

243 Jubug-Ri, Yangji-Myeon, Yongin-Si, Gyeonggi-Do, Korea 449-822 Tel: +82-31-323-6008 Fax: +82-31-323-6010 http://www.ltalab.com



Dates of Tests: May 11 ~ 17, 2007, June 16, 2007

Test Report S/N: LR500190705F Test Site: LTA CO., LTD.

# **CERTIFICATIO OF COMPLIANCE**

FCC ID.

**APPLICANT** 

VASEBT100

eb Corp.

FCC Classification : FCC Part 15 Spread Spectrum Transceiver (DSS)

Manufacturing Description : Driver's Console

Manufacturer : eb Corp.

Model name : EBT-100

Test Device Serial No.: : Identical prototype

Rule Part(s) : FCC Part 15.247 Subpart C; ANSI C-63.4-2003

Frequency Range : 2412MHz ~ 2462MHz (DSSS)

Max. Output Power : 19.89dBm Peak Conducted (802.11b)

Data of issue : May 21, 2007

Data of re-issue : June 16, 2007

This test report is issued under the authority of:

The test was supervised by:

Dong -Min JUNG, Technical Manager

Kyung-Taek LEE, Test Engineer

This test result only responds to the tested sample. It is not allowed to copy this report even partly without the allowance of the test laboratory. This report must not be used by the applicant to claim product endorsement by any agency.

NVLAP

NVLAP LAB Code.: 200723-0

# TABLE OF CONTENTS

| 1. GENERAL INFORMATION'S                    | 3  |
|---|----|
| 2. INFORMATION'S ABOUT TEST ITEM            | 4  |
| 3. TEST REPORT                              | 5  |
| 3.1 SUMMARY OF TESTS                        | 5  |
| 3.2 TECHNICAL CHARACTERISTICS TEST(802.11b) | 6  |
| 3.2.1 6dB BANDWIDTH                         | 6  |
| 3.2.2 PEAK OUTPUT POWER                     | 8  |
| 3.2.3 POWER SPECTRAL DENSITY                | 13 |
|   | 15 |
| 3.2.5 BAND - EDGE (Radiated)                | 23 |
| 3.2.6 FIELD STRENGTH OF HARMONICS           | 28 |
| 3.2.7 AC CONDUCTED EMISSIONS                | 33 |
|   |    |
| APPENDIX                                    |    |
| APPENDIX TEST EQUIPMENT USED FOR TESTS      | 40 |

# 1. General information's

# 1-1 Test Performed

Company name : LTA Co., Ltd.

Address : 243, Jubug-ri, Yangji-Myeon, Youngin-Si, Kyunggi-Do, Korea. 449-822

Web site : <a href="http://www.ltalab.com">http://www.ltalab.com</a>
E-mail : <a href="mailto:chahn@ltalab.com">chahn@ltalab.com</a>
Telephone : +82-31-323-6008
Facsimile +82-31-323-6010

Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the "General requirements for the competents of calibration and testing laboratory".

# 1-2 Accredited agencies

LTA Co., Ltd. is approved to perform EMC testing by the following agencies:

| Agency | Country | Accreditation No. | Validity   | Reference           |
|--------|---------|-------------------|------------|---------------------|
| NVLAP  | U.S.A   | 200723-0          | 2007-09-30 | ECT accredited Lab. |
| RRL    | KOREA   | KR0049            | 2007-07-13 | EMC accredited Lab. |
| FCC    | U.S.A   | 610755            | 2008-03-28 | FCC filing          |
| VCCI   | JAPAN   | R2133, C2307      | 2008-06-22 | VCCI registration   |
| IC     | CANADA  | IC5799            | 2008-04-23 | IC filing           |

## 2. Information's about test item

### 2-1 Client & Manufacturer

Company name : eb Corp.

Address : 14th Fl., HIGH-END TOWER, 235-2, Guro-Dong, Guro-Ku, Seoul, Korea

Tel / Fax : +82.2.6220.3085 / +82.2.6220.5001

## **2-2 Equipment Under Test (EUT)**

Trade name : Driver's Console

Model name : EBT-100

Serial number : Identical prototype

Date of receipt : April 10, 2007

EUT condition : Pre-production, not damaged

PCMCIA Module : Interepoch Technology, Inc. / CMPCb11

Antenna type : MAGNET ARRY ANTENNA with -4dBi gain for 802.11B

Antenna connector : SMA REVERSE TYPE

Frequency Range : 2412MHz ~ 2462MHz (DSSS)

RF output power Range : 19.89 dBm Peak Conducted (802.11b)

Number of channels : 11(DSSS)

Type of Modulation : CCK, DQPSK, DBPSK for DSSS

Transfer Rate : 11/5.5/2/1Mbps for 802.11b

Power Source : DC/DC Converter: Input 24VDC, Output 12VDC/5VDC/3.3VDC

## **2-3 Tested frequency**

|                             | LOW  | MID  | HIGH |
|-----------------------------|------|------|------|
| Frequency (MHz) for 802.11b | 2412 | 2437 | 2462 |

# 2-3 Ancillary Equipment

| Equipment       | Model No.  | Serial No. | Manufacturer |
|-----------------|------------|------------|--------------|
| DC/DC Converter | PA-9000695 | N/A        | eb Corp.     |
| -               | -          | -          | -            |

# 3. Test Report

# 3.1 Summary of tests

| FCC Part   | Parameter                          | Limit               | Test           | Status   |
|------------|------------------------------------|---------------------|----------------|----------|
| Section(s) | rarameter                          | Limit               | Condition      | (note 1) |
| 15.247(a)  | 6 dB Bandwidth                     | > 500kHz            |                | С        |
| 15.247(b)  | Transmitter Peak Output Power      | < 1Watt             |                | С        |
| 15.247(d)  | Transmitter Power Spectral Density | < 8dBm @ 3kHz       | Conducted      | С        |
| 15.247(d)  | Band Edge                          | > 20 dBc            |                | С        |
| 15.247(d)  | Band Edge                          | < 54 dBuV (at 3m)   | Radiated       | С        |
| 15.209     | Field Strength of Harmonics        | Emission – CLASS A  | Kadiated       | С        |
| 15.207     | AC Conducted Emissions             | Emissions – CLASS A | Line Conducted | С        |
| 15.203     | Antenna requirement                | -                   | -              | С        |

<u>Note 1</u>: C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable

*Note 2*: The data in this test report are traceable to the national or international standards.

The sample was tested according to the following specification:

FCC Parts 15.247; ANSI C-63.4-2003

### → Antenna Requirement

The eb Corp. EBT-100 unit complies with the requirement of §15.203. The antenna is connected to EUT by a special connector (a reverse SMA type connector).

