



FCC ID:WNG-WCP-04

AUDIX Technology (Shenzhen) Co., Ltd.

FCC PART 15C TEST REPORT FOR CERTIFICATION  
On Behalf of

Rondish Company Limited

System Name : Wireless Nurse Call System (Long Range)

System Model Number : Protektor II

EUT Name : Wireless Call Point (Waterproof)

Model No.: WCP-04

FCC ID: WNG-WCP-04

Prepared for : Rondish Company Limited  
Unit G & H, 4/F, Block 1, Kwai Tak Ind. Ctr. 15-33 Kwai  
Tak St., Kwai Chung, N. T., Hong Kong

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Report Number : ACS-F13354

Date of Test : Dec.03, 2013~Jan.15, 2014

Date of Report : Jan.20, 2014

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## TEST REPORT CERTIFICATION

Applicant : Rondish Company Limited  
Manufacturer : Rondish Company Limited  
System Name : Wireless Nurse Call System (Long Range)  
System Model Number : Protektor II  
EUT Name : Wireless Call Point (Waterproof)  
FCC ID : WNG-WCP-04

(A) MODEL NO. : WCP-04  
(B) SERIAL NO. : N/A  
(C) POWER SUPPLY : DC 3V  
(D) TEST VOLTAGE : DC 3V

Tested for comply with:  
FCC Rules and Regulations Part 15 Subpart C: 2012  
Test procedure used:  
ANSI C63.10:2009

The device described above is tested by AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. to confirm comply with all the FCC Part 15 Subpart C requirements.

The test results are contained in this test report and AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. is assumed full responsibility for the accuracy and completeness of these tests. This report contains data that are not covered by the NVLAP accreditation. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC and IC requirements.

This Report is made under FCC Part 2.1075. No modifications were required during testing to bring this product into compliance.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Test : Dec.03~23, 2013 Report of date: Jan.07, 2014

Prepared by : Lisa Liang / Assistant  
Reviewed by : Sunny Lu / Assistant Manager



Approved & Authorized Signer : David Jin / Manager

## 1. SUMMARY OF STANDARDS AND RESULTS

### 1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

| EMISSION                      |  |         |
|-------------------------------|--|---------|
| Description of Test Item      | Standard                                 | Results |
| Power Line Conducted Emission | FCC Part 15: 15.207<br>ANSI C63.10: 2009 | N/A     |
| Radiated Emission             | FCC Part 15: 15.209<br>ANSI C63.10: 2009 | PASS    |
| Band Edge Compliance          | FCC Part 15: 15.247<br>ANSI C63.10: 2009 | PASS    |
| Conducted spurious emissions  | FCC Part 15: 15.247<br>ANSI C63.10: 2009 | PASS    |
| 6dB Bandwidth                 | FCC Part 15: 15.247<br>ANSI C63.10: 2009 | PASS    |
| Peak Output Power             | FCC Part 15: 15.247<br>ANSI C63.10: 2009 | PASS    |
| Power Spectral Density        | FCC Part 15: 15.247<br>ANSI C63.10: 2009 | PASS    |

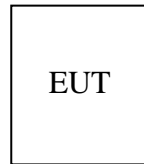
N/A is an abbreviation for Not Applicable.      ANSI C63.4: 2009 is used for all test

## 2. GENERAL INFORMATION

### 2.1. Description of Device (EUT)

|                       |  |
|-----------------------|--|
| System Name           | : Wireless Nurse Call System (Long Range)  |
| System Model Number   | : Protektor II   |
| EUT Name              | : Wireless Call Point (Waterproof)   |
| Model Number          | : WCP-04   |
| Work frequency        | : 922.5MHz   |
| Antenna Assembly Gain | : Wire antenna, 0dBi PK Gain   |
| Applicant             | : Rondish Company Limited<br>Unit G & H, 4/F, Block 1, Kwai Tak Ind. Ctr. 15-33 Kwai Tak St., Kwai Chung, N. T., Hong Kong |
| Manufacturer          | : Rondish Company Limited<br>Unit G & H, 4/F, Block 1, Kwai Tak Ind. Ctr. 15-33 Kwai Tak St., Kwai Chung, N. T., Hong Kong |
| Date of Test          | : Dec.03, 2013~Jan.15, 2014  |
| Date of Receipt       | : Dec.02, 2013   |
| Sample Type           | : Prototype production   |

## 2.2. Block Diagram of connection between EUT and simulators



**(EUT: Wireless Call Point (Waterproof))**

## 2.3. Test Information

A special method was used to control EUT work in Continuous TX mode, and select test channel, wireless mode and Frequency.

| Tested mode, channel, and Frequency information |         |                 |
|---|---------|-----------------|
| Mode  | Channel | Frequency (MHz) |
| Tx Mode GFSK modulation                         | 1       | 922.5           |

## 2.4. Test Facility

### Site Description

Name of Firm : Audix Technology (Shenzhen) Co., Ltd.  
No. 6, Ke Feng Rd., 52 Block, Shenzhen  
Science & Industrial Park, Nantou,  
Shenzhen, Guangdong, China

3m Anechoic Chamber : Certificated by FCC, USA  
Registration Number: 90454  
Valid Date: Feb.22, 2015

3m & 10m Anechoic Chamber : Certificated by FCC, USA  
Registration Number: 794232  
Valid Date: Oct.31, 2015

EMC Lab. : Certificated by Industry Canada  
Registration Number: IC 5183A-1  
Valid Date: Jun.13, 2014

: Certificated by DAkkS, Germany  
Registration No: D-PL-12151-01-01  
Valid Date: Feb.01, 2014

Accredited by NVLAP, USA  
NVLAP Code: 200372-0  
Valid Date: Mar.31, 2014

## 2.5. Measurement Uncertainty (95% confidence levels, k=2)

| Test Item  | Uncertainty                     |
|--|---------------------------------|
| Uncertainty for Radiation Emission test in 3m chamber              | 3.22 dB(30~200MHz, Polarize: H) |
|  | 3.23 dB(30~200MHz, Polarize: V) |
|  | 3.49 dB(200M~1GHz, Polarize: H) |
|  | 3.39 dB(200M~1GHz, Polarize: V) |
| Uncertainty for Radiation Emission test in 3m chamber (1GHz-18GHz) | 4.97 dB (1~6GHz, Distance: 3m)  |
|  | 4.99 dB (6~18GHz, Distance: 3m) |
| Uncertainty for Radiated Spurious Emission test in RF chamber      | 3.57 dB                         |
| Uncertainty for Conduction Spurious emission test                  | 2.00 dB                         |
| Uncertainty for Output power test                                  | 0.73 dB                         |
| Uncertainty for Power density test                                 | 2.00 dB                         |
| Uncertainty for Frequency range test                               | $7 \times 10^{-8}$              |
| Uncertainty for Bandwidth test                                     | 83 kHz                          |
| Uncertainty for DC power test                                      | 0.038 %                         |
| Uncertainty for test site temperature and humidity                 | 0.6°C                           |
|  | 3%                              |



### 3. RADIATED EMISSION TEST

#### 3.1. Test Equipment

Frequency rang: 30~1000MHz

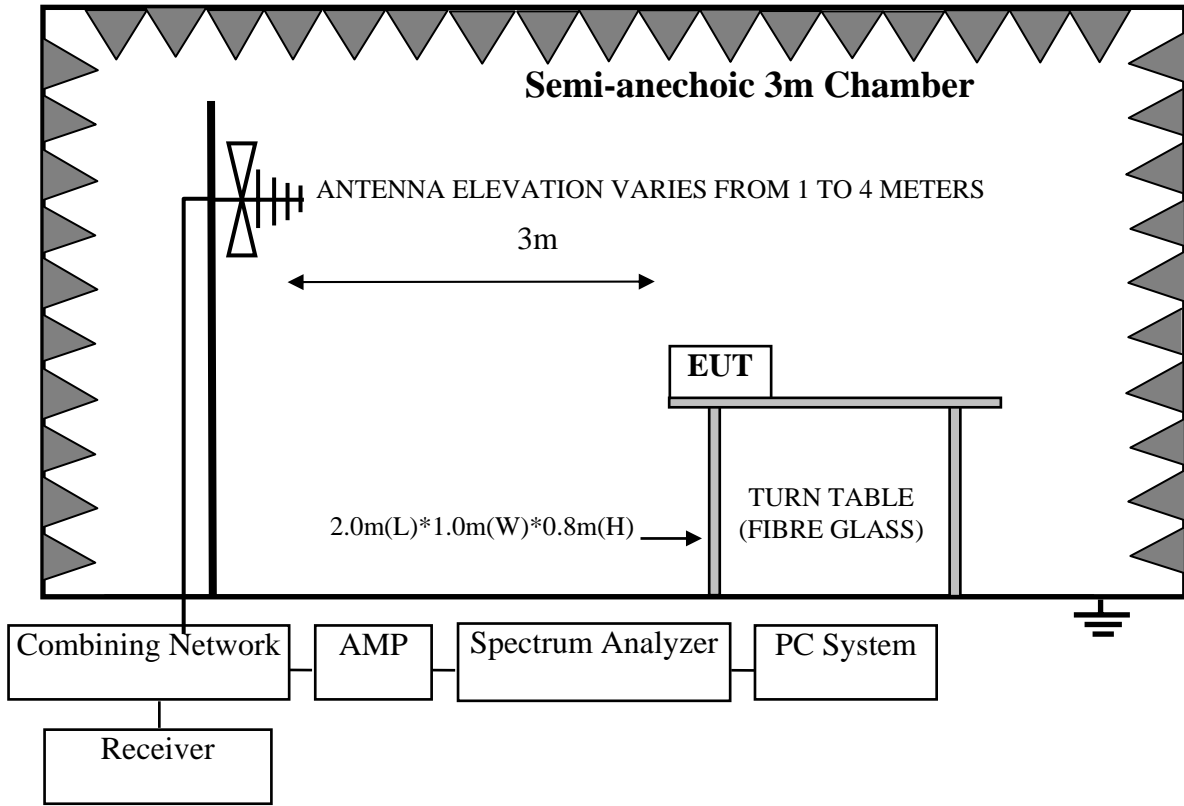
| Item | Equipment      | Manufacturer    | Model No. | Serial No.      | Last Cal.  | Cal. Interval |
|------|----------------|-----------------|-----------|-----------------|------------|---------------|
| 1    | 3#Chamber      | AUDIX           | N/A       | N/A             | Nov.24, 13 | 1 Year        |
| 2    | EMI Spectrum   | Agilent         | E4407B    | MY41440292      | May.08, 13 | 1 Year        |
| 3    | Test Receiver  | Rohde & Schwarz | ESVS10    | 834468/011      | May.08, 13 | 1 Year        |
| 4    | Amplifier      | HP              | 8447D     | 2648A04738      | May.08, 13 | 1 Year        |
| 5    | Bilog Antenna  | TESEQ           | CBL6112D  | 35375           | May.30, 13 | 1 Year        |
| 6    | RF Cable       | MIYAZAKI        | CFD400-NL | 3# Chamber No.1 | May.08, 13 | 1 Year        |
| 7    | Coaxial Switch | Anritsu         | MP59B     | M74389          | May.08, 13 | 1 Year        |

