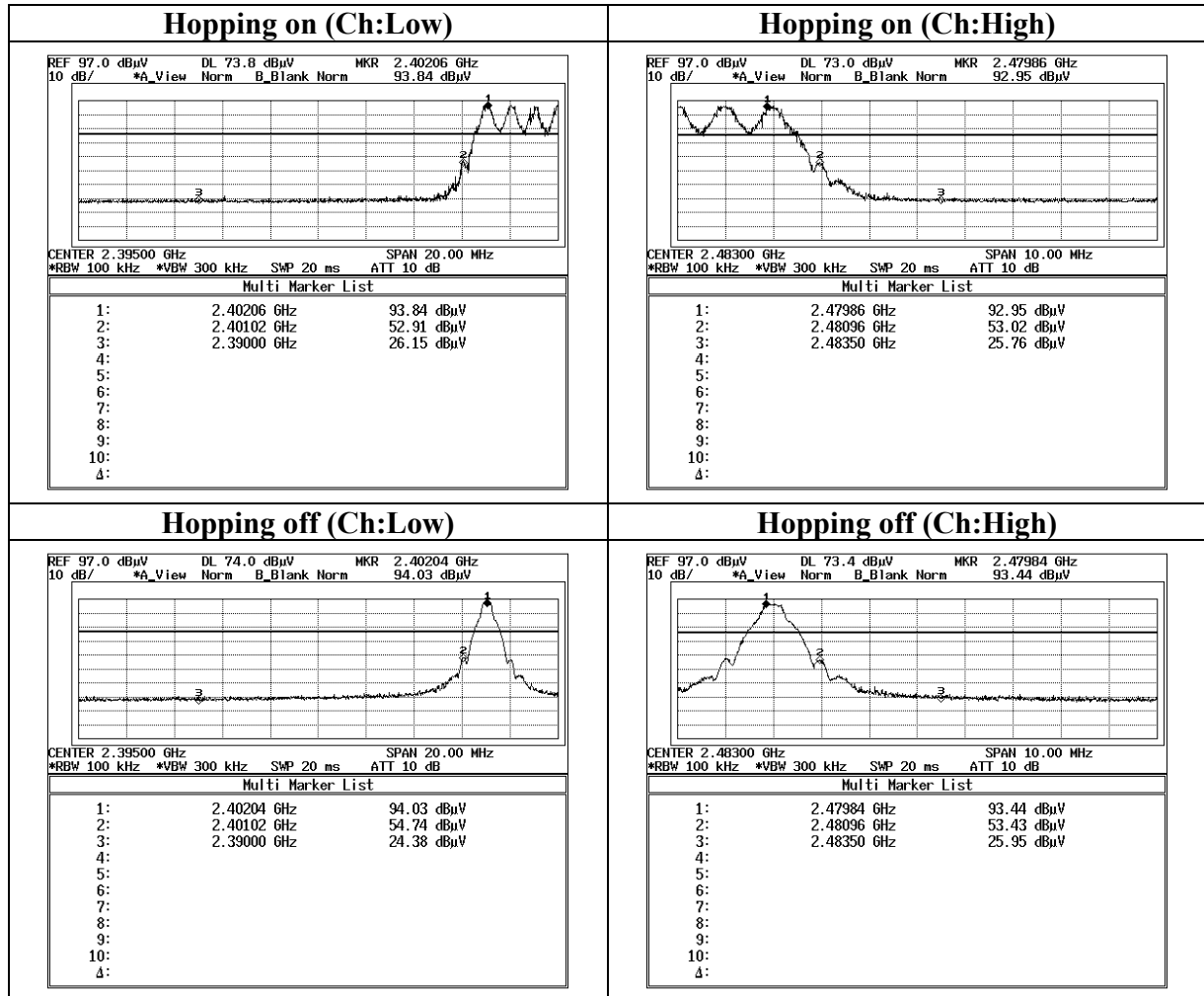


## Conducted Spurious Emission

Ch:High



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



## 99% Occupied Bandwidth