## 3.2 Technical Characteristics Test (802.11b/g)

### 3.2.1 6 dB Bandwidth

### **Procedure:**

The bandwidth at 6dB below the highest in-band spectral density was measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate frequencies.

After the trace being stable, Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 6dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is ( as close as possible to ) even with the reference marker level. The marker-delta reading at this point is the 6 dB bandwidth of the emission.

### The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

RBW = 100 kHz Span = 40 MHz

 $VBW = 100 \text{ kHz} (VBW \ge RBW)$  Sweep = auto

Trace = max hold Detector function = peak

### **Measurement Data:**

| Mode Frequency | Channel No. | Test Results |                          |          |
|----------------|-------------|--------------|--------------------------|----------|
| Mode           | (MHz)       | Channel No.  | Measured Bandwidth (MHz) | Result   |
|                | 2412        | 1            | 9.3                      | Complies |
| 802.11b        | 2437        | 6            | 11.0                     | Complies |
| -              | 2462        | 11           | 11.1                     | Complies |

<sup>-</sup> See next pages for actual measured spectrum plots.

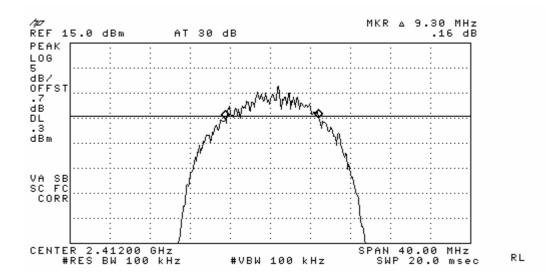
### **Minimum Standard:**

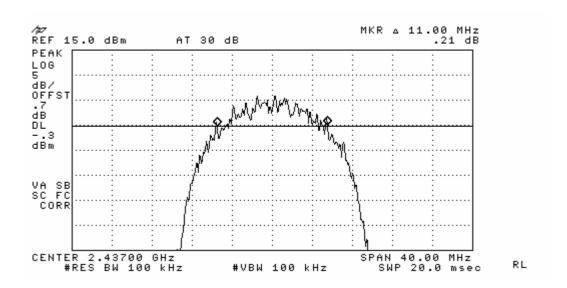
6 dB Bandwidth > 500kHz

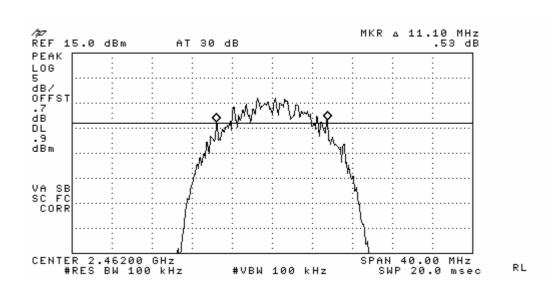
### **Measurement Setup**

Same as the Chapter 3.2.1 (Figure 1)

## 802.11b







# 3.2.2 Peak Output Power Measurement

### **Procedure:**

The maximum peak output power was measured with the spectrum analyzer connected to the antenna output of the EUT. The spectrum analyzer's internal channel power integration function is used to integrate the power over a bandwidth greater than or equal to the 99% bandwidth. The EUT was operating in transmit mode at the appropriate center frequency.

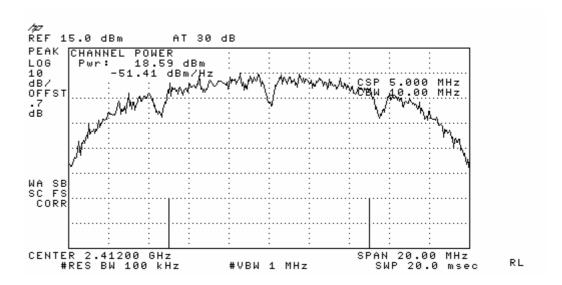
### **Measurement Data:**

| Frequency<br>(MHz) | Channel | Rate (MBps) | Power (dBm) |
|--------------------|---------|-------------|-------------|
|                    |         | 1           | 18.59       |
| 2412               | 1       | 2           | 18.62       |
| 2412               | 1       | 5.5         | 18.97       |
|                    |         | 11          | 18.75       |
|                    | 6       | 1           | 18.98       |
| 2425               |         | 2           | 19.43       |
| 2437               |         | 5.5         | 19.86       |
|                    |         | 11          | 19.46       |
|                    |         | 1           | 19.48       |
| 2462               | 11      | 2           | 19.12       |
|                    |         | 5.5         | 19.89       |
|                    |         | 11          | 19.61       |

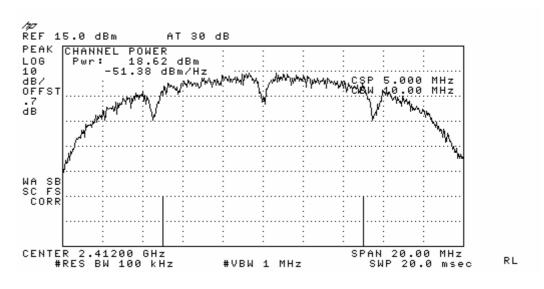
### **Minimum Standard:**

| Peak output power | < 1W |
|-------------------|------|
|-------------------|------|

