# FCC TEST REPORT

| | |
|---|---|
| **REPORT NO.:** | RF141002C01 |
| **MODEL NO.:** | AP001V2 |
| **FCC ID :** | 2AA5H-AP001V2 |
| **RECEIVED:** | Oct. 02, 2014 |
| **TESTED:** | Oct. 23 ~ Oct. 24, 2014 |
| **ISSUED:** | Nov. 03, 2014 |

| | |
|---|---|
| **APPLICANT :** | BioSensics LLC |
| **ADDRESS :** | 678 Massachusetts Ave. Unit 904, Cambridge, MA 02139, USA |

| | |
|---|---|
| **ISSUED BY :** | Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch |
| **LAB ADDRESS :** | No. 47-2, 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. |

This report should not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

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# RELEASE CONTROL RECORD

| ISSUE NO. | REASON FOR CHANGE | DATE ISSUED |
|---|---|---|
| RF141002C01 | Original release | Nov. 03, 2014 |

# 1 CERTIFICATION

| | |
|---|---|
| **PRODUCT:** | Active Fall Detection Pendant |
| **MODEL:** | AP001V2 |
| **BRAND:** | BioSensics |
| **APPLICANT:** | BioSensics LLC |
| **TESTED:** | Oct. 23 ~ Oct. 24, 2014 |
| **TEST SAMPLE:** | ENGINEERING SAMPLE |
| **STANDARDS:** | **FCC Part 15, Subpart C (Section 15.231)** |
| | ANSI C63.10-2009 |

The above equipment (model: AP001V2) has 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** : _____ , **DATE:** Nov. 03, 2014
Polly Chien / Specialist

**APPROVED BY** : _____ , **DATE:** Nov. 03, 2014
Ken Liu / Senior Manager

# 2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC Part 15, Subpart C (Section 15.231) | | | |
|---|---|---|---|
| **STANDARD SECTION** | **TEST TYPE AND LIMIT** | **RESULT** | **REMARK** |
| 15.207 | AC Power Conducted Emission | N/A | Power supply is 3Vdc from battery. |
| 15.209<br>15.231(b) | Radiated Emission Test | PASS | Meet the requirement of limit. Minimum passing margin is -10.7dB at 345.00MHz. |
| 15.231(c) | Emission Bandwidth Measurement | PASS | Meet the requirement of limit. |
| 15.231(a) | De-activation | PASS | Meet the requirement of limit. |
| 15.203 | Antenna Requirement | PASS | No antenna connector is used. |

## 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 | 3.86 dB |
| | 200MHz ~1000MHz | 3.87 dB |
| | 1GHz ~ 18GHz | 2.29 dB |
| | 18GHz ~ 40GHz | 2.29 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

| | |
|---|---|
| **PRODUCT** | Active Fall Detection Pendant |
| **MODEL NO.** | AP001V2 |
| **POWER SUPPLY** | 3Vdc (Coin-Battery CR2450 x1) |
| **MODULATION TYPE** | ASK |
| **CARRIER FREQUENCY** | 345MHz |
| **NUMBER OF CHANNEL** | 1 |
| **DATA CABLE** | N/A |
| **I/O PORTS** | N/A |
| **ANTENNA TYPE** | PCB antenna with -7dBi gain (Peak gain) |
| **ANTENNA CONNECTOR** | NA |
| **ACCESSORY DEVICE** | Device inside Coin-battery of CR2450 and with a hang rope connected Device |

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

## 3.2 DESCRIPTION OF TEST MODES

One channel was provided to this EUT.

| CHANNEL | FREQUENCY |
|---|---|
| 1 | 345MHz |

## 3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

| EUT CONFIGURE MODE | APPLICABLE TO | | | | | DESCRIPTION |
|---|---|---|---|---|---|---|
| | RE ≥ 1G | RE < 1G | PLC | EB | DT | |
| - | √ | √ | NOTE | √ | √ | - |

Where **RE ≥ 1G:** Radiated Emission above 1GHz **RE < 1G:** Radiated Emission below 1GHz
**PLC:** Power Line Conducted Emission **EB:** 20dB Bandwidth measurement
**DT**: Deactivation Time measurement

**NOTE:** 1. No need to concern of Conducted Emission due to the EUT is powered by battery.

2. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane.**

**RADIATED EMISSION TEST (ABOVE 1 GHz):**

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations.