Frequency rang: above 1000MHz

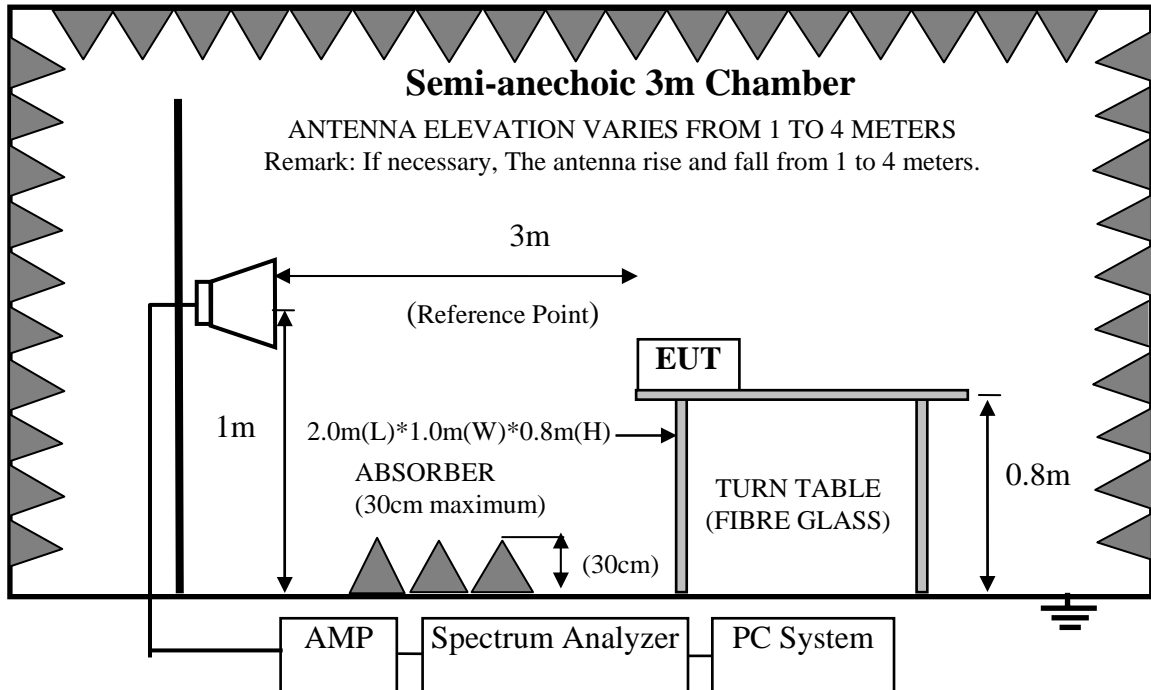
| Item | Equipment         | Manufacturer | Model No.   | Serial No. | Last Cal.  | Cal. Interval |
|------|-------------------|--------------|-------------|------------|------------|---------------|
| 1    | Spectrum Analyzer | Agilent      | E4407B      | MY41440292 | May.08, 13 | 1 Year        |
| 2    | Horn Antenna      | EMCO         | 3115        | 9510-4580  | May.28, 13 | 1 Year        |
| 3    | Amplifier         | Agilent      | 8449B       | 3008A00863 | May.08, 13 | 1 Year        |
| 4    | RF Cable          | Hubersuhner  | SUCOFLEX106 | 77980/6    | May.08, 13 | 1 Year        |
| 5    | RF Cable          | Hubersuhner  | SUCOFLEX106 | 77977/6    | May.08, 13 | 1 Year        |

### 3.2. Block Diagram of Test Setup

For frequency range 30MHz-1000MHz



For frequency range above 1GHz



### 3.3.Radiated Emission Limit

#### 3.3.1.15.247 limits

| FREQUENCY<br>MHz | DISTANCE<br>Meters | FIELD STRENGTHS LIMIT                           |          |
|------------------|--------------------|---|----------|
|                  |                    | μV/m  | dB(μV)/m |
| 30 ~ 88          | 3                  | 100   | 40.0     |
| 88 ~ 216         | 3                  | 150   | 43.5     |
| 216 ~ 960        | 3                  | 200   | 46.0     |
| 960 ~ 1000       | 3                  | 500   | 54.0     |
| Above 1000       | 3                  | 74.0 dB(μV)/m (Peak)<br>54.0 dB(μV)/m (Average) |          |

- Remark :
- (1) Emission level dBμV = 20 log Emission level μV/m
  - (2) The smaller limit shall apply at the cross point between two frequency bands.
  - (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

#### 3.3.2.15.205 Restricted bands of operation

| MHz                        | MHz                   | MHz             | GHz              |
|----------------------------|-----------------------|-----------------|------------------|
| 0.090 - 0.110              | 16.42 - 16.423        | 399.9 - 410     | 4.5 - 5.15       |
| <sup>1</sup> 0.495 - 0.505 | 16.69475 - 16.69525   | 608 - 614       | 5.35 - 5.46      |
| 2.1735 - 2.1905            | 16.80425 - 16.80475   | 960 - 1240      | 7.25 - 7.75      |
| 4.125 - 4.128              | 25.5 - 25.67          | 1300 - 1427     | 8.025 - 8.5      |
| 4.17725 - 4.17775          | 37.5 - 38.25          | 1435 - 1626.5   | 9.0 - 9.2        |
| 4.20725 - 4.20775          | 73 - 74.6             | 1645.5 - 1646.5 | 9.3 - 9.5        |
| 6.215 - 6.218              | 74.8 - 75.2           | 1660 - 1710     | 10.6 - 12.7      |
| 6.26775 - 6.26825          | 108 - 121.94          | 1718.8 - 1722.2 | 13.25 - 13.4     |
| 6.31175 - 6.31225          | 123 - 138             | 2200 - 2300     | 14.47 - 14.5     |
| 8.291 - 8.294              | 149.9 - 150.05        | 2310 - 2390     | 15.35 - 16.2     |
| 8.362 - 8.366              | 156.52475 - 156.52525 | 2483.5 - 2500   | 17.7 - 21.4      |
| 8.37625 - 8.38675          | 156.7 - 156.9         | 2690 - 2900     | 22.01 - 23.12    |
| 8.41425 - 8.41475          | 162.0125 - 167.17     | 3260 - 3267     | 23.6 - 24.0      |
| 12.29 - 12.293             | 167.72 - 173.2        | 3332 - 3339     | 31.2 - 31.8      |
| 12.51975 - 12.52025        | 240 - 285             | 3345.8 - 3358   | 36.43 - 36.5     |
| 12.57675 - 12.57725        | 322 - 335.4           | 3600 - 4400     | ( <sup>2</sup> ) |

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

### 3.4.EUT Configuration on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

#### 3.4.1.Wireless Call Point (Waterproof) (EUT)

Model Number : WCP-04  
Serial Number : N/A

### 3.5. Operating Condition of EUT

3.5.1. Setup the EUT and simulator as shown as Section 3.2.

3.5.2. Turned on the power of all equipment.

3.5.3. Let the EUT work in test mode (TX Mode) and measure it.

### 3.6. Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna are set on test.

The EUT was tested at X.Y.Z position and found the worst case position reported in the report.

The bandwidth of the EMI test receiver (R&S ESVS10) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's VBW is set at 3MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz .

This device is pulse Modulated, a duty cycle factor was used to calculated average level based measured peak level.

The frequency range from 30MHz to 10<sup>th</sup> harmonic (10GHz) are checked.

### 3.7. Radiated Emission Test Results

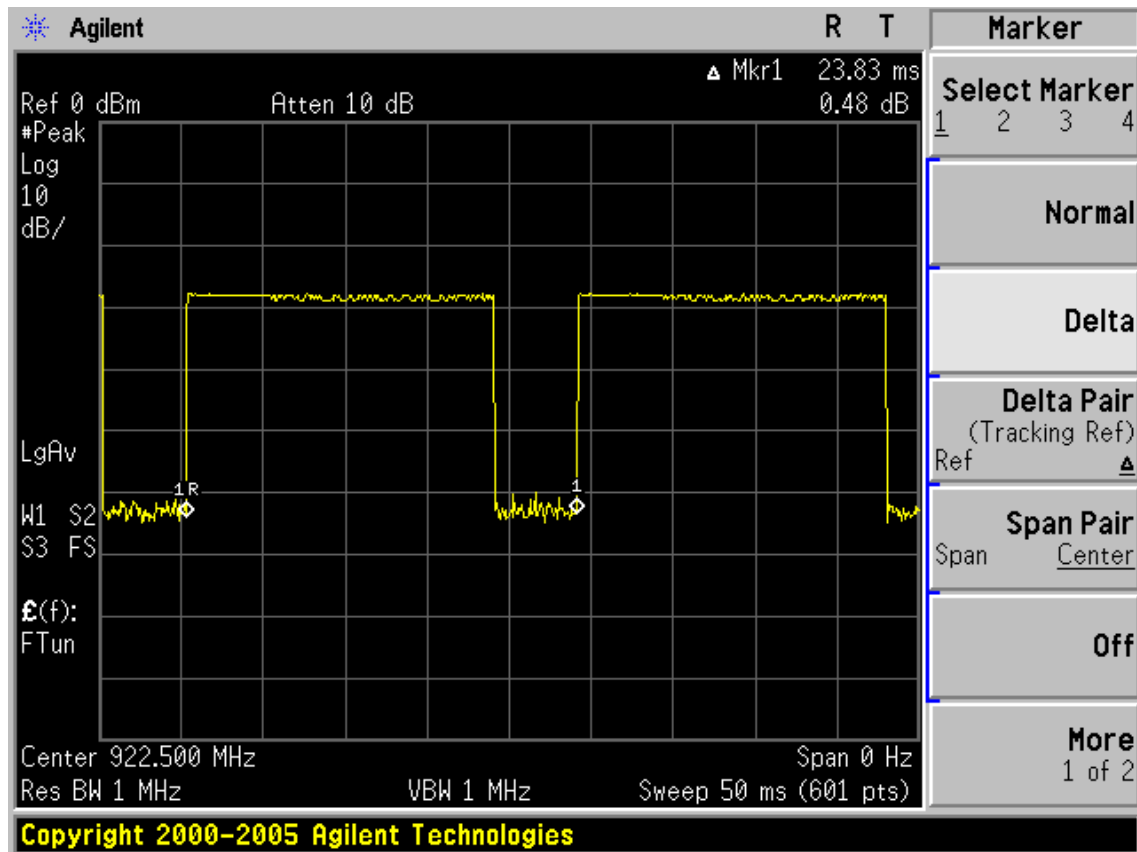
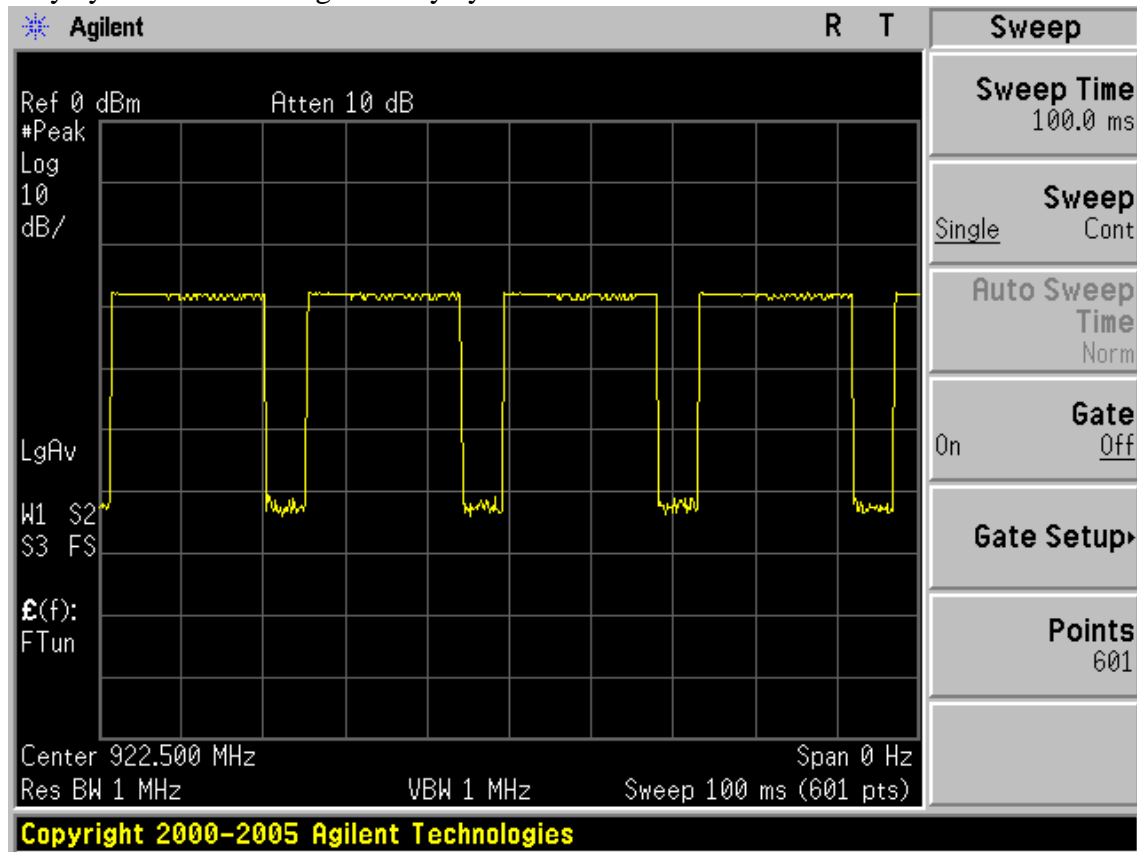
**PASS.**

