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# FCC TEST REPORT (15.209)

**REPORT NO. :** RF140502C06-6 R1

**MODEL NO. :** KYY24

**FCC ID :** JOYKYY24

**RECEIVED :** May 02, 2014

**TESTED :** May 29, 2014

**ISSUED :** Jun. 27, 2014

**APPLICANT :** Kyocera Corporation c/o Kyocera Communications, Inc.

**ADDRESS :** 9520 Towne Centre Drive, Suite 200 San Diego, CA 92121

**ISSUED BY :** Bureau Veritas Consumer Products Services  
(H.K.) Ltd., Taoyuan Branch

**LAB ADDRESS :** No. 47, 14th Ling, Chia Pau Vil., Lin Kou Dist.,  
New Taipei City, Taiwan ( R.O.C )

**TEST LOCATION :** No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei  
Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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## RELEASE CONTROL RECORD

| ISSUE NO.        | REASON FOR CHANGE         | DATE ISSUED   |
|------------------|---------------------------|---------------|
| RF140502C06-6    | Original release          | Jun. 12, 2014 |
| RF140502C06-6 R1 | Revise Battery model name | Jun. 27, 2014 |



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## 1. CERTIFICATION

**PRODUCT:** Mobile Phone

**MODEL NO.:** KYY24

**BRAND:** TORQUE G01

**APPLICANT:** Kyocera Corporation c/o Kyocera Communications, Inc.

**TESTED:** May 29, 2014

**TEST SAMPLE:** Identical Prototype

**STANDARDS:** **FCC Part 15, Subpart C (Section 15.209)**

ANSI C63.4-2003

The above equipment (model: KYY24) have been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**PREPARED BY** : Vera Huang , **DATE** : Jun. 27, 2014

Vera Huang / Specialist

**APPROVED BY** : Sam chen , **DATE** : Jun. 27, 2014

Sam Chen / Senior Project Engineer

## 2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC Part 15, Subpart C |                        |        |  |
|--|------------------------|--------|--|
| STANDARD PARAGRAPH                       | TEST TYPE              | RESULT | REMARK   |
| 15.209                                   | Radiated Emission Test | PASS   | Meet the requirement of limit.<br>Minimum passing margin is -5.41dB at 39.99MHz. |

### 2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

| MEASUREMENT        | FREQUENCY       | UNCERTAINTY |
|--------------------|-----------------|-------------|
| Radiated emissions | 30MHz ~ 200MHz  | 3.34 dB     |
|                    | 200MHz ~1000MHz | 3.35 dB     |

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

|                          |   |
|--------------------------|---|
| <b>EUT</b>               | Mobile Phone  |
| <b>MODEL NO.</b>         | KYY24   |
| <b>POWER SUPPLY</b>      | 5.0Vdc (adapter or host equipment)<br>3.8Vdc (Li-ion battery) |
| <b>DATA CABLE</b>        | Refer to note as below  |
| <b>I/O PORT</b>          | Refer to user's manual  |
| <b>ACCESSORY DEVICES</b> | Refer to note as below  |

**NOTE:**

1. This is a test report for wireless charger.
2. The EUT has following accessories.

| ITEM     | BRAND   | MODEL        | SPECIFICATION   |
|----------|---------|--------------|-----------------|
| Battery  | KYOCERA | 5AAXB081JAA- | 3.8Vdc, 3000mAh |
| Earphone | HOSIDEN | HDH0261      | 1.5m cable      |

3. The above EUT information is declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

#### 3.2 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**FCC Part 15, Subpart C (Section 15.209)**

**ANSI C63.4-2003**

All test items have been performed and recorded as per the above standards.