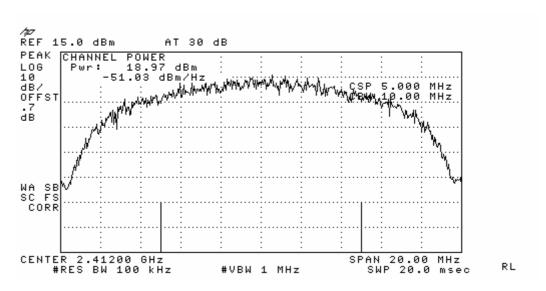
### Measurement Data: CH 1 / 1 Mbps



CH 1 / 2 Mbps

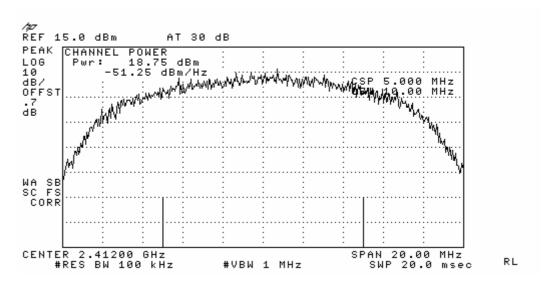


CH 1/5.5 Mbps

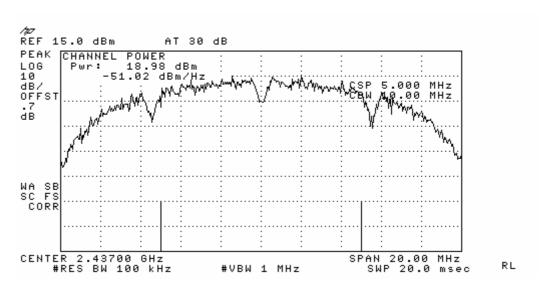


#### **Measurement Data:**

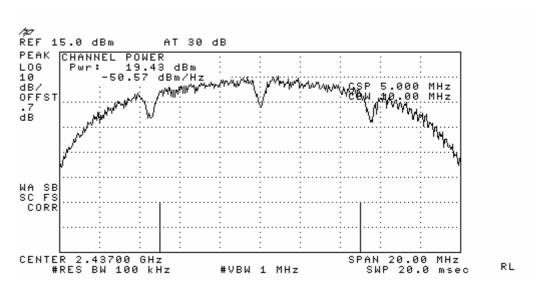
### CH 1 / 11 Mbps



CH 6/1 Mbps

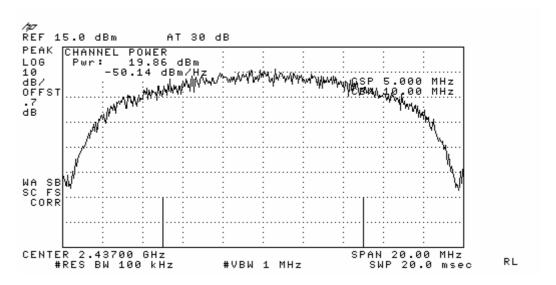


CH 6 / 2 Mbps

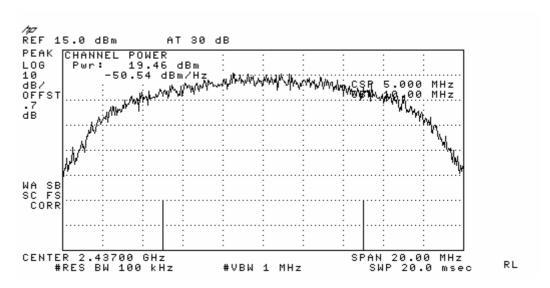


#### **Measurement Data:**

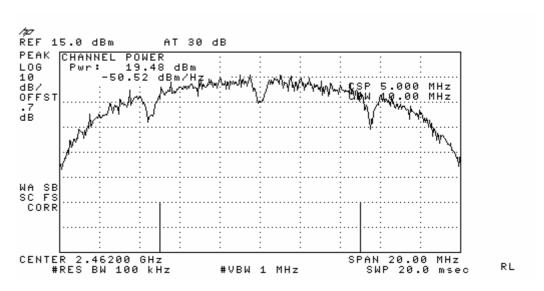
### CH 6 / 5.5 Mbps



CH 6 / 11 Mbps

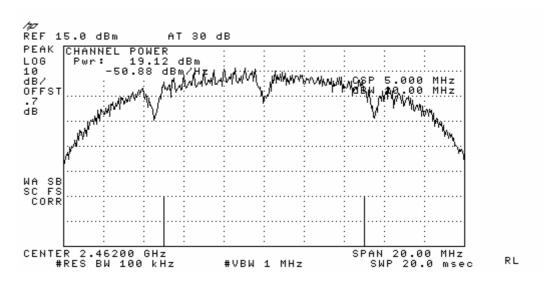


CH 11 / 1 Mbps

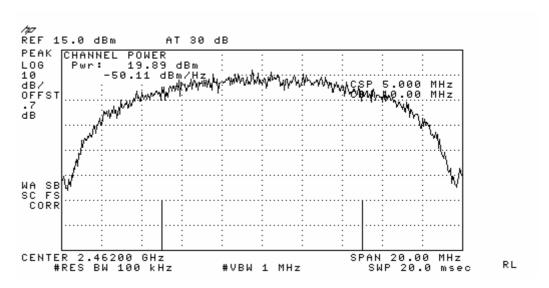


### **Measurement Data:**

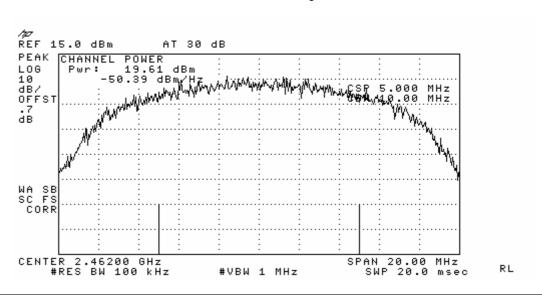
### CH 11 / 2 Mbps



CH 11 / 5.5 Mbps



CH 11 / 11 Mbps



# 3.2.3 Power Spectral Density

### **Procedure:**

The peak power density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

Span = 3 MHz

The spectrum analyzer is set to:

RBW = VBW = 3 kHz

Sweep = 1000 sec Trace =  $\max \text{ hold}$ 

Detector function = peak

### **Measurement Data:**

| Mode    | Frequency<br>(MHz) | Ch. | Test R | Results  |
|---------|--------------------|-----|--------|----------|
| Mode    |                    |     | dBm    | Result   |
|         | 2412               | 1   | -6.28  | Complies |
| 802.11b | 2437               | 6   | -6.55  | Complies |
|         | 2462               | 11  | -6.82  | Complies |

<sup>-</sup> See next pages for actual measured spectrum plots.

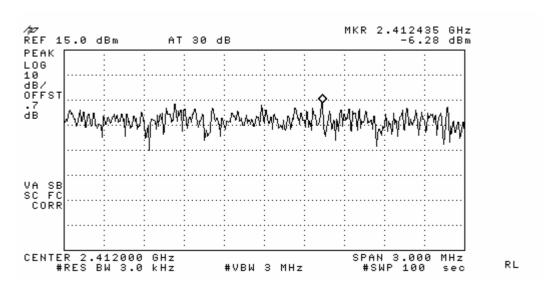
### **Minimum Standard:**

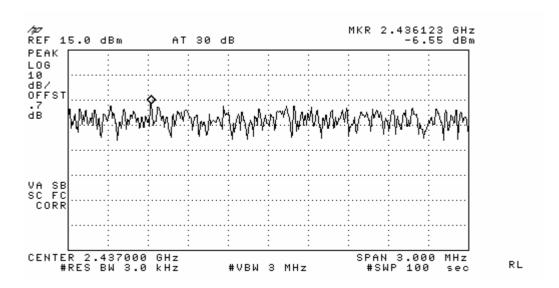
| Power Spectral Density | < 8dBm @ 3kHz BW |
|------------------------|------------------|

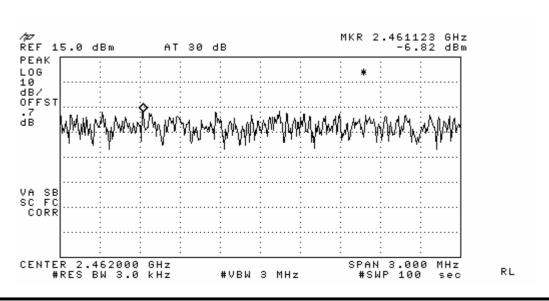
### **Measurement Setup**

Same as the Chapter 3.2.1 (Figure 1)

# **802.11b Power Density Measurement**







## 3.2.4 Band - edge - Conducted Measurement

### **Procedure:**

The bandwidth at 20dB down from the highest inband spectral density is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate frequencies.