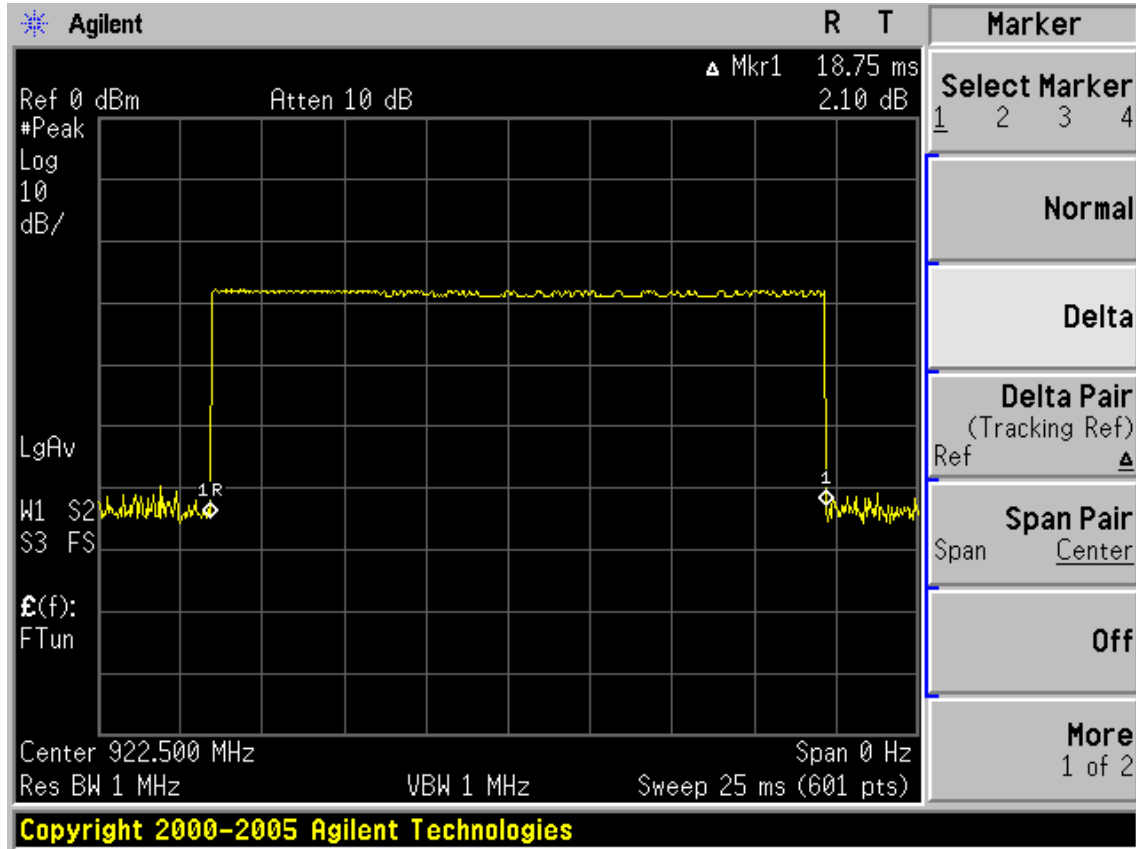
All the emissions from 30MHz to 10GHz were comply with 15.209 limits.

Note: The duty cycle factor for calculate average level is 2.12dB, and average limit is 20dB below peak limit, so if peak measured level comply with average limit, the average level was deemed to comply with average limit.

Duty cycle:  $18.75\text{ms}/23.83\text{ms} * 100\% = 78.6\%$

Duty cycle factor =  $20\log(1/\text{duty cycle}) = 2.08$



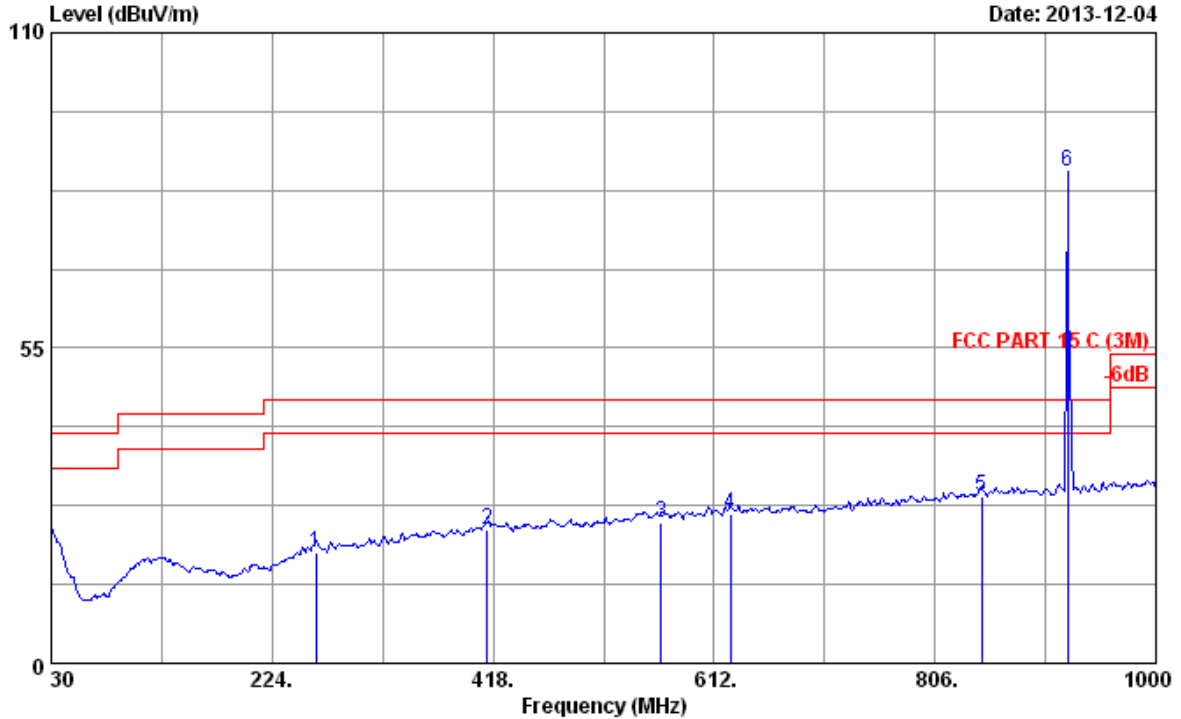


Frequency: 30MHz~1GHz

Data: 5

File: E:\2013 Report Data\R\Randish\ACS13QH162.EM6 (6)

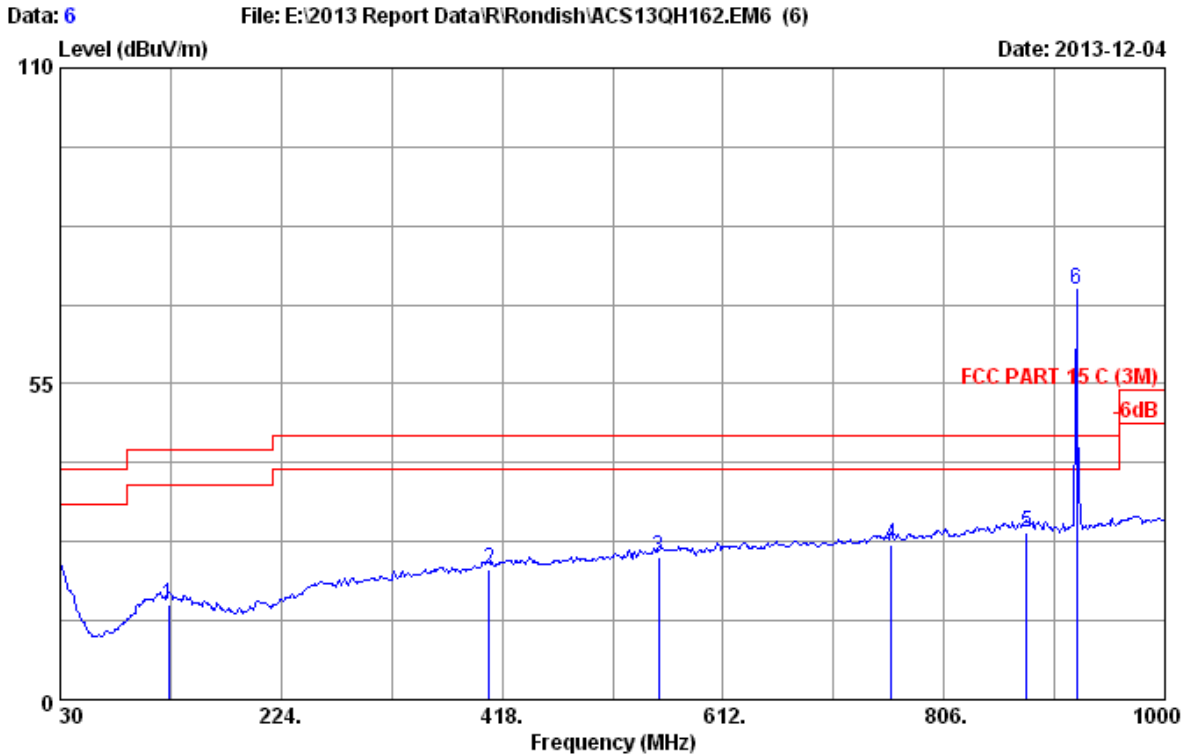
Date: 2013-12-04



Site no. : 3m Chamber Data no. : 5  
 Dis. / Ant. : 3m 2013 CBL6112D 35375 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 C (3M)  
 Env. / Ins. : 24°C/65% Engineer : Leo-Li  
 EUT : Wireless Call Point (Waterproof)  
 Power rating : DC 3V  
 Test Mode : 922.5MHz Tx  
 M/N:WCP-04

| No. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Emission       |                | Limits (dBUV/m) | Margin (dB) | Remark |
|-----|-------------|--------------------|-----------------|----------------|----------------|-----------------|-------------|--------|
|     |             |                    |                 | Reading (dBUV) | Level (dBUV/m) |                 |             |        |
| 1   | 262.800     | 13.96              | 2.03            | 3.34           | 19.33          | 46.00           | 26.67       | QP     |
| 2   | 413.150     | 17.23              | 2.50            | 3.71           | 23.44          | 46.00           | 22.56       | QP     |
| 3   | 565.440     | 18.81              | 2.94            | 2.74           | 24.49          | 46.00           | 21.51       | QP     |
| 4   | 626.550     | 19.53              | 3.11            | 3.36           | 26.00          | 46.00           | 20.00       | QP     |
| 5   | 846.740     | 21.23              | 3.76            | 4.02           | 29.01          | 46.00           | 16.99       | QP     |
| 6   | 922.400     | 21.80              | 4.00            | 60.13          | 85.93          | 46.00           | -39.93      | QP     |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.  
 3. 922.400MHz is the Signal from fundament Frequency.  
 No need to comply with the limit