☒ Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TYPE |
|---|---|---|
| 1 | 1 | ASK |

**RADIATED EMISSION TEST (BELOW 1 GHz):**

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations.

☒ Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TYPE |
|---|---|---|
| 1 | 1 | ASK |

**EMISSION BANDWIDTH MEASUREMENT:**

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations.

☒ Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TYPE |
|---|---|---|
| 1 | 1 | ASK |

**DEACTIVATION TIME MEASUREMENT:**

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations.

☒ Following channel(s) was (were) selected for the final test as listed below.

| AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TYPE |
|---|---|---|
| 1 | 1 | ASK |

**TEST CONDITION:**

| APPLICABLE TO | ENVIRONMENTAL CONDITIONS | INPUT POWER | TESTED BY |
|---|---|---|---|
| RE≥1G | 18deg. C, 69%RH | 3Vdc | Nick Hsu |
| RE<1G | 18deg. C, 69%RH | 3Vdc | Nick Hsu |
| EB | 24deg. C, 64%RH | 3Vdc | Match Tsui |
| DT | 24deg. C, 64%RH | 3Vdc | Match Tsui |

## 3.3 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 (15.231)**
**ANSI C63.10-2009**

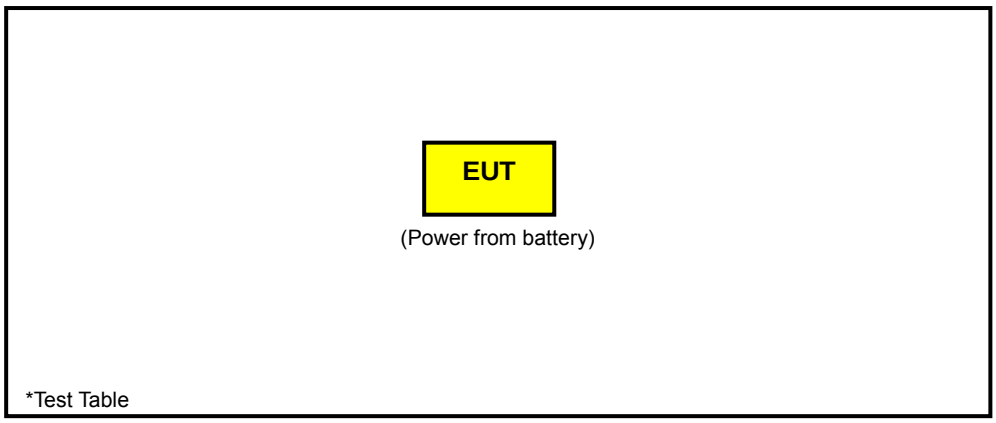
All test items have been performed and recorded as per the above standards.

**NOTE:** The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

## 3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit.

### 3.4.1 CONFIGURATION OF SYSTEM UNDER TEST



# 4 TEST PROCEDURE AND RESULT

## 4.1 RADIATED EMISSION MEASUREMENT

### 4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

According to 15.231 the field strength of emissions from intentional radiators operated under these frequencies bands shall not exceed the following:

| Fundamental Frequency (MHz) | Field Strength of Fundamental | | Field Strength of Spurious | |
|---|---|---|---|---|
| | uV/meter | dBuV/meter | uV/meter | dBuV/meter |
| 40.66 ~ 40.70 | 2250 | 67.04 | 225 | 48.04 |
| 70 ~ 130 | 1250 | 61.94 | 125 | 41.94 |
| 130 ~ 174 | 1250 ~ 3750 | 61.94 ~ 71.48 | 125 ~ 375 | 41.94 ~ 51.48 |
| 174 ~ 260 | 3750 | 71.48 | 75 | 37.50 |
| 260 ~ 470 | 3750 ~ 12500 | 71.48 ~ 81.94 | 375 ~ 1250 | 51.48 ~ 61.94 |
| Above 470 | 12500 | 81.94 | 1250 | 61.94 |