After the trace being stable, Use the marker-to-peak function to measure 20 dB down both sides of the intentional emission.

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

RBW = 100 kHz VBW = 100 kHz

Span = 40 MHz Detector function = peak

Trace =  $\max$  hold Sweep = auto

### **Measurement Data: Complies**

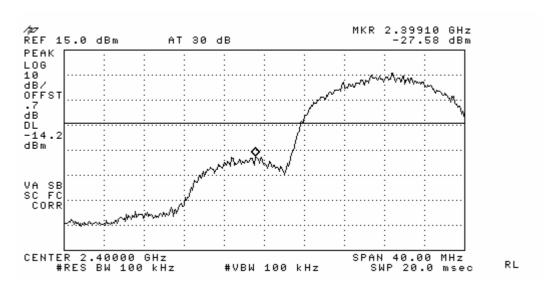
- All conducted emission in any 100kHz bandwidth outside of the spread spectrum band was at least 20dB lower than the highest inband spectral density. Therefore the applying equipment meets the requirement.
- See next pages for actual measured spectrum plots.

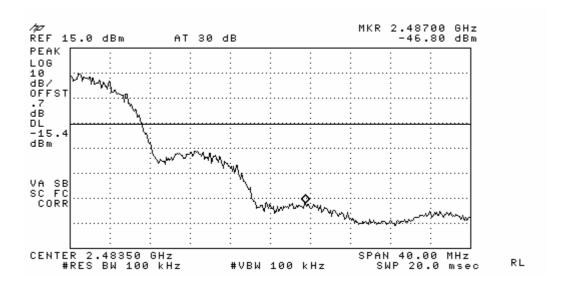
| Minimum Standard: | > 20 dBc |
|-------------------|----------|

### **Measurement Setup**

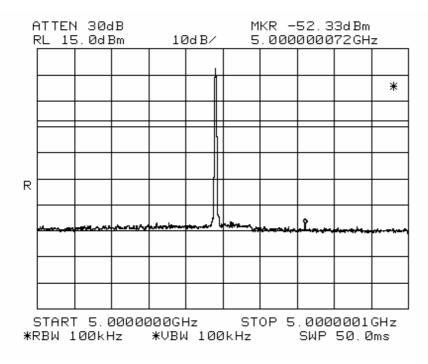
Same as the Chapter 3.2.1 (Figure 1)

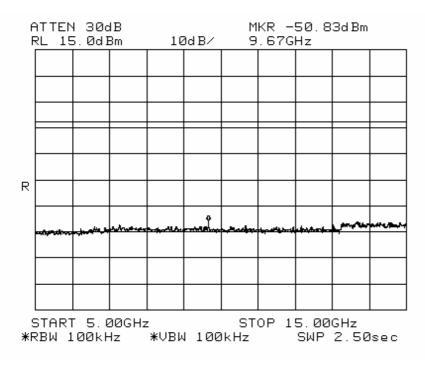
## 802.11b Band-edge Measurements





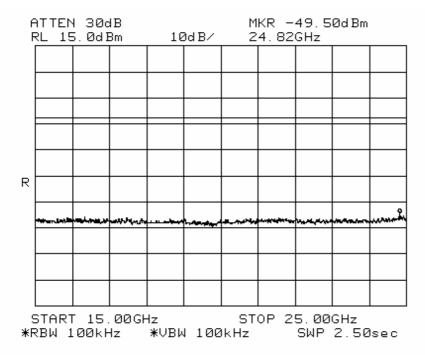
# Band - edge (at 20 dB blow) – Low channel Frequency Range = $30 \text{ MHz} \sim 10^{\text{th}}$ harmonic.



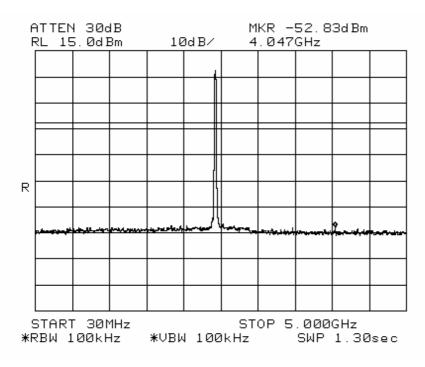


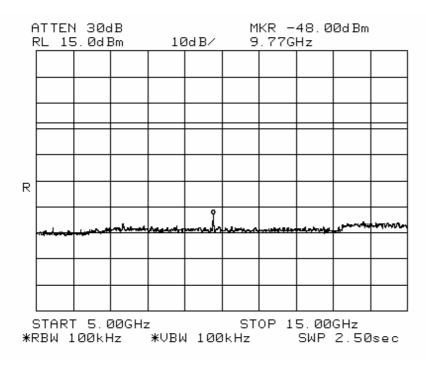
# Band - edge (at 20 dB blow) – Low channel Frequency Range = $30 \text{ MHz} \sim 10^{\text{th}}$ harmonics.

# - Continues



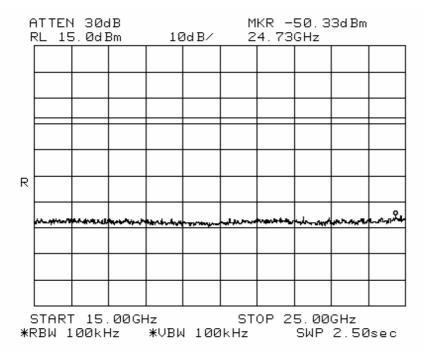
# Band - edge (at 20 dB blow) – Mid channel Frequency Range = $30 \text{ MHz} \sim 10^{\text{th}}$ harmonic.



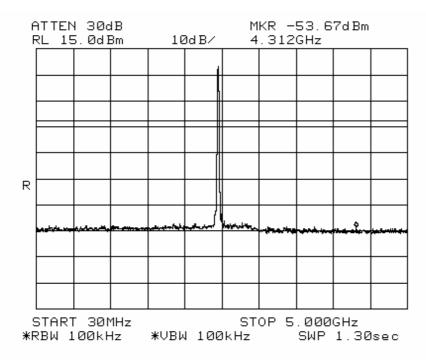


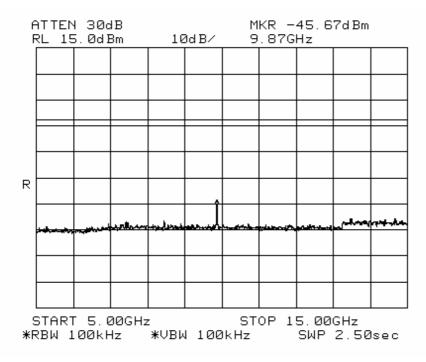
# Band - edge (at 20 dB blow) – Mid channel Frequency Range = $30 \text{ MHz} \sim 10^{\text{th}}$ harmonics.