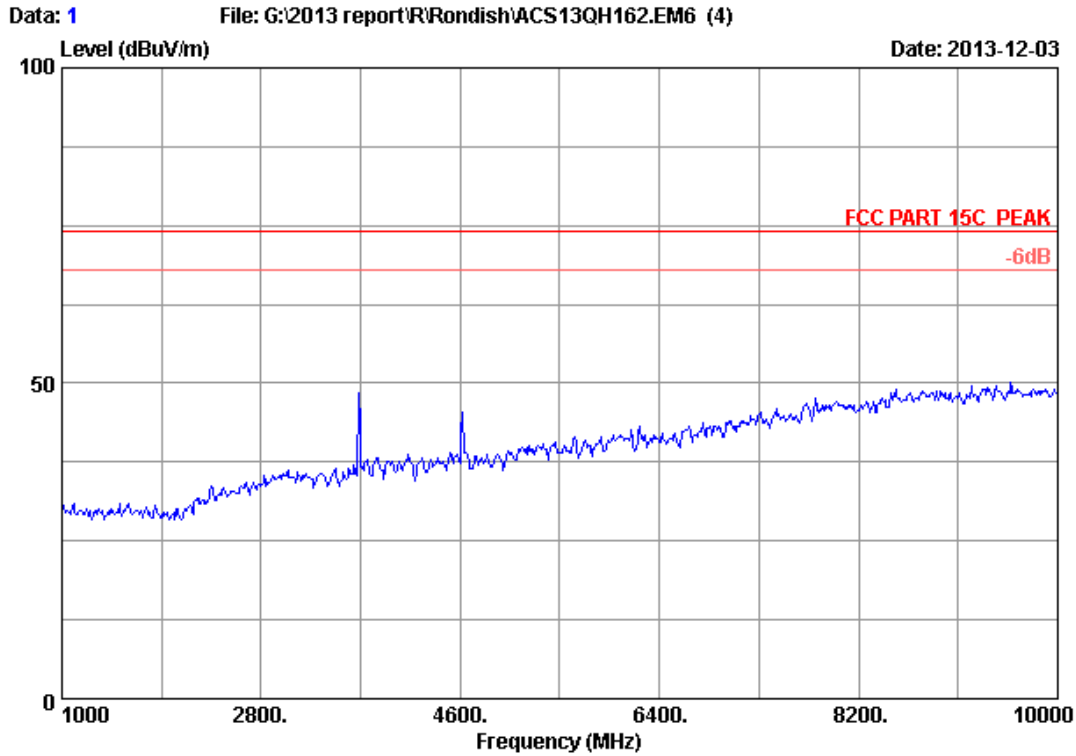
Site no. : 3m Chamber Data no. : 6  
 Dis. / Ant. : 3m 2013 CBL6112D 35375 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 C (3M)  
 Env. / Ins. : 24°C/65% Engineer : Leo-Li  
 EUT : Wireless Call Point (Waterproof)  
 Power rating : DC 3V  
 Test Mode : 922.5MHz Tx  
 M/N:WCP-04

| No. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|-----|-------------|--------------------|-----------------|----------------|-------------------------|-----------------|-------------|--------|
| 1   | 125.060     | 12.90              | 1.51            | 2.26           | 16.67                   | 43.50           | 26.83       | QP     |
| 2   | 406.360     | 16.95              | 2.48            | 3.11           | 22.54                   | 46.00           | 23.46       | QP     |
| 3   | 555.740     | 18.80              | 2.91            | 2.97           | 24.68                   | 46.00           | 21.32       | QP     |
| 4   | 759.440     | 20.40              | 3.49            | 3.21           | 27.10                   | 46.00           | 18.90       | QP     |
| 5   | 878.750     | 21.60              | 3.86            | 3.70           | 29.16                   | 46.00           | 16.84       | QP     |
| 6   | 922.400     | 21.80              | 4.00            | 45.61          | 71.41                   | 46.00           | -25.41      | QP     |

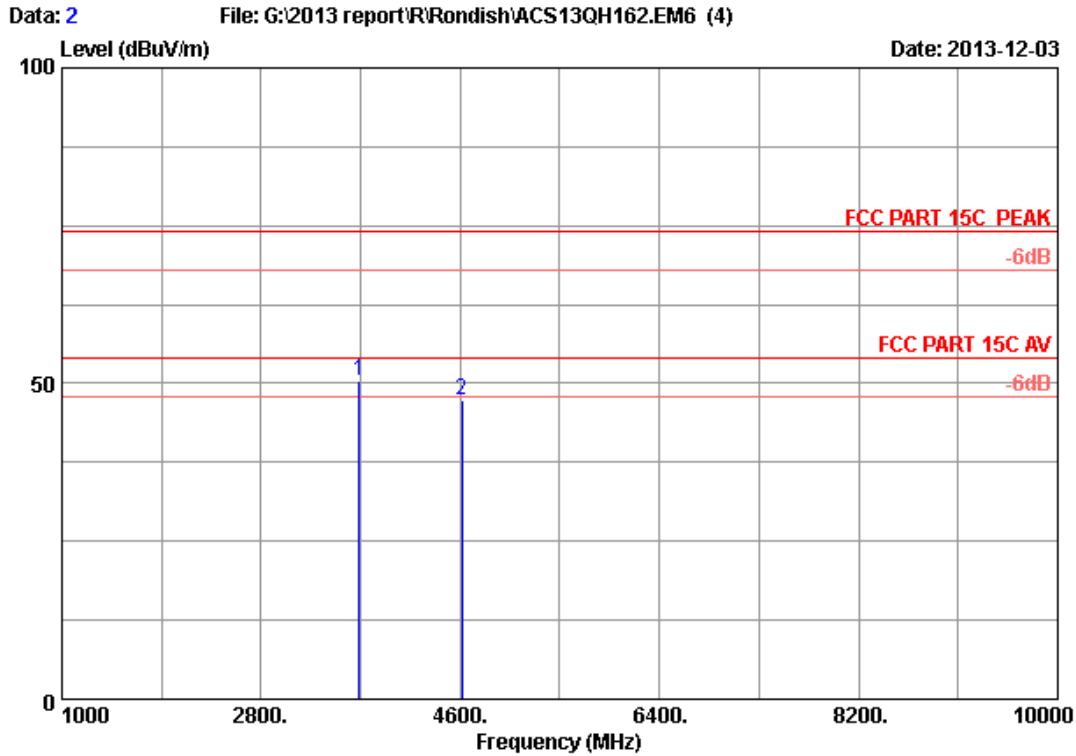
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.  
 3. 922.400MHz is the Signal from fundament Frequency.  
 No need to comply with the limit



Frequency: 1GHz~18GHz



Site no. : 3m Chamber Data no. : 1  
Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : 23°C/54% Engineer : Leo-Li  
EUT : Wireless Call Point (Waterproof)  
Power supply : DC 3V  
Test mode : Tx Mode 922.5MHz  
WCP-04

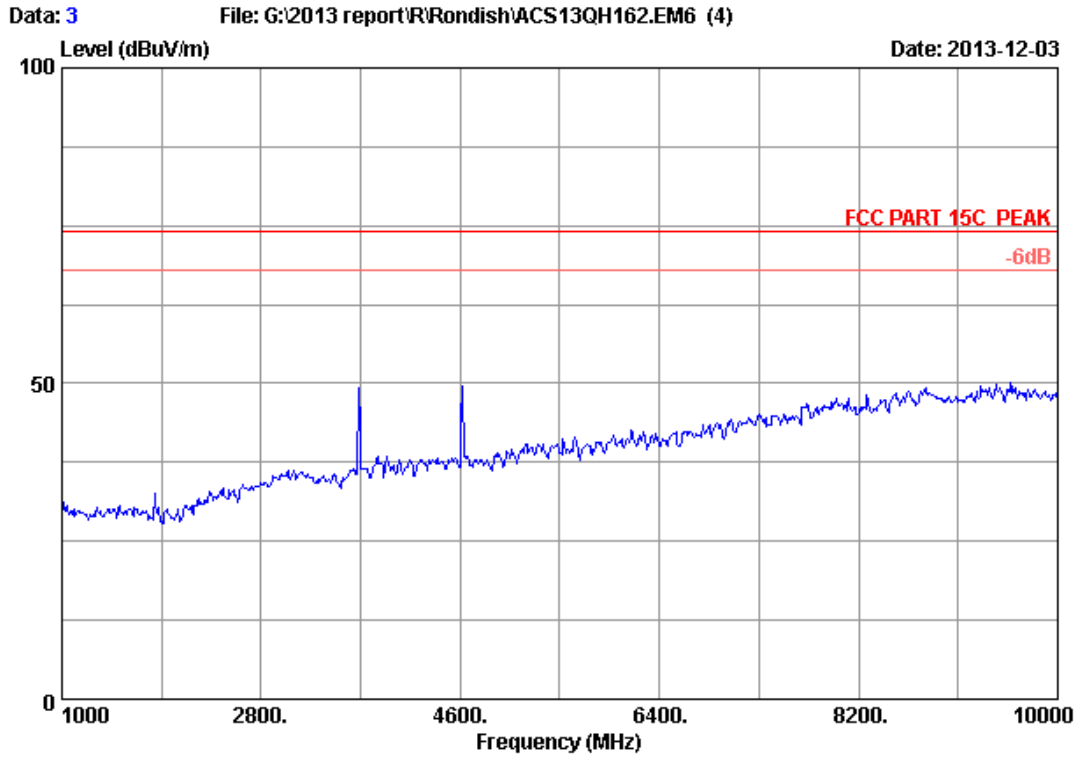


Site no. : 3m Chamber Data no. : 2  
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Leo-Li  
 EUT : Wireless Call Point (Waterproof)  
 Power supply : DC 3V  
 Test mode : Tx Mode 922.5MHz  
 WCP-04