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

| 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 |

**NOTE**:
1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
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.

## 4.1.2 TEST INSTRUMENT

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | DATE OF CALIBRATION | DUE DATE OF CALIBRATION |
|---|---|---|---|---|
| Test Receiver ROHDE & SCHWARZ | ESIB7 | 100187 | Jan. 02, 2014 | Jan. 01, 2015 |
| Spectrum Analyzer ROHDE & SCHWARZ | FSP40 | 100039 | Mar. 03, 2014 | Mar. 02, 2015 |
| BILOG Antenna SCHWARZBECK | VULB9168 | 9168-160 | Feb. 26, 2014 | Feb. 25, 2015 |
| HORN Antenna SCHWARZBECK | 9120D | 209 | Aug. 25, 2014 | Aug. 24, 2015 |
| HORN Antenna SCHWARZBECK | BBHA 9170 | BBHA9170241 | Feb. 17, 2014 | Feb. 16, 2015 |
| Loop Antenna | HFH2-Z2 | 100070 | Mar. 06, 2014 | Mar. 05, 2016 |
| Preamplifier Agilent | 8447D | 2944A10633 | Oct. 07, 2014 | Oct. 05, 2015 |
| Preamplifier Agilent | 8449B | 3008A01964 | Aug. 22, 2014 | Aug. 21, 2015 |
| RF signal cable HUBER+SUHNNER | SUCOFLEX 104 | 214378/4 | Aug. 22, 2014 | Aug. 21, 2015 |
| RF signal cable HUBER+SUHNNER | SUCOFLEX 106 | 12738/6 +309224/4 | Aug. 22, 2014 | Aug. 21, 2015 |
| Software BV ADT | ADT_Radiated_ V7.6.15.9.4 | NA | NA | NA |
| Antenna Tower inn-co GmbH | MA 4000 | 013303 | NA | NA |
| Antenna Tower Controller inn-co GmbH | CO2000 | 017303 | NA | NA |
| Turn Table BV ADT | TT100 | TT93021703 | NA | NA |
| Turn Table Controller BV ADT | SC100 | SC93021703 | 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 3.

4. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.

5. The FCC Site Registration No. is 988962.

6. The IC Site Registration No. is IC 7450F-3.

### 4.1.3 TEST PROCEDURE

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.

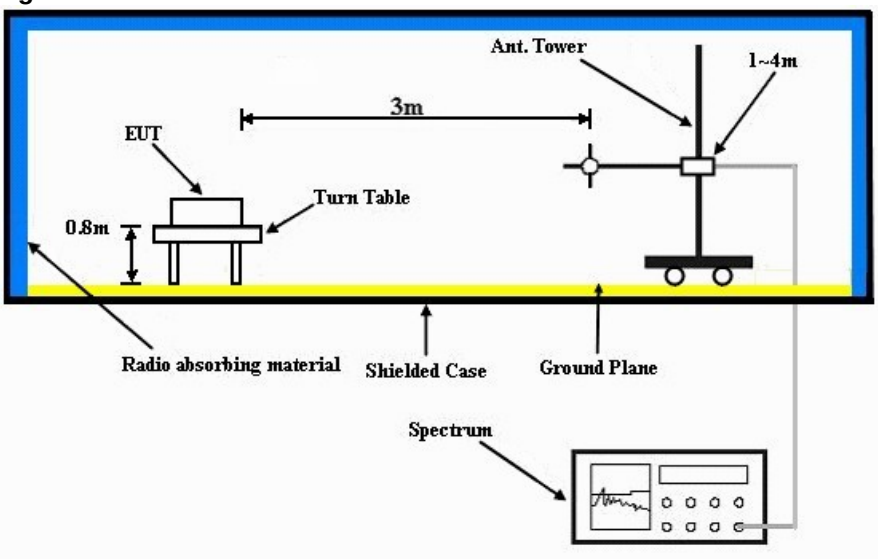
f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using the quasi-peak method or average method as specified and then reported in Data sheet peak mode and QP mode.