### 3.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

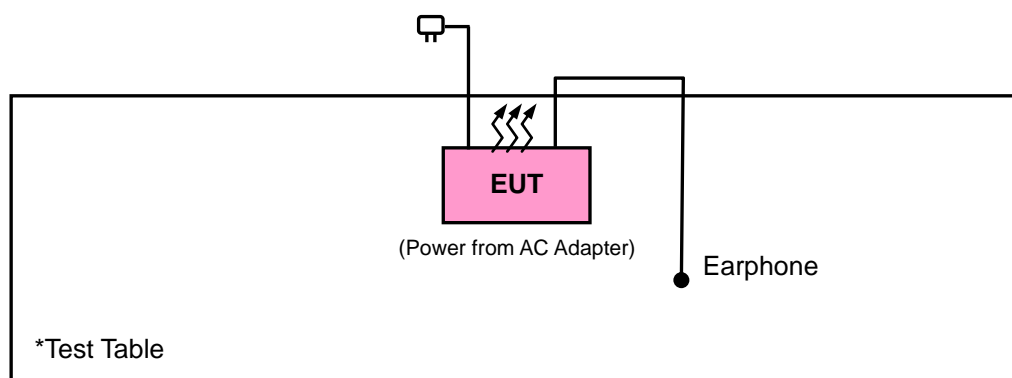
| NO. | PRODUCT | BRAND         | MODEL NO. | SERIAL NO. | FCC ID |
|-----|---------|---------------|-----------|------------|--------|
| 1   | Adapter | KDDI(MITSUMI) | 0301PQA   | N/A        | N/A    |

| NO. | SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS |
|-----|---|
| 1   | N/A   |

#### NOTE:

1. All power cords of the above support units are non shielded (1.8m).
2. Item 1 was provided by client.

#### 3.3.1 CONFIGURATION OF SYSTEM UNDER TEST



## 4. TEST TYPES AND RESULTS

### 4.1 RADIATED EMISSION MEASUREMENT

#### 4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a). Other emissions shall be at least 20dB below the highest level of the desired power.

| Frequencies (MHz) | Field strength (microvolts/meter) | Measurement distance (meters) |
|-------------------|-----------------------------------|-------------------------------|
| 0.009 ~ 0.490     | 2400/F(kHz)                       | 300                           |
| 0.490 ~ 1.705     | 24000/F(kHz)                      | 30                            |
| 1.705 ~ 30.0      | 30                                | 30                            |
| 30 ~ 88           | 100                               | 3                             |
| 88 ~ 216          | 150                               | 3                             |
| 216 ~ 960         | 200                               | 3                             |
| Above 960         | 500                               | 3                             |

As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any Emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.





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#### 4.1.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER                     | MODEL NO.      | SERIAL NO.          | DATE OF CALIBRATION | DUE DATE OF CALIBRATION |
|--|----------------|---------------------|---------------------|-------------------------|
| Test Receiver<br>ROHDE & SCHWARZ               | ESCI           | 100412              | Sep. 13, 2013       | Sep. 12, 2014           |
| Spectrum Analyzer<br>ROHDE & SCHWARZ           | FSU43          | 101261              | Dec. 21, 2013       | Dec. 20, 2014           |
| BILOG Antenna<br>SCHWARZBECK                   | VULB9168       | 9168-472            | Feb. 27, 2014       | Feb. 26, 2015           |
| HORN Antenna<br>SCHWARZBECK                    | BBHA 9120 D    | 9120D- 209          | Sep. 12, 2013       | Sep. 11, 2014           |
| HORN Antenna<br>SCHWARZBECK                    | BBHA 9170      | 9170-480            | Dec. 18, 2013       | Dec. 17, 2014           |
| Loop Antenna                                   | HFH2-Z2        | 100070              | Mar. 06, 2014       | Mar. 05, 2016           |
| Preamplifier<br>EMCI                           | EMC 012645     | 980115              | Dec. 26, 2013       | Dec. 25, 2014           |
| Preamplifier<br>EMCI                           | EMC 184045     | 980116              | Jan. 13, 2014       | Jan. 12, 2015           |
| Preamplifier<br>EMCI                           | EMC 330H       | 980112              | Dec. 27, 2013       | Dec. 26, 2014           |
| RF signal cable<br>HUBER+SUHNNER               | SUCOFLEX 104   | 309219/4<br>2950114 | Oct. 18, 2013       | Oct. 17, 2014           |
| RF signal cable<br>HUBER+SUHNNER               | SUCOFLEX 104   | 250130/4            | Oct. 18, 2013       | Oct. 17, 2014           |
| RF signal cable<br>Worken                      | RG-213         | NA                  | Nov. 07, 2013       | Nov. 06, 2014           |
| Software<br>BV ADT                             | E3<br>6.120103 | NA                  | NA                  | NA                      |
| Antenna Tower<br>MF                            | MFA-440H       | NA                  | NA                  | NA                      |
| Turn Table<br>MF                               | MFT-201SS      | NA                  | NA                  | NA                      |
| Antenna Tower & Turn<br>Table Controller<br>MF | MF-7802        | NA                  | NA                  | NA                      |