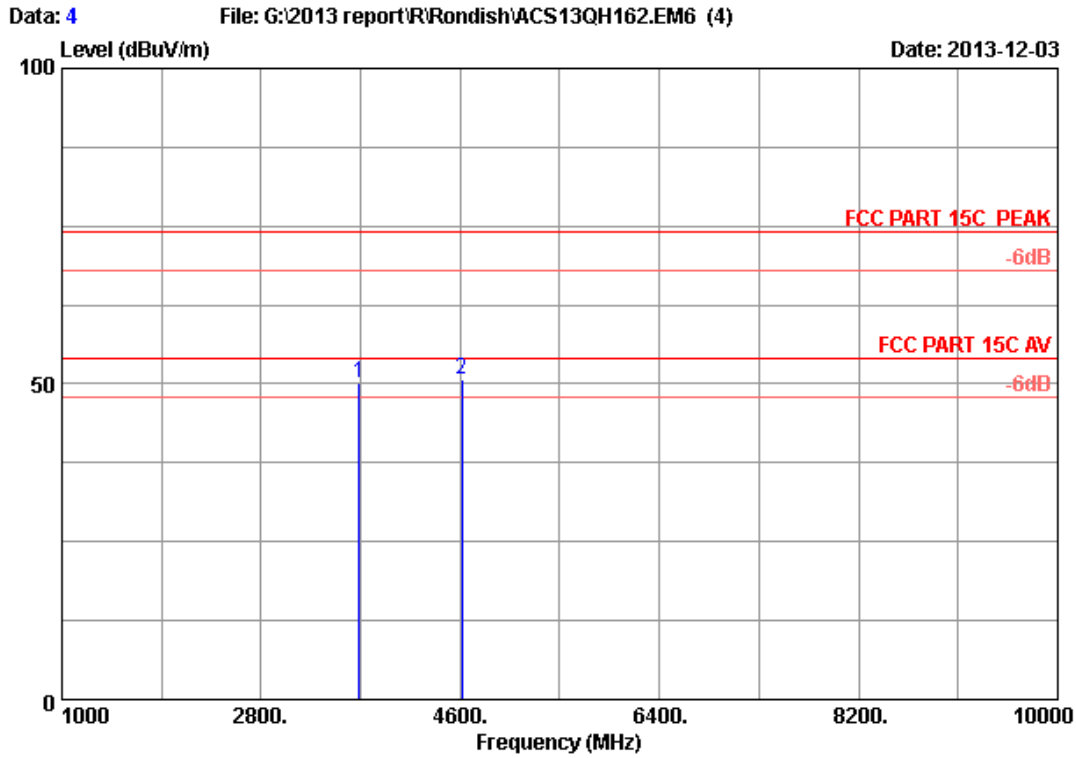
|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>loss<br>(dB) | Amp.<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|------------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 3690.000       | 30.97                    | 7.39                  | 35.70                  | 47.84             | 50.50                         | 74.00              | 23.50          | Peak   |
| 2 | 4612.500       | 32.05                    | 8.36                  | 35.70                  | 42.77             | 47.48                         | 74.00              | 26.52          | Peak   |

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 3  
Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL  
Limit : FCC PART 15C PEAK  
Env. / Ins. : 23°C/54% Engineer : Leo-Li  
EUT : Wireless Call Point (Waterproof)  
Power supply : DC 3V  
Test mode : Tx Mode 922.5MHz  
WCP-04



Site no. : 3m Chamber Data no. : 4  
 Dis. / Ant. : 3m 2012 3115 (4580) Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK  
 Env. / Ins. : 23\*C/54% Engineer : Leo-Li  
 EUT : Wireless Call Point (Waterproof)  
 Power supply : DC 3V  
 Test mode : Tx Mode 922.5MHz  
 WCP-04

|   | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>loss<br>(dB) | Amp.<br>Factor<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|---|----------------|--------------------------|-----------------------|------------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 3690.000       | 30.97                    | 7.39                  | 35.70                  | 47.53             | 50.19                         | 74.00              | 23.81          | Peak   |
| 2 | 4612.500       | 32.05                    | 8.36                  | 35.70                  | 45.85             | 50.56                         | 74.00              | 23.44          | Peak   |

Remarks:

1. Emission Level= Antenna Factor + Cable Loss -Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

## 4. CONDUCTED SPURIOUS EMISSIONS

### 4.1. Test Equipment

| Item | Equipment         | Manufacturer | Model No.   | Serial No. | Last Cal.  | Cal. Interval |
|------|-------------------|--------------|-------------|------------|------------|---------------|
| 1.   | Spectrum Analyzer | Agilent      | N9030A      | MY51380221 | Oct.31, 13 | 1 Year        |
| 2.   | Attenuator        | Agilent      | 8491B       | MY39262165 | May.08,13  | 1 Year        |
| 3.   | RF Cable          | Hubersuhner  | SUCOFLEX102 | 28618/2    | May.08,13  | 1 Year        |

### 4.2. Limit

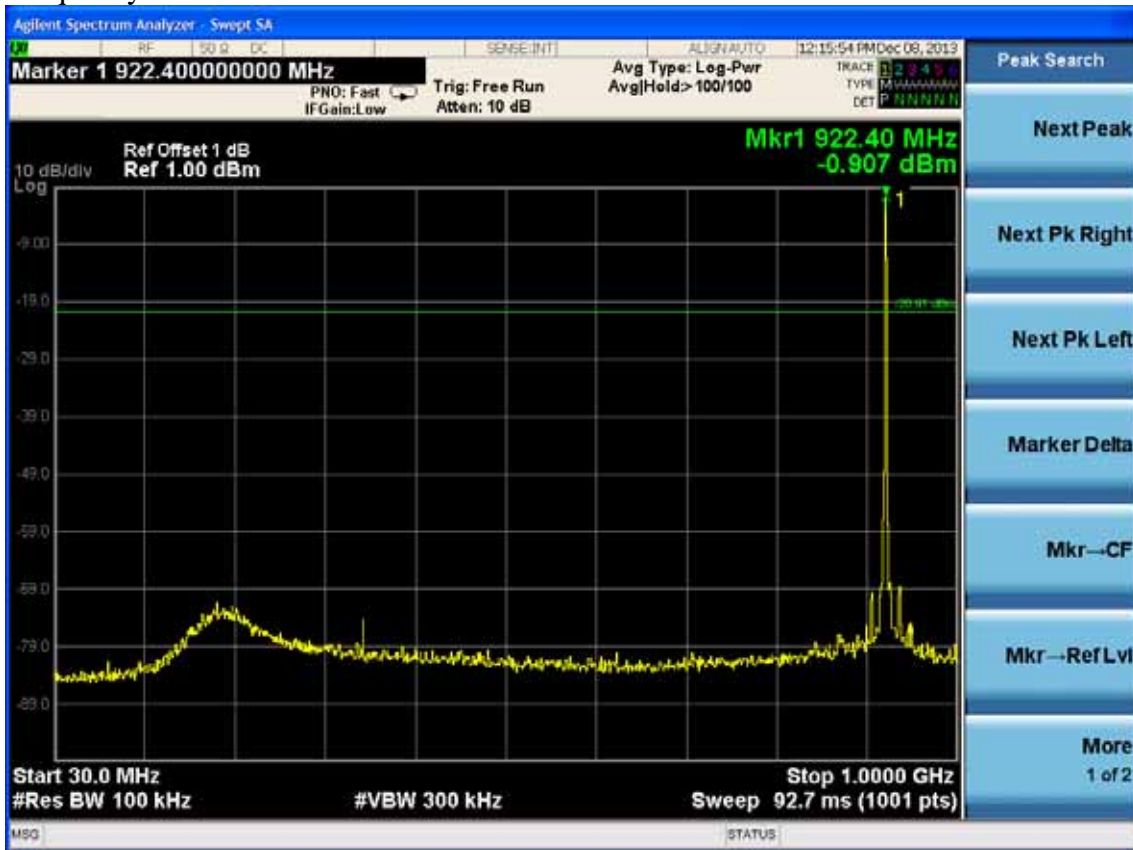
In any 100kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.

### 4.3. Test Procedure

The transmitter output was connected to a spectrum analyzer, The resolution bandwidth is set to 100 kHz, The video bandwidth is set to 300 kHz and measure all the emissions detected.

**Conducted emission test data:**

Frequency: 30.0MHz-1GHz



Frequency: above 1GHz-10GHz



## 5. BAND EDGE COMPLIANCE TEST

### 5.1. Test Equipment

| Item | Equipment         | Manufacturer | Model No.   | Serial No. | Last Cal.  | Cal. Interval |
|------|-------------------|--------------|-------------|------------|------------|---------------|
| 1.   | Spectrum Analyzer | Agilent      | N9030A      | MY51380221 | Oct.31, 13 | 1 Year        |
| 2.   | Amp               | HP           | 8449B       | 3008A08495 | May.08, 13 | 1 Year        |
| 3.   | Antenna           | EMCO         | 3115        | 9607-4877  | May.08, 13 | 1 Year        |
| 4.   | HF Cable          | Hubersuhne   | Sucoflex104 | -          | May.08, 13 | 1 Year        |

### 5.2. Limit

All the lower and upper band-edges emissions appearing within 608MHz to 614MHz and 960MHz to 1240MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 902MHz to 928MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

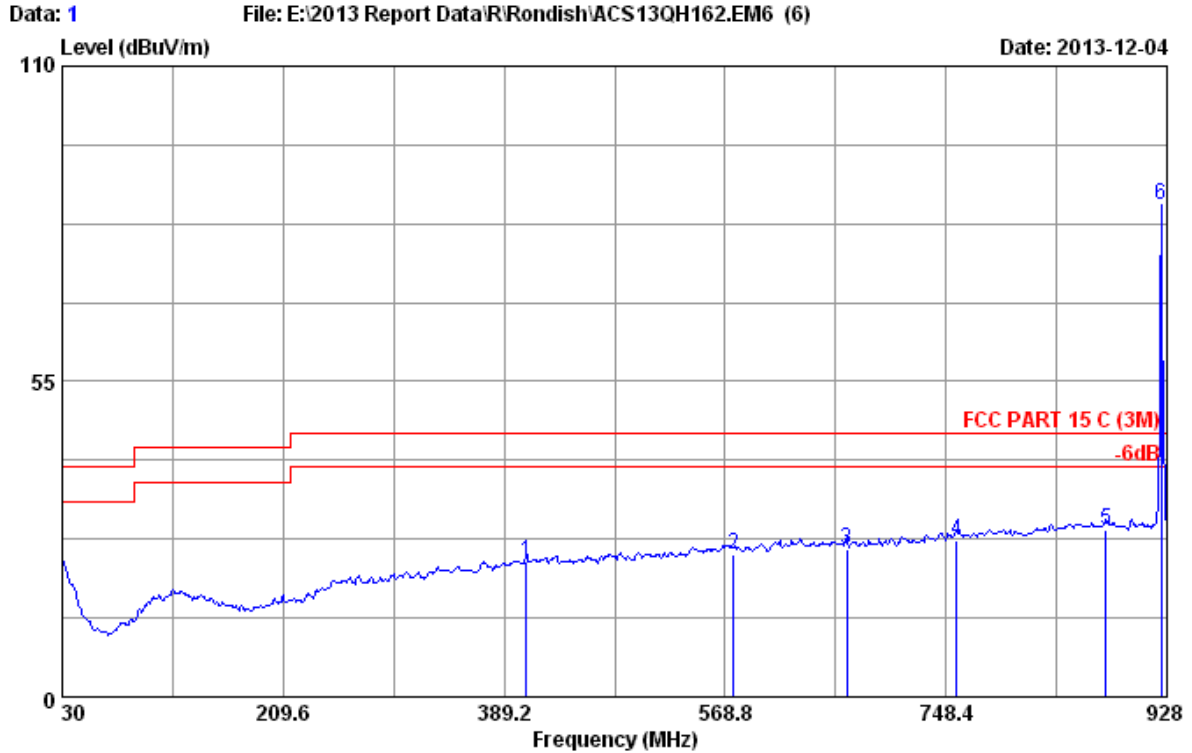
### 5.3. Test Produce

1. The EUT is placed on a turntable, which is 0.8m above the ground plane and worked at highest radiated power.
2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:

RBW=100KHz; VBW=300KHz ;Sweep time=AUTO  
Reading out the QP value of the emission.

### 5.4. Test Results

Pass (The testing data was attached in the next pages.)