**NOTE:**

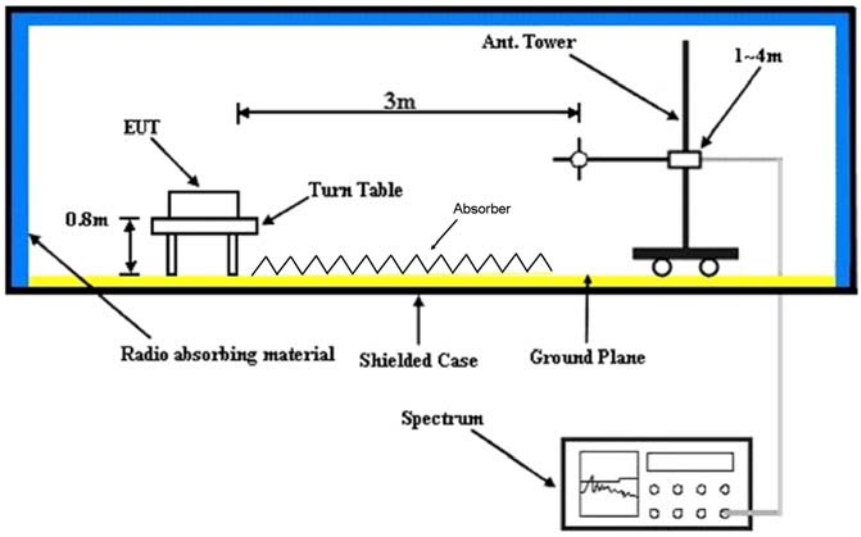
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz(Duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

## 4.1.4 TEST SETUP

**Frequency range 30MHz~1GHz**




**Frequency range above 1GHz**




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

## 4.1.5 EUT OPERATING CONDITION

Set the EUT under transmission condition continuously at specific channel frequency.

## 4.1.6 TEST RESULTS

**ABOVE 1GHz DATA**

| EUT TEST CONDITION | | MEASUREMENT DETAIL | |
|---|---|---|---|
| CHANNEL | Channel 1 | FREQUENCY RANGE | 1 ~ 4GHz |
| INPUT POWER | 3Vdc | DETECTOR FUNCTION | Peak (PK)<br>Average (AV) |
| ENVIRONMENTAL CONDITIONS | 18deg. C, 69%RH | TESTED BY | Nick Hsu |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 1035.00 | 35.1 PK | 77.3 | -42.2 | 1.17 H | 156 | 42.80 | -7.70 |
| 2 | 1035.00 | 22.0 AV | 57.3 | -35.3 | 1.17 H | 156 | 29.70 | -7.70 |
| 3 | 1380.00 | 36.0 PK | 77.3 | -41.3 | 1.22 H | 218 | 41.80 | -5.80 |
| 4 | 1380.00 | 22.3 AV | 57.3 | -35.0 | 1.22 H | 218 | 28.10 | -5.80 |
| **ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M** | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 1035.00 | 34.6 PK | 77.3 | -42.7 | 1.33 V | 254 | 42.30 | -7.70 |
| 2 | 1035.00 | 22.2 AV | 57.3 | -35.1 | 1.33 V | 254 | 29.90 | -7.70 |
| 3 | 1380.00 | 35.3 PK | 77.3 | -42.0 | 1.15 V | 136 | 41.10 | -5.80 |
| 4 | 1380.00 | 22.5 AV | 57.3 | -34.8 | 1.15 V | 136 | 28.30 | -5.80 |