# - Continues



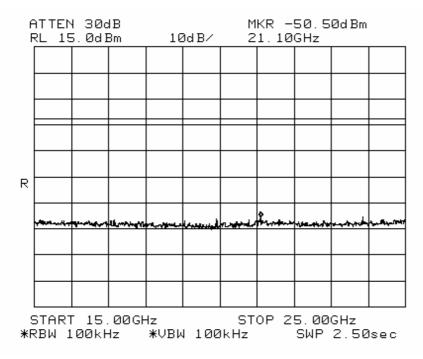
# Band - edge (at 20 dB blow) – High channel Frequency Range = $30 \text{ MHz} \sim 10^{\text{th}}$ harmonic.





# Band - edge (at 20 dB blow) – High channel Frequency Range = $30 \text{ MHz} \sim 10^{\text{th}}$ harmonics.

# - Continues



# 3.2.5 Band Edge - Radiated Measurement-

### **Procedure:**

Radiated emissions which fall in the restricted bands, as defined in 15.205(a), must also comply with the radiated emission limits specified in 15.209(a)

The spectrum analyzer is set to:

Center frequency = the highest, the lowest channels

PEAK: RBW = VBW = 1MHz, Sweep=Auto

Average: RBW = 1MHz, VBW=10Hz, Sweep=Auto

Measurement Distance: 3m

Polarization: Horizontal / Vertical

### **Measurement Data:**

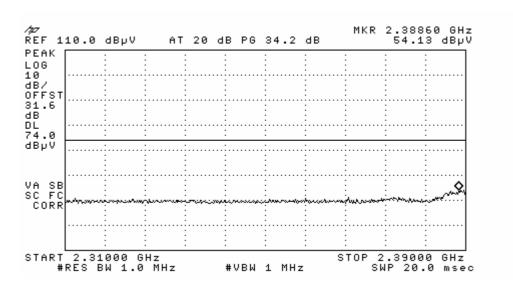
- Refer to the next page.

### Minimum Standard: FCC Part 15.209(a)

| Frequency (MHz) | Limit (uV/m) @ 3m |
|-----------------|-------------------|
| 30 ~ 88         | 100 **            |
| 88 ~ 216        | 150 **            |
| 216 ~ 960       | 200 **            |
| Above 960       | 500               |

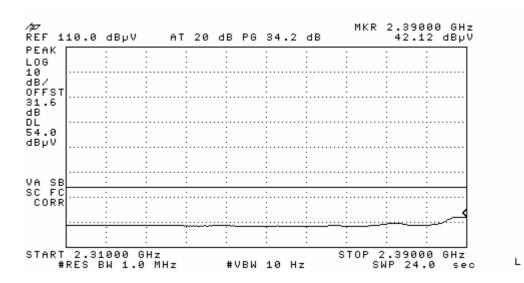
Band Edge – CH-LOW

Detector mode: PEAK / Polarity: Vertical



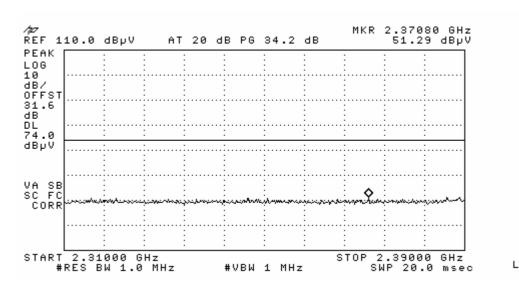
Band Edge – CH-LOW

Detector mode: Average / Polarity: Vertical



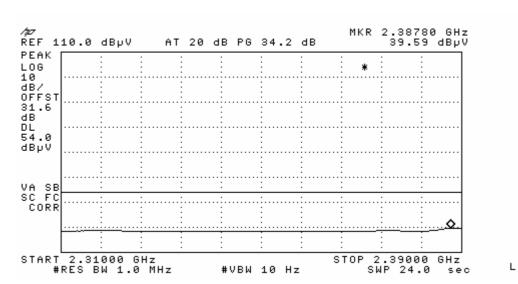
Band Edge – CH-LOW

Detector mode: PEAK / Polarity: Horizontal



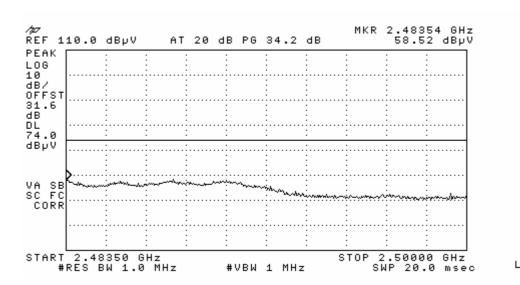
Band Edge – CH-LOW

Detector mode: Average / Polarity: Horizontal



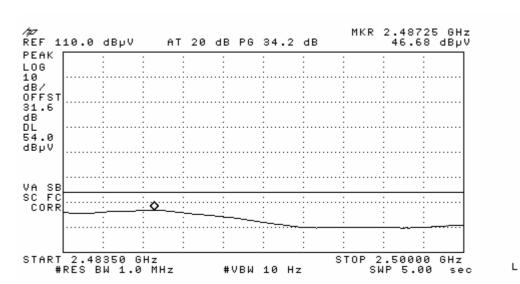
Band Edge – CH-HIGH

Detector mode: PEAK / Polarity: Vertical

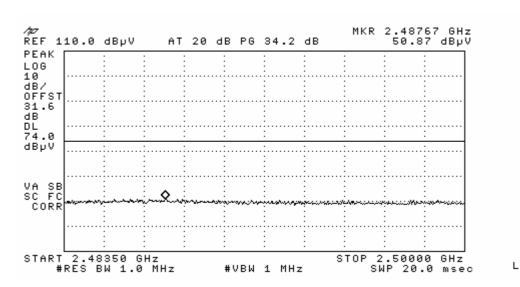


Band Edge – CH-HIGH

Detector mode: Average / Polarity: Vertical

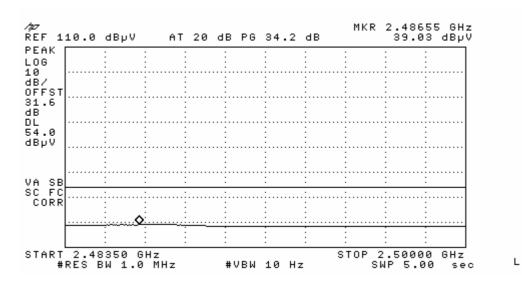


Band Edge – CH-HIGH
Detector mode: PEAK / Polarity: Horizontal



Band Edge – CH-HIGH

Detector mode: Average / Polarity: Horizontal



## 3.2.6 Field Strength of Harmonics

#### **Procedure:**

The EUT was placed on a 0.8m high wooden table inside a shielded enclosure. An antenna was placed near the EUT and measurements of frequencies and amplitudes of field strengths were recorded for reference during final measurements. For final radiated testing, measurements were performed in OATS. Measurements were performed with the EUT oriented in 3 orthogonal axis and rotated 360 degrees to determine worst-case orientation for maximum emissions.