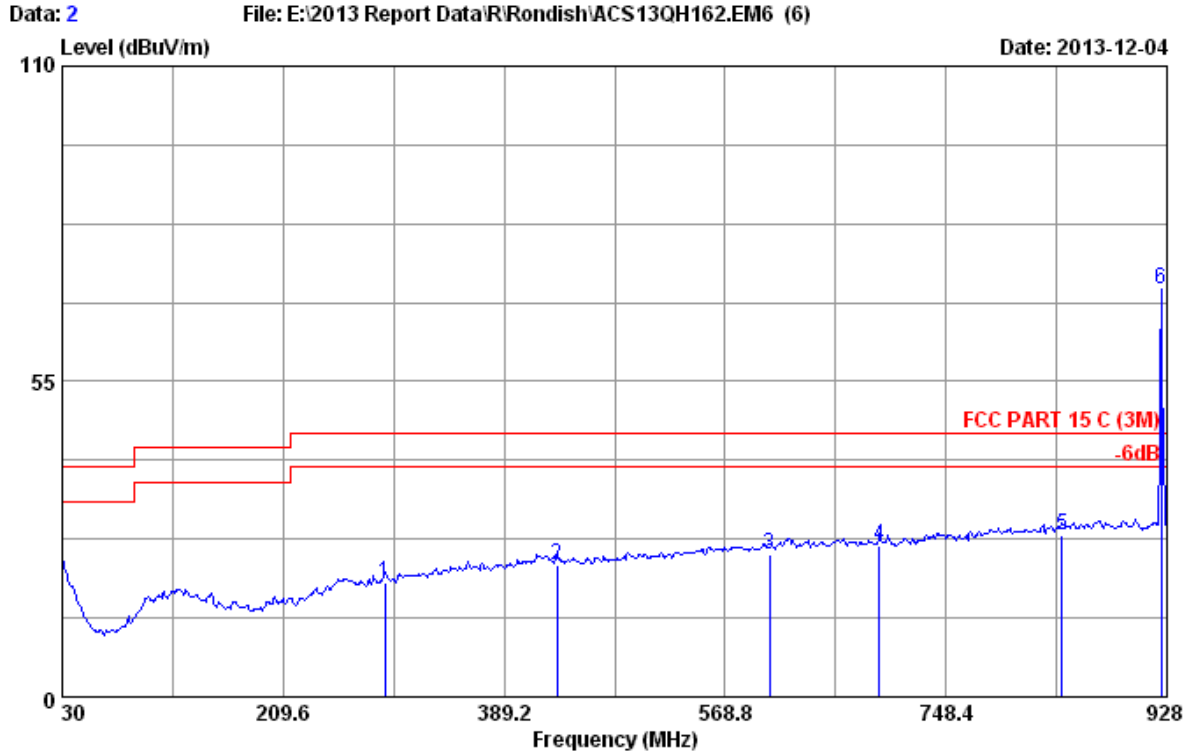


Site no. : 3m Chamber Data no. : 1  
 Dis. / Ant. : 3m 2013 CBL6112D 35375 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 C (3M)  
 Env. / Ins. : 24\*C/65% Engineer : Leo-Li  
 EUT : Wireless Call Point (Waterproof)  
 Power rating : DC 3V  
 Test Mode : 922.5MHz Tx  
 M/N:WCP-04

| No. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|-----|-------------|--------------------|-----------------|----------------|-------------------------|-----------------|-------------|--------|
| 1   | 407.160     | 16.99              | 2.48            | 4.18           | 23.65                   | 46.00           | 22.35       | QP     |
| 2   | 575.984     | 19.00              | 2.97            | 2.74           | 24.71                   | 46.00           | 21.29       | QP     |
| 3   | 667.580     | 19.70              | 3.23            | 2.89           | 25.82                   | 46.00           | 20.18       | QP     |
| 4   | 757.380     | 20.40              | 3.49            | 3.31           | 27.20                   | 46.00           | 18.80       | QP     |
| 5   | 878.610     | 21.60              | 3.86            | 3.59           | 29.05                   | 46.00           | 16.95       | QP     |
| 6   | 923.510     | 21.80              | 4.00            | 60.10          | 85.90                   | 46.00           | -39.90      | QP     |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

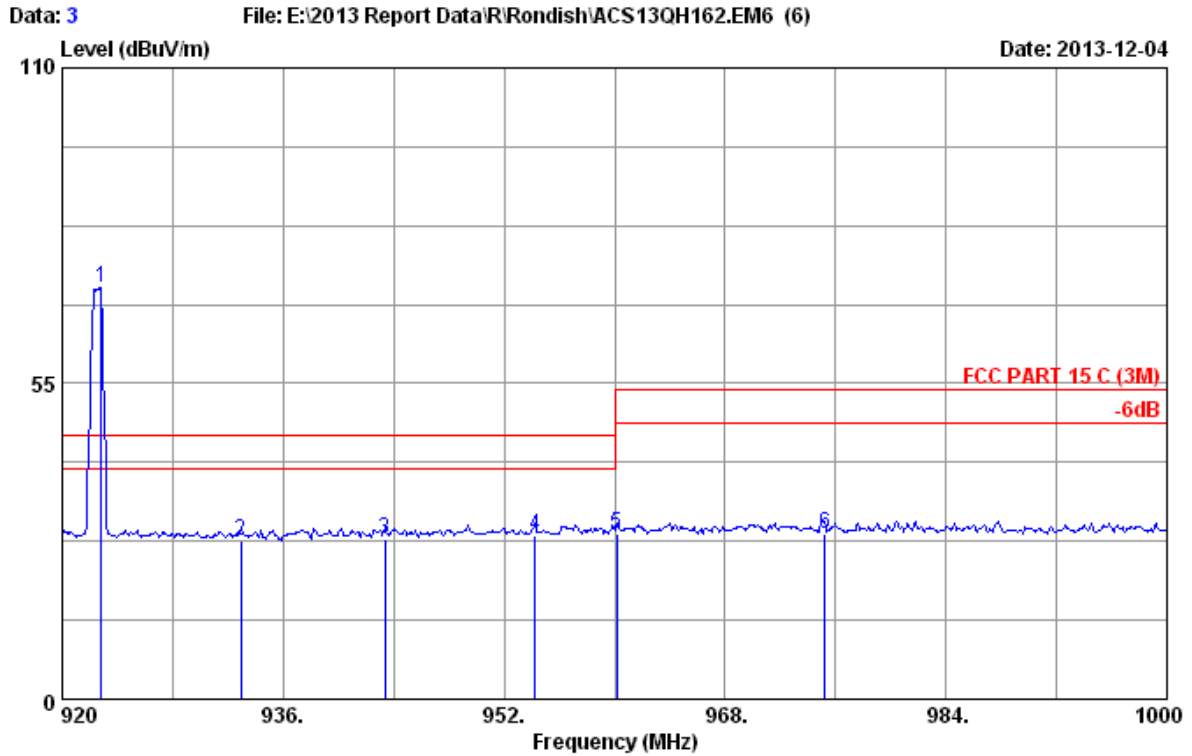




Site no. : 3m Chamber Data no. : 2  
 Dis. / Ant. : 3m 2013 CBL6112D 35375 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 C (3M)  
 Env. / Ins. : 24\*C/65% Engineer : Leo-Li  
 EUT : Wireless Call Point (Waterproof)  
 Power rating : DC 3V  
 Test Mode : 922.5MHz Tx  
 M/N:WCP-04

| No. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|-----|-------------|--------------------|-----------------|----------------|-------------------------|-----------------|-------------|--------|
| 1   | 292.216     | 13.81              | 2.14            | 3.86           | 19.81                   | 46.00           | 26.19       | QP     |
| 2   | 432.304     | 17.05              | 2.55            | 3.42           | 23.02                   | 46.00           | 22.98       | QP     |
| 3   | 604.720     | 19.20              | 3.05            | 2.56           | 24.81                   | 46.00           | 21.19       | QP     |
| 4   | 694.520     | 19.90              | 3.31            | 3.16           | 26.37                   | 46.00           | 19.63       | QP     |
| 5   | 842.690     | 21.20              | 3.74            | 3.27           | 28.21                   | 46.00           | 17.79       | QP     |
| 6   | 923.510     | 21.80              | 4.00            | 45.17          | 70.97                   | 46.00           | -24.97      | QP     |

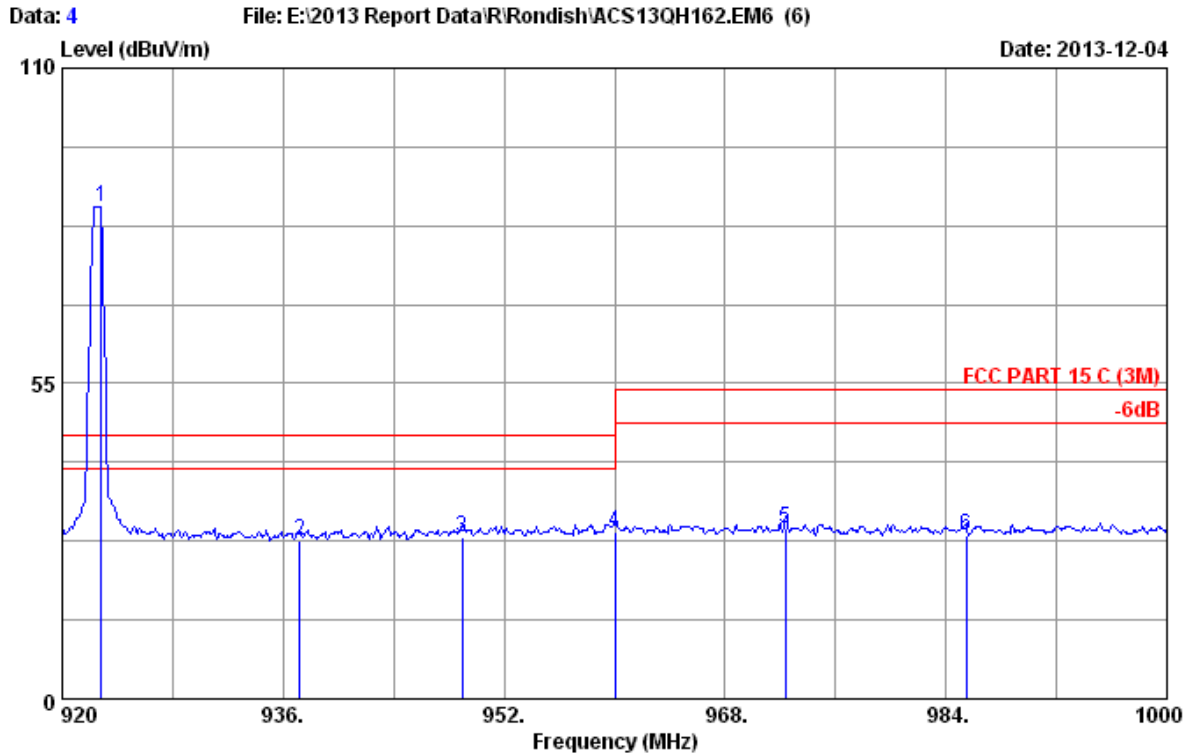
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 3  
 Dis. / Ant. : 3m 2013 CBL6112D 35375 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 C (3M)  
 Env. / Ins. : 24\*C/65% Engineer : Leo-Li  
 EUT : Wireless Call Point (Waterproof)  
 Power rating : DC 3V  
 Test Mode : 922.5MHz Tx  
 M/N:WCP-04