**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) – Pre-Amplifier Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

## BELOW 1GHz WORST-CASE DATA

| EUT TEST CONDITION | | MEASUREMENT DETAIL | |
|---|---|---|---|
| CHANNEL | Channel 1 | FREQUENCY RANGE | Below 1000MHz |
| INPUT POWER | 3Vdc | DETECTOR FUNCTION | Peak (PK)<br>Average (AV) |
| ENVIRONMENTAL CONDITIONS | 18deg. C, 69%RH | TESTED BY | Nick Hsu |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | *345.00 | 72.5 PK | 97.3 | -24.8 | 1.00 H | 136 | 56.10 | 16.40 |
| **2** | ***345.00** | **66.6 AV** | **77.3** | **-10.7** | **1.00 H** | **136** | **50.20** | **16.40** |
| **ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M** | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | *345.00 | 62.8 PK | 97.3 | -34.5 | 1.00 V | 195 | 46.40 | 16.40 |
| 2 | *345.00 | 58.0 AV | 77.3 | -19.3 | 1.00 V | 195 | 41.60 | 16.40 |

**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)
– Pre-Amplifier Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * " : Fundamental frequency

| EUT TEST CONDITION | | MEASUREMENT DETAIL | |
|---|---|---|---|
| CHANNEL | Channel 1 | FREQUENCY RANGE | Below 1000MHz |
| INPUT POWER | 3Vdc | DETECTOR FUNCTION | Peak/Average /Quasi-Peak |
| ENVIRONMENTAL CONDITIONS | 18deg. C, 69%RH | TESTED BY | Nick Hsu |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 57.21 | 32.1 QP | 57.3 | -25.2 | 1.99 H | 256 | 46.60 | -14.50 |
| 2 | 84.43 | 18.8 QP | 57.3 | -38.5 | 1.99 H | 78 | 38.20 | -19.40 |
| 3 | 142.75 | 14.3 QP | 57.3 | -43.0 | 1.50 H | 2 | 28.50 | -14.20 |
| 4 | 630.66 | 22.9 QP | 57.3 | -34.4 | 1.50 H | 282 | 28.20 | -5.30 |
| 5 | 690.00 | 38.3 PK | 77.3 | -39.0 | 1.26 H | 5 | 42.60 | -4.30 |
| 6 | 690.00 | 32.7 AV | 57.3 | -24.6 | 1.26 H | 5 | 37.0 | -4.30 |
| 7 | 795.89 | 26.4 QP | 57.3 | -30.9 | 1.99 H | 204 | 28.20 | -1.80 |
| 8 | 965.01 | 28.7 QP | 57.3 | -28.6 | 1.99 H | 339 | 27.50 | 1.20 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 30.00 | 29.4 QP | 57.3 | -27.9 | 1.50 V | 213 | 45.30 | -15.90 |
| 2 | 39.72 | 29.0 QP | 57.3 | -28.3 | 1.00 V | 316 | 44.10 | -15.10 |
| 3 | 61.10 | 28.4 QP | 57.3 | -28.9 | 1.00 V | 226 | 43.30 | -14.90 |
| 4 | 107.76 | 22.2 QP | 57.3 | -35.1 | 1.00 V | 15 | 39.70 | -17.50 |
| 5 | 630.66 | 23.0 QP | 57.3 | -34.3 | 1.00 V | 302 | 28.30 | -5.30 |
| 6 | 690.00 | 31.8 PK | 77.3 | -45.5 | 1.00 V | 6 | 36.10 | -4.30 |
| 7 | 690.00 | 22.6 AV | 57.3 | -34.7 | 1.00 V | 6 | 26.90 | -4.30 |
| 8 | 811.44 | 26.2 QP | 57.3 | -31.1 | 1.00 V | 14 | 27.90 | -1.70 |