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The calibration interval of the loop antenna is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in HwaYa Chamber 10.
4. The FCC Site Registration No. is 690701.
5. The IC Site Registration No. is IC 7450F-10.

#### 4.1.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

**NOTE:**

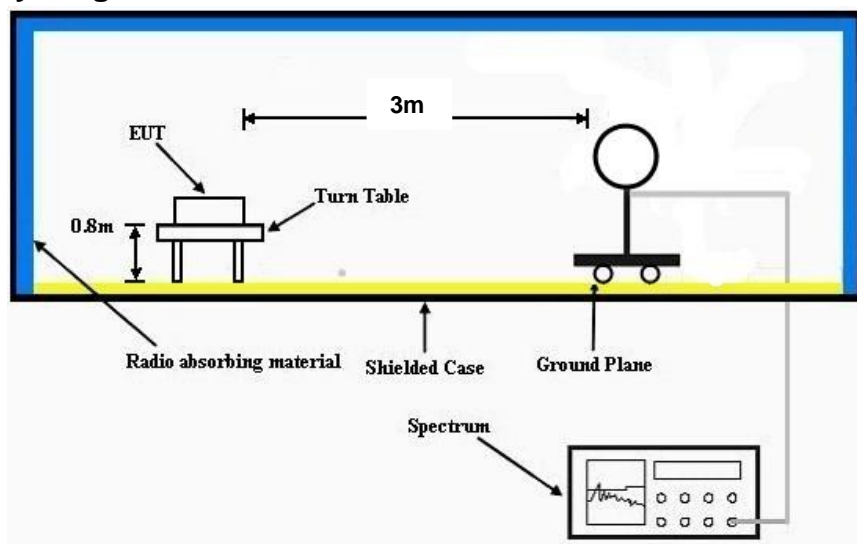
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.

#### 4.1.4 DEVIATION FROM TEST STANDARD

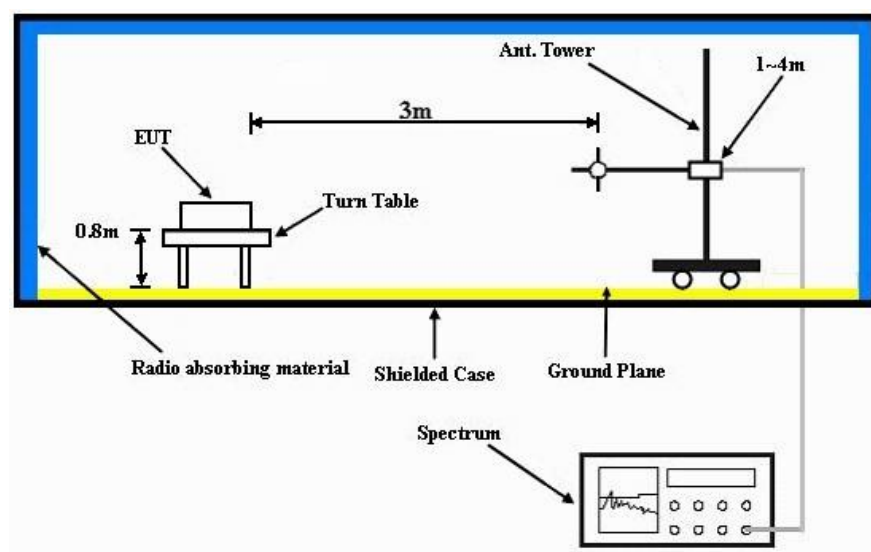
No deviation.

#### 4.1.5 TEST SETUP

##### Frequency range 9k~30MHz:



##### Frequency range 30~1000MHz:



For the actual test configuration, please refer to the attached file (Test Setup Photo).