### The spectrum analyzer is set to:

Center frequency = the worst channel

Frequency Range =  $30 \text{ MHz} \sim 10^{\text{th}}$  harmonic.

 $RBW = 100 \text{ kHz} (30 \text{MHz} \sim 1 \text{ GHz})$   $VBW \geq RBW$ 

= 1 MHz  $(1 \text{ GHz} \sim 10^{\text{th}} \text{ harmonic})$ 

Span = 100 MHz Detector function = peak

Trace =  $\max \text{ hold}$  Sweep = auto

### **Measurement Data: Complies**

- See next pages for actual measured data.

### Minimum Standard: FCC Part 15.209(a)

| Frequency (MHz) | Limit (uV/m) @ 3m |  |
|-----------------|-------------------|--|
| 30 ~ 88         | 100 **            |  |
| 88 ~ 216        | 150 **            |  |
| 216 ~ 960       | 200 **            |  |
| Above 960       | 500               |  |

<sup>\*\*</sup> Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88MHz, 174-216MHz or 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.

## **Minimum Standard: FCC Part 15.109**

| Frequency (MHz) | Limit (uV/m) @ 10m |
|-----------------|--------------------|
| 30 ~ 88         | 90                 |
| 88 ~ 216        | 150                |
| 216 ~ 960       | 210                |
| Above 960       | 300                |

# **802.11b Measurement Data:**

| Low channel             |  | Mid channel        |                 | High channel       |                 |  |
|-------------------------|--|--------------------|-----------------|--------------------|-----------------|--|
| Frequency<br>(MHz)      | Level<br>(dBuV)  | Frequency<br>(MHz) | Level<br>(dBuV) | Frequency<br>(MHz) | Level<br>(dBuV) |  |
| -                       | -  | -                  | -               | -                  | -               |  |
| -                       | -  | -                  | -               | -                  | -               |  |
|                         | No emissions were detected at a level greater than 20dB below limit. |                    |                 |                    |                 |  |
| -                       | -  | -                  | -               | -                  | -               |  |
| -                       | -  | -                  | -               | -                  | -               |  |
| Measurement uncertainty |  | ± 6 dB             |                 |                    |                 |  |

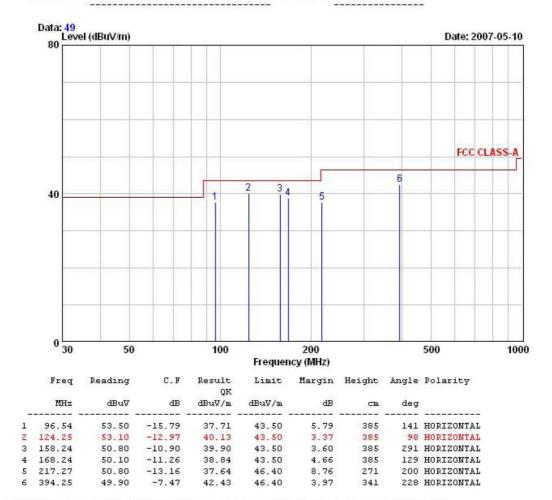
## **Radiated Emissions –WLAN**



243 Jubug-ri, yangji-Myeon, Youngin-si, Gyeonggi-do 449-822 Korea Tel:+82-31-3236008,9 Fax:+82-31-3236010

EUT/Model No.: EBT-100 TEST MODE: WLAN mode

Temp Humi : 18 / 48 Tested by: B. S. KIM

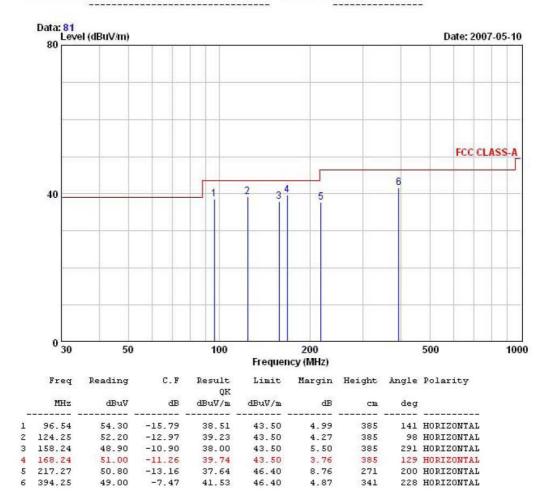


Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

### Radiated Emissions –GSM850+WLAN



243 Jubug-ri, yangji-Myeon, Youngin-si, Gyeonggi-do 449-822 Korea Tel:+82-31-3236008,9 Fax:+82-31-3236010

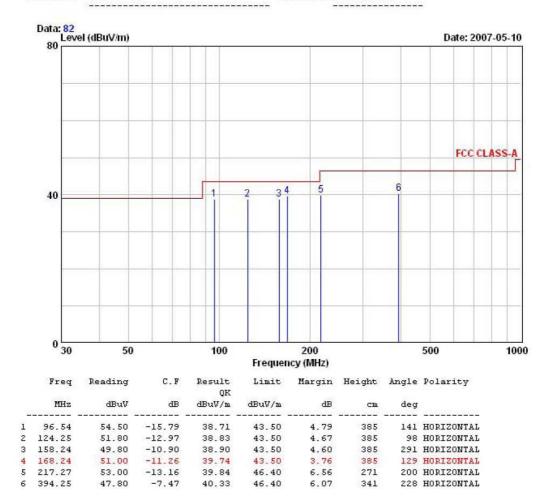


Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

### Radiated Emissions -PCS1900+WLAN



243 Jubug-ri, yangji-Myeon, Youngin-si, Gyeonggi-do 449-822 Korea Tel:+82-31-3236008,9 Fax:+82-31-3236010



Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

### 3.2.7 AC Conducted Emissions

### **Procedure:**

The conducted emissions are measured in the shielded room with a spectrum analyzer in peak hold. While the measurement, EUT had its hopping function disabled at the middle channels in line with Section 15.31(m). Emissions closest to the limit are measured in the quasi-peak mode (QP) with the tuned receiver using a bandwidth of 9 kHz. The emissions are maximized further by cable manipulation and Exerciser operation. The highest emissions relative to the limit are listed.