**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) – Pre-Amplifier Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

## 4.2 20dB OCCUPIED BANDWIDTH MEASUREMENT

### 4.2.1 LIMITS OF EMISSION BANDWIDTH MEASUREMENT

The bandwidth of the emission shall be no wider than 0.25% of the center frequency for device operating above 70 MHz and below 900 MHz.

| FUNDAMENTAL FREQUENCY (MHz) | LIMIT OF EMISSION BANDWIDTH (kHz) |
|---|---|
| 345 | 787.5 |

### 4.2.2 TEST INSTRUMENT

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | DATE OF CALIBRATION | DUE DATE OF CALIBRATION |
|---|---|---|---|---|
| SPECTRUM ANALYZER R&S | FSP40 | 100039 | Mar. 03, 2014 | Mar. 02, 2015 |

**NOTE:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.2.3 TEST PROCEDURE

a. The EUT was placed on the turn table.

b. The signal was coupled to the spectrum analyzer through an antenna.

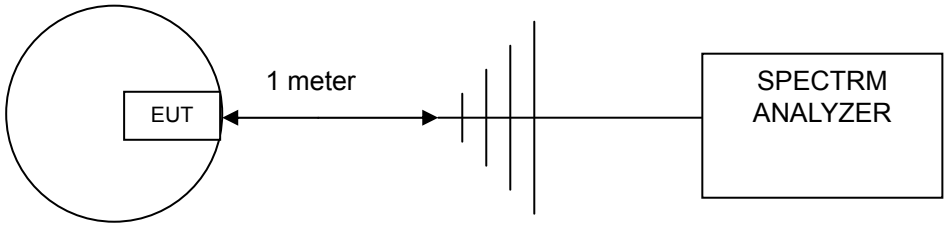
c. Set the resolution bandwidth to 10kHz and video bandwidth to 30kHz then select Peak function to scan the channel frequency.

d. The emission bandwidth was measured and recorded.