#### 4.1.6 EUT OPERATING CONDITIONS

Set the EUT under charging condition.



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## 4.1.7 TEST RESULTS

## RADIATED WORST-CASE DATA:

| EUT TEST CONDITION       |                 | MEASUREMENT DETAIL |                            |
|--------------------------|-----------------|--------------------|----------------------------|
| INPUT POWER              | 120Vac, 60 Hz   | FREQUENCY RANGE    | 0.009~30MHz                |
| ENVIRONMENTAL CONDITIONS | 25deg. C, 65%RH | DETECTOR FUNCTION  | Quasi-Peak<br>Average (AV) |
| TESTED BY                | Peter Weng      |                    |                            |

| ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA OPEN AT 3m |                               |                         |                   |                |                             |                           |                            |         |
|---|-------------------------------|-------------------------|-------------------|----------------|-----------------------------|---------------------------|----------------------------|---------|
| FREQ.<br>(MHz)  | EMISSION<br>LEVEL<br>(dBuV/m) | READ<br>LEVEL<br>(dBuV) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>FACTOR<br>(dB/m) | ANTENNA<br>HEIGHT<br>(cm) | TABLE<br>ANGLE<br>(Degree) | REMARK  |
| 0.112   | 78.8                          | 58.97                   | 106.62            | -27.82         | 19.83                       | 100                       | 0                          | Average |
| 0.336   | 55.2                          | 35.45                   | 97.08             | -41.88         | 19.75                       | 100                       | 0                          | Average |
| 0.56  | 47.95                         | 28.21                   | 72.64             | -24.69         | 19.74                       | 100                       | 0                          | QP      |
| 0.784   | 42.18                         | 22.43                   | 69.72             | -27.54         | 19.75                       | 100                       | 0                          | QP      |
| 1.008   | 40.13                         | 20.38                   | 67.54             | -27.41         | 19.75                       | 100                       | 0                          | QP      |
| 1.232   | 36.66                         | 16.9                    | 65.79             | -29.13         | 19.76                       | 100                       | 0                          | QP      |

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
  2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. Above limits have been translated by the formula



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| EUT TEST CONDITION       |                 | MEASUREMENT DETAIL |                            |
|--------------------------|-----------------|--------------------|----------------------------|
| INPUT POWER              | 120Vac, 60 Hz   | FREQUENCY RANGE    | 0.009~30MHz                |
| ENVIRONMENTAL CONDITIONS | 25deg. C, 65%RH | DETECTOR FUNCTION  | Quasi-Peak<br>Average (AV) |
| TESTED BY                | Peter Weng      |                    |                            |

| ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA CLOSE AT 3m |                               |                         |                   |                |                             |                           |                            |         |
|--|-------------------------------|-------------------------|-------------------|----------------|-----------------------------|---------------------------|----------------------------|---------|
| FREQ.<br>(MHz)   | EMISSION<br>LEVEL<br>(dBuV/m) | READ<br>LEVEL<br>(dBuV) | LIMIT<br>(dBuV/m) | MARGIN<br>(dB) | ANTENNA<br>FACTOR<br>(dB/m) | ANTENNA<br>HEIGHT<br>(cm) | TABLE<br>ANGLE<br>(Degree) | REMARK  |
| 0.112  | 74.19                         | 54.36                   | 106.62            | -32.43         | 19.83                       | 100                       | 360                        | Average |
| 0.336  | 51.23                         | 31.48                   | 97.08             | -45.85         | 19.75                       | 100                       | 360                        | Average |
| 0.56   | 44.1                          | 24.36                   | 72.64             | -28.54         | 19.74                       | 100                       | 360                        | QP      |
| 0.784  | 39.76                         | 20.01                   | 69.72             | -29.96         | 19.75                       | 100                       | 360                        | QP      |
| 1.008  | 38.36                         | 18.61                   | 67.54             | -29.18         | 19.75                       | 100                       | 360                        | QP      |
| 1.232  | 37.28                         | 17.52                   | 65.79             | -28.51         | 19.76                       | 100                       | 360                        | QP      |

**REMARKS:**

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. Above limits have been translated by the formula