### **Measurement Data: Complies**

- See next pages for actual measured spectrum plots.
- No emissions were detected at a level greater than 10dB below limit.

### Minimum Standard: FCC Part 15.207(a)/EN 55022

### Class B

| Frequency Range | quasi-peak | Average    |
|-----------------|------------|------------|
| 0.15 ~ 0.5      | 66 to 56 * | 56 to 46 * |
| 0.5 ~ 5         | 56         | 46         |
| 5 ~ 30          | 60         | 50         |

<sup>\*</sup> Decreases with the logarithm of the frequency

### Class A

| Frequency Range | quasi-peak | Average |  |
|-----------------|------------|---------|--|
| 0.15 ~ 0.5 MHz  | 79 dBuV    | 66 dBuV |  |
| 0.5 ~ 30 MHz    | 73 dBuV    | 60 dBuV |  |

### **AC Conducted Emissions –WLAN-Line**

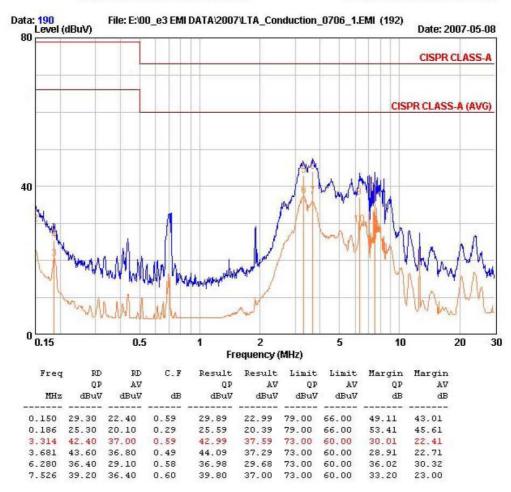


243 Jubug-ri, yangji-Myeon, Youngin-si, Gyeonggi-do 449-822 Korea Tel:+82-31-323-6008 Fax:+82-31-323-6010

EUT / Model No. : EBT-100 Phase : LINE

Test Mode : WLAN mode Test Power : 120 / 60

Temp./Humi. : 25 / 44 Test Engineer : B.S.KIM



Remarks: C.F (Correction Factor) = Insertion loss + Cable loss

### **AC Conducted Emissions – WLAN - Neutral**

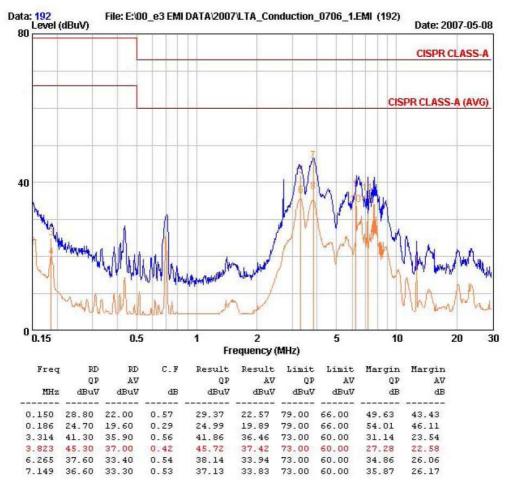


243 Jubug-ri, yangji-Myeon, Youngin-si, Gyeonggi-do 449-822 Korea Tel:+82-31-323-6008 Fax:+82-31-323-6010

EUT / Model No. : EBT-100 Phase : NEUTRAL

Test Mode : WLAN mode Test Power : 120 / 60

Temp./Humi. : 25 / 44 Test Engineer : B.S.KIM



Remarks: C.F (Correction Factor) = Insertion loss + Cable loss

## AC Conducted Emissions - GSM850 + WLAN - Line

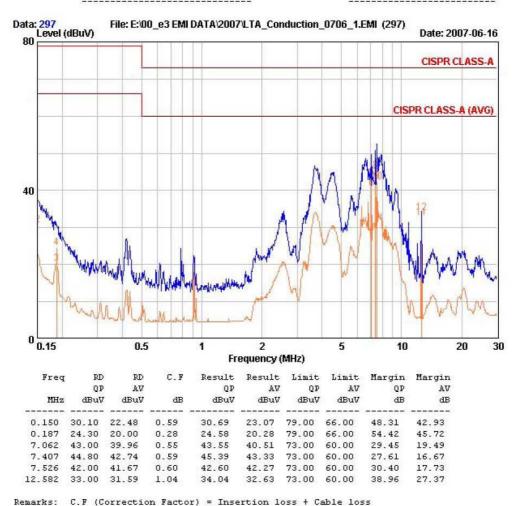


243 Jubug-ri, yangji-Myeon, Youngin-si, Gyeonggi-do 449-822 Korea Tel:+82-31-323-6008 Fax:+82-31-323-6010

EUT / Model No. : EBT-100 Phase : LINE

Test Mode : GSM850 + WLAN mode Test Power : 120 / 60

Temp./Humi. : 24 / 41 Test Engineer : B.S.KIM



Remarks: U.F (Correction Factor) = Insertion loss + Cable los

### AC Conducted Emissions – GSM850 + WLAN - Neutral

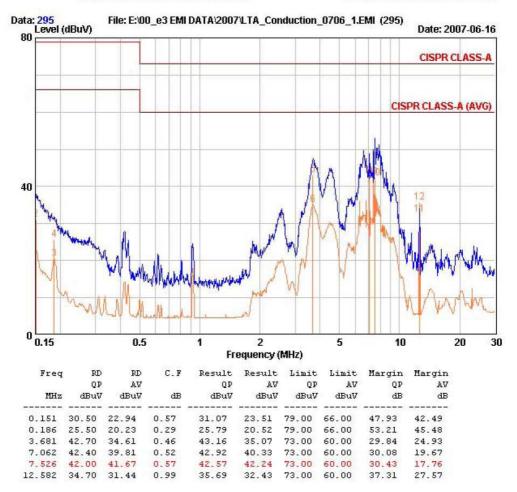


243 Jubug-ri, yangji-Myeon, Youngin-si, Gyeonggi-do 449-822 Korea Tel:+82-31-323-6008 Fax:+82-31-323-6010

EUT / Model No. : EBT-100 Phase : NEUTRAL

Test Mode : GSM850 + WLAN mode Test Power : 120 / 60

Temp./Humi. : 24 / 41 Test Engineer : B.S.KIM



Remarks: C.F (Correction Factor) = Insertion loss + Cable loss

### AC Conducted Emissions - PCS1900 + WLAN - Line

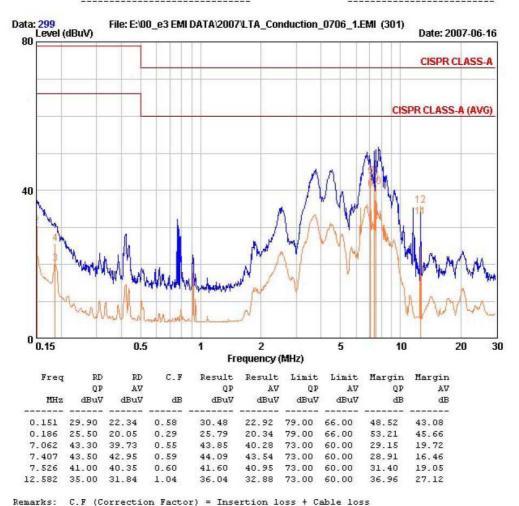


243 Jubug-ri, yangji-Myeon, Youngin-si, Gyeonggi-do 449-822 Korea Tel:+82-31-323-6008 Fax:+82-31-323-6010

EUT / Model No. : EBT-100 Phase : LINE

Test Mode : GSM1900 + WLAN mode Test Power : 120 / 60

Temp./Humi. : 24 / 41 Test Engineer : B.S.KIM



### AC Conducted Emissions - PCS1900 + WLAN - Neutral

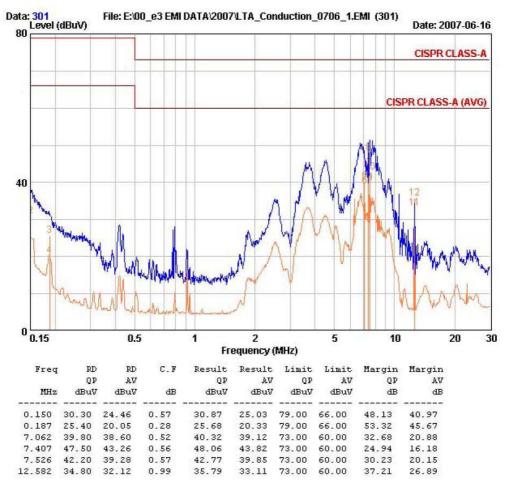


243 Jubug-ri, yangji-Myeon, Youngin-si, Gyeonggi-do 449-822 Korea Tel:+82-31-323-6008 Fax:+82-31-323-6010

EUT / Model No. : EBT-100 Phase : NEUTRAL

Test Mode : GSM1900 + WLAN mode Test Power : 120 / 60

Temp./Humi. : 24 / 41 Test Engineer : B.S.KIM



Remarks: C.F (Correction Factor) = Insertion loss + Cable loss

# **APPENDIX**

# TEST EQUIPMENT USED FOR TESTS

|    | Description             | Model No.   | Serial No.    | Manufacturer  | Next Cal. Date |
|----|-------------------------|-------------|---------------|---------------|----------------|
| 1  | Spectrum Analyzer       | 8594E       | 3649A03649    | НР            | Apr-08         |