## 4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

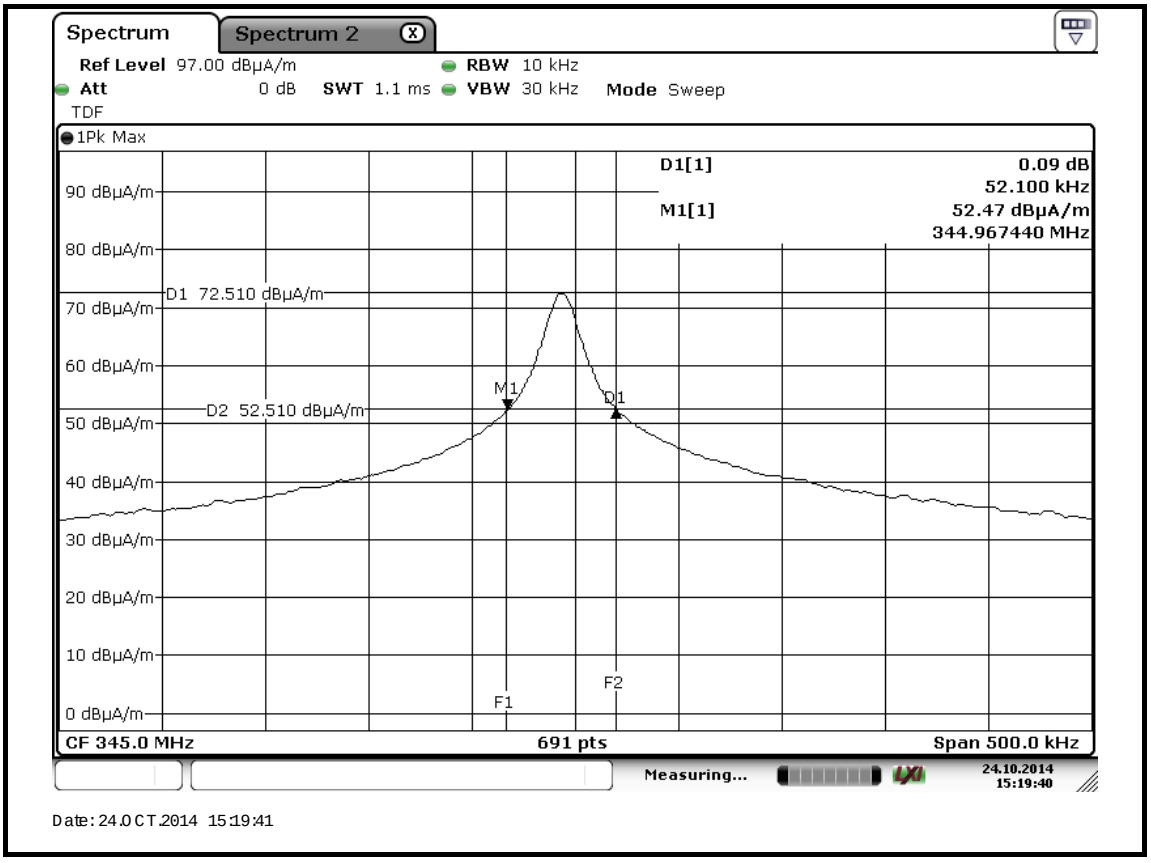
## 4.2.5 TEST SETUP




## 4.2.6 TEST RESULTS

| FREQUENCY (MHz) | 20dB BANDWIDTH (kHz) | MAXIMUM LIMIT (kHz) | PASS/FAIL |
|---|---|---|---|
| 345.0 | 52.10 | 787.5 | PASS |

The plot of test result is attached as below.



## 4.3 DEACTIVATION TIME

### 4.3.1 LIMITS OF DEACTIVATION TIME MEASUREMENT

A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

### 4.3.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | DATE OF CALIBRATION | DUE DATE OF CALIBRATION |
|---|---|---|---|---|
| SPECTRUM ANALYZER R&S | FSP40 | 100039 | Mar. 03, 2014 | Mar. 02, 2015 |

**NOTE:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.3.3 TEST PROCEDURES

a. The EUT was placed on the turning table.

b. The signal was coupled to the spectrum analyzer through an antenna.

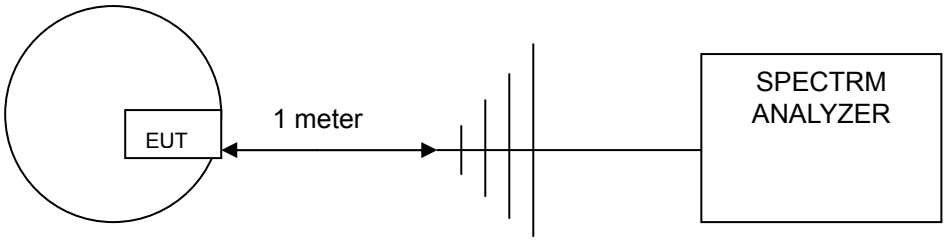
c. Set the resolution bandwidth to 10kHz and video bandwidth to 30kHz. The spectrum analyzer was turned to the centre frequency of the transmitter's and the analyzer's marker function was used to determine the duration of transmission.

d. The transmission duration was measured and recorded.

### 4.3.4 DEVIATION FROM TEST STANDARD

No deviation.