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## BELOW 1GHz WORST-CASE DATA :

| EUT TEST CONDITION       |                 | MEASUREMENT DETAIL |                              |
|--------------------------|-----------------|--------------------|------------------------------|
| FREQUENCY RANGE          | Below 1000MHz   | INPUT POWER        | 120Vac, 60 Hz                |
| ENVIRONMENTAL CONDITIONS | 25deg. C, 65%RH | DETECTOR FUNCTION  | Peak (PK)<br>Quasi-Peak (QP) |
| TESTED BY                | Peter Weng      |                    |                              |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M |                         |                   |                |             |                       |                 |                    |                     |                      |        |
|---|-------------------------|-------------------|----------------|-------------|-----------------------|-----------------|--------------------|---------------------|----------------------|--------|
| FREQ. (MHz)   | EMISSION LEVEL (dBuV/m) | READ LEVEL (dBuV) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA FACTOR (dB/m) | CABLE LOSS (dB) | PREAMP FACTOR (dB) | ANTENNA HEIGHT (cm) | TABLE ANGLE (Degree) | REMARK |
| 42.69   | 23.46                   | 40.26             | 40             | -16.54      | 13.58                 | 0.7             | 31.08              | 166                 | 308                  | Peak   |
| 140.16  | 28.19                   | 46.16             | 43.5           | -15.31      | 12.37                 | 1.3             | 31.64              | 100                 | 257                  | Peak   |
| 204.42  | 30.58                   | 51.09             | 43.5           | -12.92      | 9.56                  | 1.62            | 31.69              | 100                 | 135                  | Peak   |
| 538.7   | 22.55                   | 33.17             | 46             | -23.45      | 18.19                 | 2.91            | 31.72              | 111                 | 88                   | Peak   |
| 610.1   | 23.98                   | 33.21             | 46             | -22.02      | 19.73                 | 3.12            | 32.08              | 100                 | 192                  | Peak   |
| 703.2   | 25.15                   | 32.63             | 46             | -20.85      | 20.86                 | 3.44            | 31.78              | 100                 | 218                  | Peak   |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M   |                         |                   |                |             |                       |                 |                    |                     |                      |        |
| FREQ. (MHz)   | EMISSION LEVEL (dBuV/m) | READ LEVEL (dBuV) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA FACTOR (dB/m) | CABLE LOSS (dB) | PREAMP FACTOR (dB) | ANTENNA HEIGHT (cm) | TABLE ANGLE (Degree) | REMARK |
| 39.99   | 34.59                   | 51.39             | 40             | -5.41       | 13.54                 | 0.65            | 30.99              | 100                 | 122                  | Peak   |
| 111.27  | 24.94                   | 45.47             | 43.5           | -18.56      | 10.18                 | 1.14            | 31.85              | 185                 | 236                  | Peak   |
| 204.69  | 24.75                   | 45.26             | 43.5           | -18.75      | 9.56                  | 1.62            | 31.69              | 100                 | 155                  | Peak   |
| 547.1   | 22.46                   | 33.01             | 46             | -23.54      | 18.39                 | 2.94            | 31.88              | 122                 | 196                  | Peak   |
| 575.1   | 23.11                   | 33.16             | 46             | -22.89      | 19.03                 | 3.02            | 32.1               | 108                 | 189                  | Peak   |
| 652.1   | 24.8                    | 33.33             | 46             | -21.2       | 20.23                 | 3.25            | 32.01              | 100                 | 185                  | Peak   |

## REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor  
Margin Value = Emission Level - Limit Value

## 5. PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

## 6. INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

Copies of accreditation and authorization certificates of our laboratories obtained from approval agencies can be downloaded from our web site: [www.adt.com.tw/index.5.phtml](http://www.adt.com.tw/index.5.phtml). If you have any comments, please feel free to contact us at the following:

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Fax: 886-2-26051924

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Tel: 886-3-3183232

Fax: 886-3-3185050

**Email:** [service.adt@tw.bureauveritas.com](mailto:service.adt@tw.bureauveritas.com)

**Web Site:** [www.adt.com.tw](http://www.adt.com.tw)

The address and road map of all our labs can be found in our web site also.



## **7. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB**

No any modifications are made to the EUT by the lab during the test.

---END---