| 2  | Signal Generater        | 8648C       | 3623A02597    | НР            | Apr-08         |
| 3  | Attenuator (3dB)        | 8491A       | 37822         | НР            | Nov-07         |
| 4  | Attenuator (10dB)       | 8491A       | 63196         | НР            | Nov-07         |
| 5  | EMI Test Receiver       | ESVD        | 843748/001    | R&S           | Jan-08         |
| 6  | LISN                    | KNW-407     | 8-1430-1      | Kyoritsu      | Jan-08         |
| 7  | Two-Line V-Network      | ESH3-Z5     | 893045/017    | R&S           | Jan-08         |
| 8  | RF Amplifier            | 8447D       | 2949A02670    | НР            | Jan-08         |
| 9  | RF Amplifier            | 8447D       | 2439A09058    | НР            | Jan-08         |
| 10 | RF Amplifier            | 8449B       | 3008A02126    | НР            | Apr-09         |
| 11 | Test Receiver           | ESHS10      | 828404009     | R&S           | Jan-08         |
| 12 | TRILOG Antenna          | VULB 9160   | 9160-3212     | SCHWARZBECK   | Jul-07         |
| 13 | LogPer. Antenna         | VULP 9118   | 9118 A 401    | SCHWARZBECK   | Apr-09         |
| 14 | Biconical Antenna       | BBA 9106    | VHA 9103-2315 | SCHWARZBECK   | Apr-09         |
| 15 | Horn Antenna            | 3115        | 00055005      | ETS LINDGREN  | Mar-09         |
| 16 | Horn Antenna            | BBHA 9120D  | 0499          | Schwarzbeck   | Jun-07         |
| 17 | Dipole Antenna          | VHA9103     | 2116          | Schwarzbeck   | Nov-07         |
| 18 | Dipole Antenna          | VHA9103     | 2117          | Schwarzbeck   | Nov-07         |
| 19 | Dipole Antenna          | UHA9105     | 2261          | Schwarzbeck   | Nov-07         |
| 20 | Dipole Antenna          | UHA9105     | 2262          | Schwarzbeck   | Nov-07         |
| 21 | Spectrum Analyzer       | 8591E       | 3649A05888    | HP            | Jan-08         |
| 22 | Spectrum Analyzer       | 8563E       | 3425A02505    | HP            | Apr-08         |
| 23 | Hygro-Thermograph       | THB-36      | 0041557-01    | ISUZU         | Feb-08         |
| 24 | Splitter (SMA)          | ZFSC-2-2500 | SF617800326   | Mini-Circuits | Jun-07         |
| 25 | RF Switch               | MP59B       | 6200414971    | ANRITSU       | Jun-07         |
| 26 | RF Switch               | MP59B       | 6200438565    | ANRITSU       | Jun-07         |
| 27 | Power Divider           | 11636A      | 6243          | HP            | Nov-07         |
| 28 | DC Power Supply         | 6622A       | 3448A03079    | HP            | Oct-07         |
| 29 | Attenuator (30dB)       | 11636A      | 6243          | НР            | Nov-07         |
| 30 | Frequency Counter       | 5342A       | 2826A12411    | HP            | Apr-08         |
| 31 | Power Meter             | EPM-441A    | GB32481702    | НР            | Apr-08         |
| 32 | Power Sensor            | 8481A       | 2702A64048    | НР            | Apr-08         |
| 33 | Audio Analyzer          | 8903B       | 3729A18901    | НР            | Nov-07         |
| 34 | Modulation Analyzer     | 8901B       | 3749A05878    | НР            | Nov-07         |
| 35 | TEMP & HUMIDITY Chamber | YJ-500      | L05022        | JinYoung Tech | Oct-07         |
| 36 | LOOP-ANTENNA            | FMZB 1516   | 151602/94     | SCHWARZBECK   | Mar-09         |