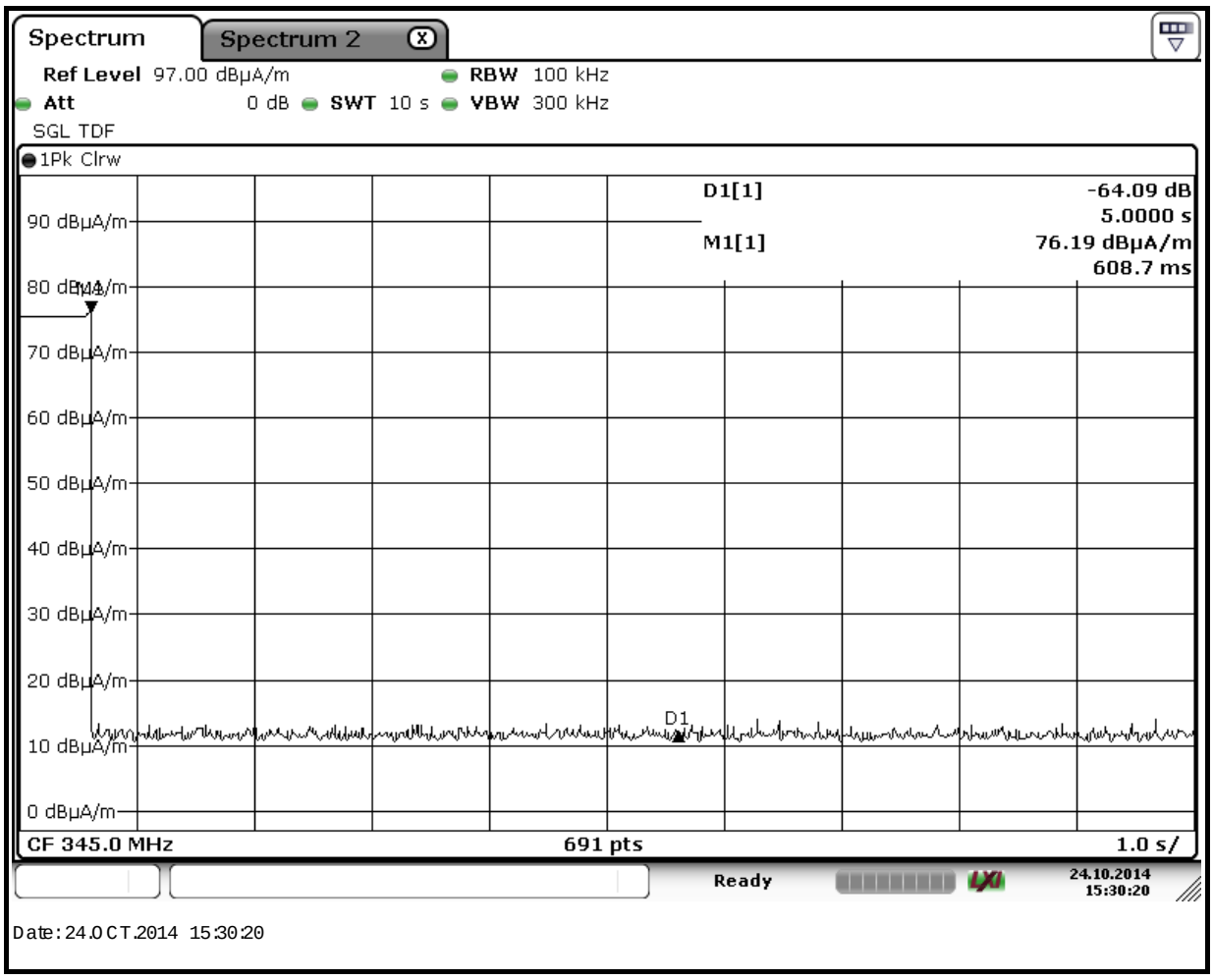
## 4.3.5 TEST SETUP




## 4.3.6 TEST RESULTS

| PUSH BUTTON | FREQUENCY (MHz) | MAXIMUM LIMIT (sec) | PASS/FAIL |
|---|---|---|---|
| 1 | 345.0 | 5 | PASS |

The plots of test results are attached as below.



# 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.

If you have any comments, please feel free to contact us at the following: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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 ---**