| No. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|-----|-------------|--------------------|-----------------|----------------|-------------------------|-----------------|-------------|--------|
| 1   | 922.800     | 21.80              | 4.00            | 45.83          | 71.63                   | 46.00           | -25.63      | QP     |
| 2   | 932.960     | 21.80              | 4.03            | 1.63           | 27.46                   | 46.00           | 18.54       | QP     |
| 3   | 943.360     | 21.97              | 4.06            | 1.86           | 27.89                   | 46.00           | 18.11       | QP     |
| 4   | 954.240     | 22.10              | 4.10            | 2.38           | 28.58                   | 46.00           | 17.42       | QP     |
| 5   | 960.160     | 22.20              | 4.11            | 2.42           | 28.73                   | 54.00           | 25.27       | QP     |
| 6   | 975.200     | 22.30              | 4.16            | 2.45           | 28.91                   | 54.00           | 25.09       | QP     |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 4  
 Dis. / Ant. : 3m 2013 CBL6112D 35375 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 C (3M)  
 Env. / Ins. : 24\*C/65% Engineer : Leo-Li  
 EUT : Wireless Call Point (Waterproof)  
 Power rating : DC 3V  
 Test Mode : 922.5MHz Tx  
 M/N:WCP-04

| No. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|-----|-------------|--------------------|-----------------|----------------|-------------------------|-----------------|-------------|--------|
| 1   | 922.800     | 21.80              | 4.00            | 60.01          | 85.81                   | 46.00           | -39.81      | QP     |
| 2   | 937.200     | 21.84              | 4.04            | 1.63           | 27.51                   | 46.00           | 18.49       | QP     |
| 3   | 948.960     | 22.08              | 4.08            | 2.05           | 28.21                   | 46.00           | 17.79       | QP     |
| 4   | 960.000     | 22.20              | 4.11            | 2.69           | 29.00                   | 46.00           | 17.00       | QP     |
| 5   | 972.400     | 22.30              | 4.15            | 3.28           | 29.73                   | 54.00           | 24.27       | QP     |
| 6   | 985.440     | 22.39              | 4.19            | 2.04           | 28.62                   | 54.00           | 25.38       | QP     |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

## 6. 6dB BANDWIDTH Test

### 6.1. Test Equipment

| Item | Equipment         | Manufacturer | Model No.   | Serial No. | Last Cal.  | Cal. Interval |
|------|-------------------|--------------|-------------|------------|------------|---------------|
| 1.   | Spectrum Analyzer | Agilent      | N9030A      | MY51380221 | Oct.31, 13 | 1 Year        |
| 2.   | Antenna           | EMCO         | 3115        | 9607-4877  | Aug.28, 13 | 1 Year        |
| 3.   | HF Cable          | Hubersuhner  | Sucoflex104 | -          | May.08, 13 | 1 Year        |

### 6.2. Limit

For direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz

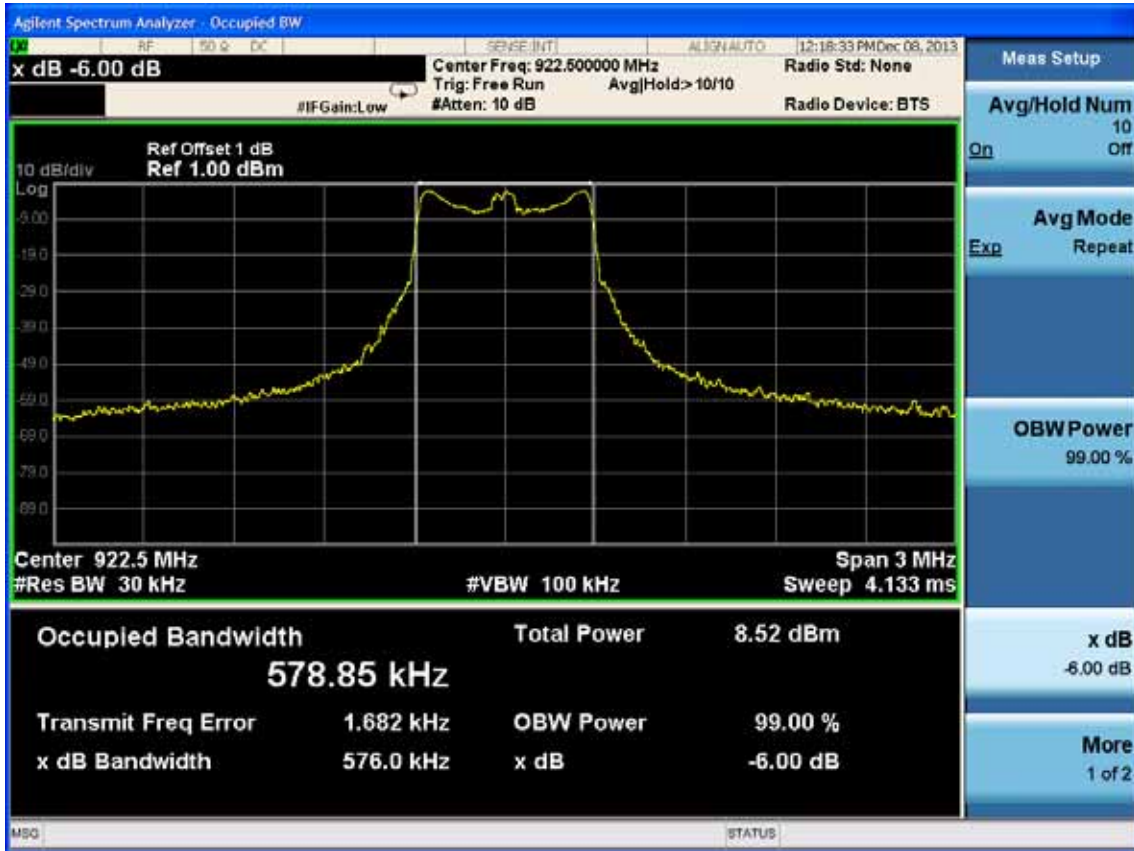
### 6.3. Test Procedure

The transmitter output was connected to a spectrum analyzer, The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100KHz RBW and 300kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

### 6.4. Test Results

|                                       |                        |                        |
|---------------------------------------|------------------------|------------------------|
| EUT: Wireless Call Point (Waterproof) |                        |                        |
| M/N:WCP-04                            |                        |                        |
| Test date:2013-12-09                  | Pressure: 101.2±1.0kpa | Humidity: 51.9±3.0%    |
| Tested by: Leo-Li                     | Test site: RF site     | Temperature: 22.9±0.6℃ |

| Cable loss: 1.0 dB |               |                           |                |
|--------------------|---------------|---------------------------|----------------|
| Test Mode          | CH<br>( MHz ) | 6 dB bandwidth<br>( kHz ) | Limit<br>(KHz) |
| GFSK               | 922.5         | 576.0                     | 500            |
| Conclusion : PASS  |               |                           |                |



## 7. OUTPUT POWER TEST

### 7.1. Test Equipment

| Item | Equipment    | Manufacturer | Model No. | Serial No. | Last Cal.  | Cal. Interval |
|------|--------------|--------------|-----------|------------|------------|---------------|
| 1.   | Power Meter  | Anritsu      | ML2487A   | 6K00002472 | May.08, 13 | 1 Year        |
| 2.   | Power Sensor | Anritsu      | MA2491A   | 033005     | May.08, 13 | 1 Year        |

### 7.2. Limit (FCC Part 15C 15.247 b(3))

For systems using digital modulation in the 902—928MHz, The Peak out put Power shall not exceed 1W(30dBm)

### 7.3. Test Procedure

- 1, Connected the EUT's antenna port to measure device by suitable attenuator.
- 2, Read the peak output power from the measure device directly.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

### 7.4. Test Results

| EUT: Wireless Call Point (Waterproof) |                 |                           |                         |
|---------------------------------------|-----------------|---------------------------|-------------------------|
| M/N:WCP-04                            |                 |                           |                         |
| Test date:2013-12-09                  |                 | Pressure: 102.1±1.0kpa    | Humidity: 51.4±3.0%     |
| Tested by:Leo-Li                      |                 | Test site: RF site        | Temperature: 23.4±0.6°C |
| Cable loss: 1.0 dB                    |                 | Attenuator loss: 20 dB    |                         |
| Test Mode                             | Frequency (MHz) | Peak output Power ( dBm ) | Limit (dBm)             |
| GFSK                                  | 922.5           | -1.230                    | 30                      |
| Conclusion: PASS                      |                 |                           |                         |

## 8. POWER SPECTRAL DENSITY TEST

### 8.1. Test Equipment

| Item | Equipment         | Manufacturer | Model No.   | Serial No. | Last Cal.  | Cal. Interval |
|------|-------------------|--------------|-------------|------------|------------|---------------|
| 1.   | Spectrum Analyzer | Agilent      | N9030A      | MY51380221 | Oct.31, 13 | 1 Year        |
| 2.   | Amp               | HP           | 8449B       | 3008A08495 | May.08, 13 | 1 Year        |
| 3.   | Antenna           | EMCO         | 3115        | 9607-4877  | Aug.28, 13 | 1 Year        |
| 4.   | HF Cable          | Hubersuhne   | Sucoflex104 | -          | May.08, 13 | 1 Year        |

### 8.2. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

### 8.3. Test Procedure

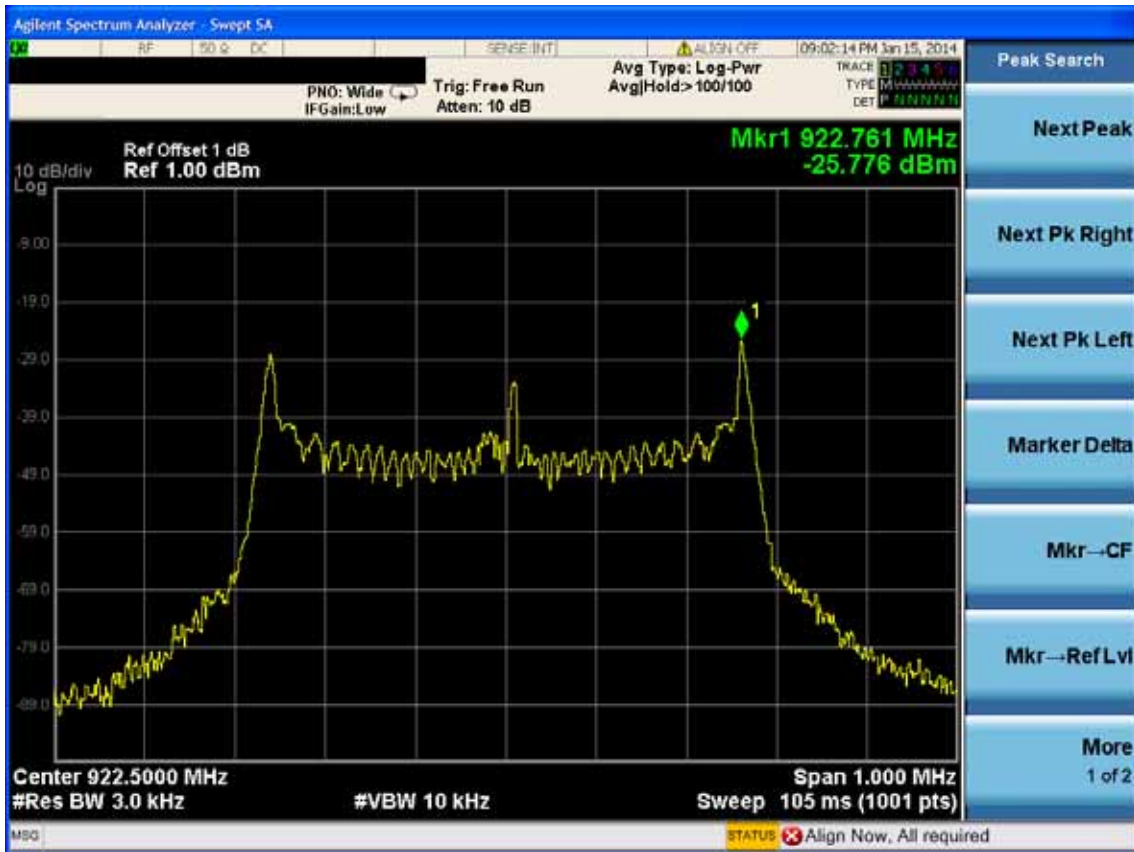
1. Connected the EUT's antenna port to spectrum analyzer device by 20dB attenuator.
2. Set analyzer center frequency to center frequency.
3. Set the span to 1.5 times the DTS Bandwidth.
4. Set the RBW=3KHz; VBW=10KHz; Detector=Peak  
Sweep time= AUTO Couple; Trace Mode= max hold
5. Allow trace to fully stabilize.
6. Use the peak marker function to determine the maximum amplitude level within the RBW.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude

### 8.4.Test Results

|                                       |                        |                        |
|---------------------------------------|------------------------|------------------------|
| EUT: Wireless call Point (Waterproof) |                        |                        |
| M/N:WCP-04                            |                        |                        |
| Test date:2014-01-15                  | Pressure: 101.2±1.0kpa | Humidity: 52.1±3.0%    |
| Tested by: Leo-Li                     | Test site: RF site     | Temperature:23.1±0.6°C |

| Cable loss: 1 dB  |          |                          |                  |
|-------------------|----------|--------------------------|------------------|
| Test Mode         | CH (MHz) | Power density (dBm/3KHz) | Limit (dBm/3KHz) |
| GFSK              | 922.5    | -25.776                  | 8                |
| Conclusion : PASS |          |                          |                  |





## **9. ANTENNA REQUIREMENT**

### **9.1. STANDARD APPLICABLE**

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

### **9.2. ANTENNA CONNECTED CONSTRUCTION**

The antennas used for this product are wire antenna and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is only 0dBi.

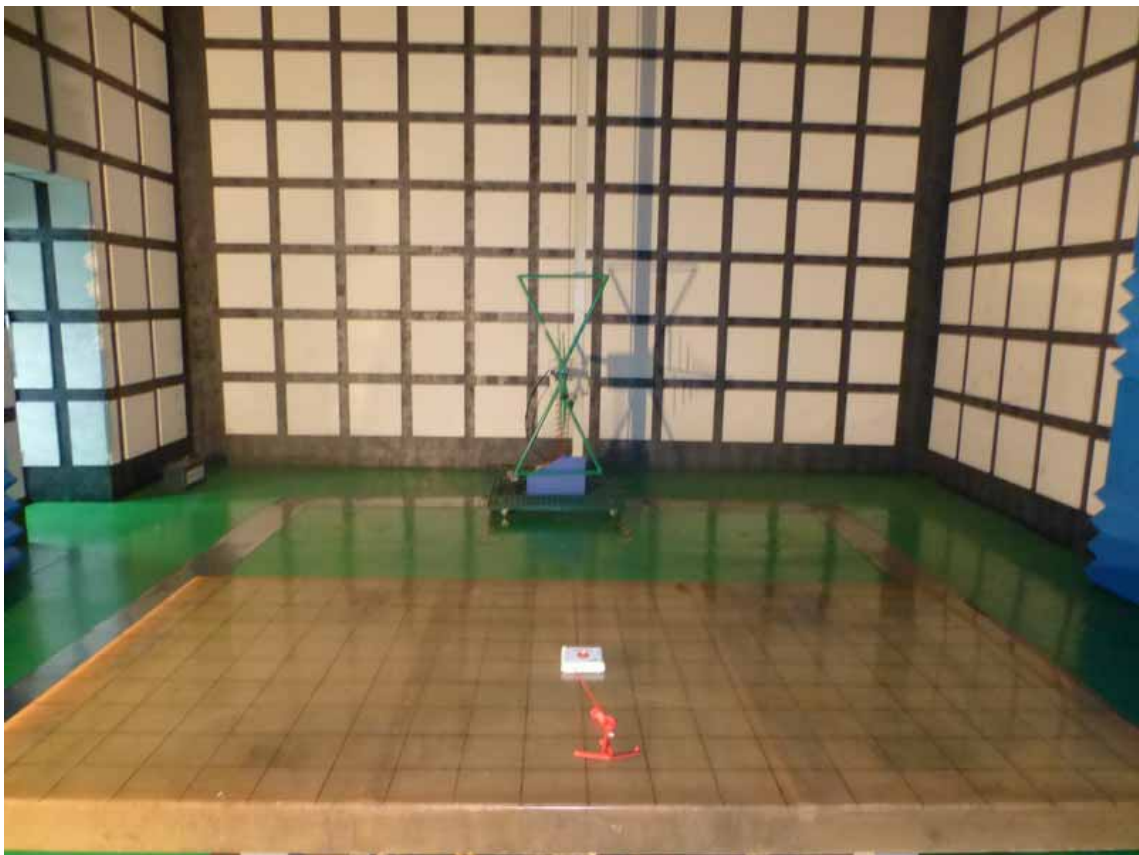
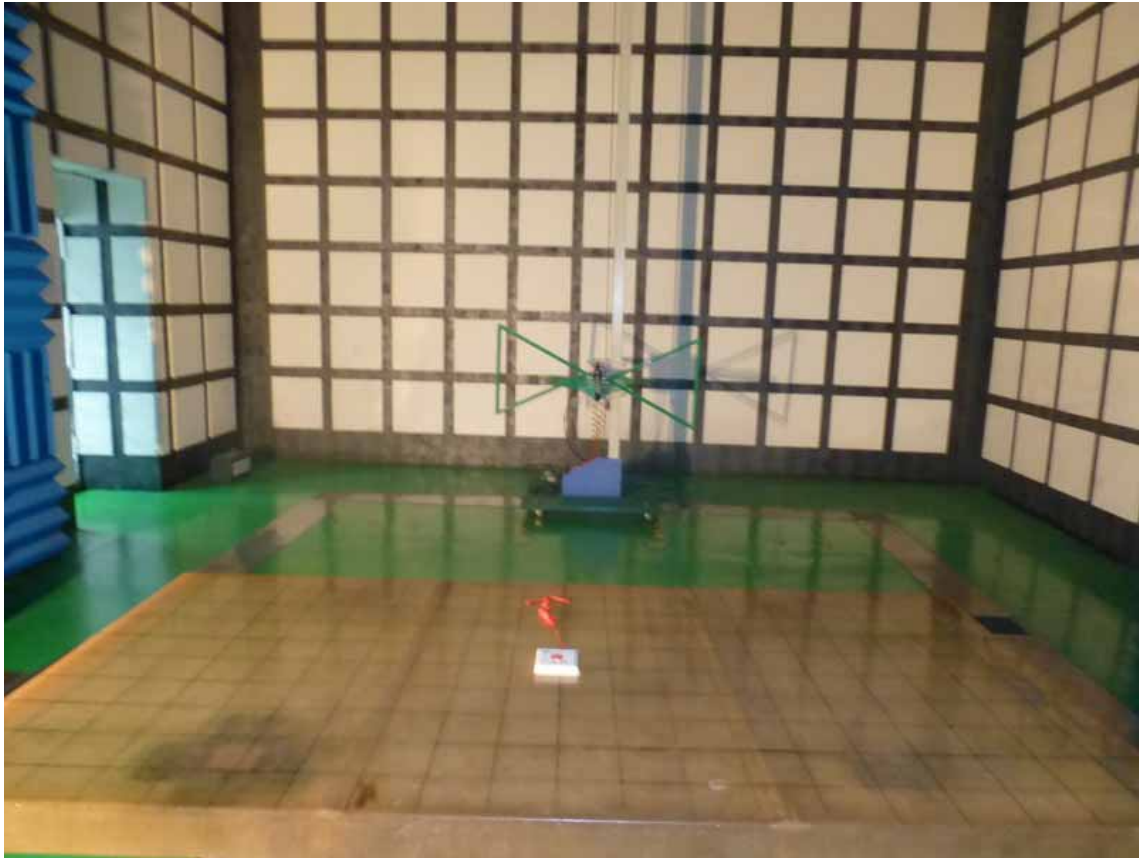
## 10.DEVIATION TO TEST SPECIFICATIONS

[ NONE]

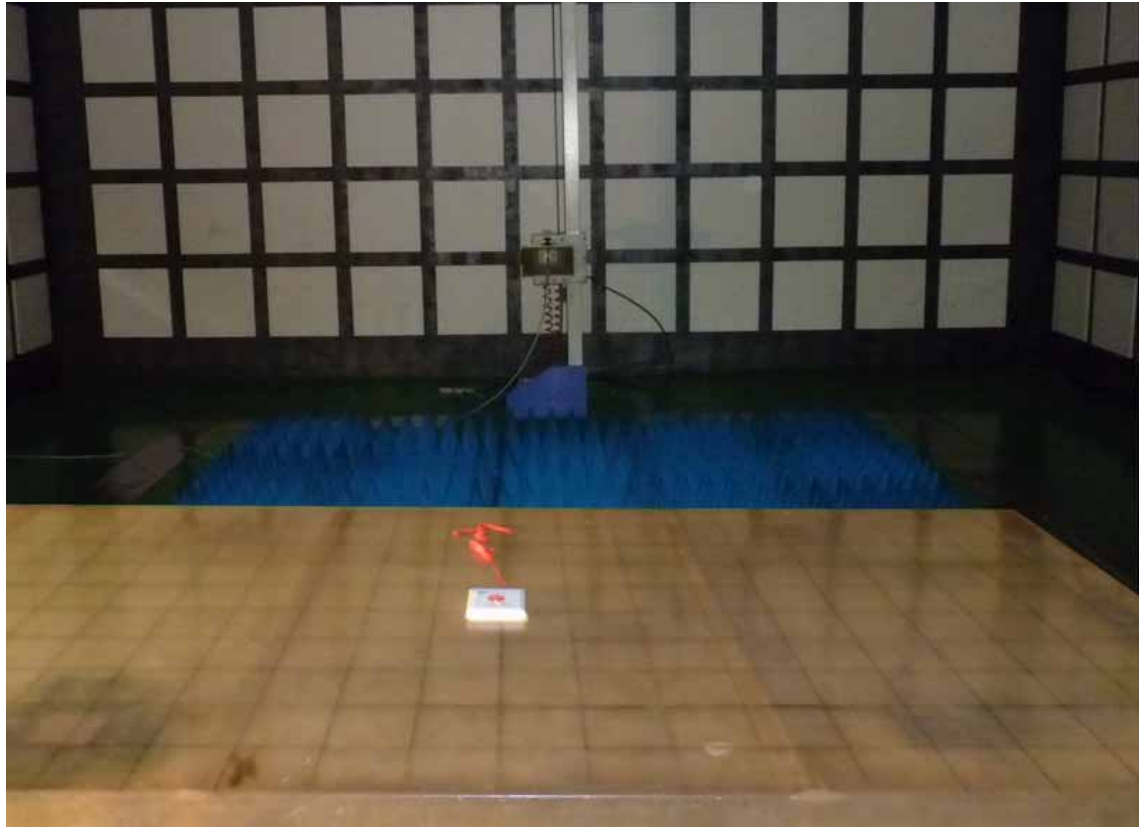
## 11. PHOTOGRAPH OF TEST

### 11.1. Photos of Radiated Emission Test

30-1000MHz



Above 1000MHz

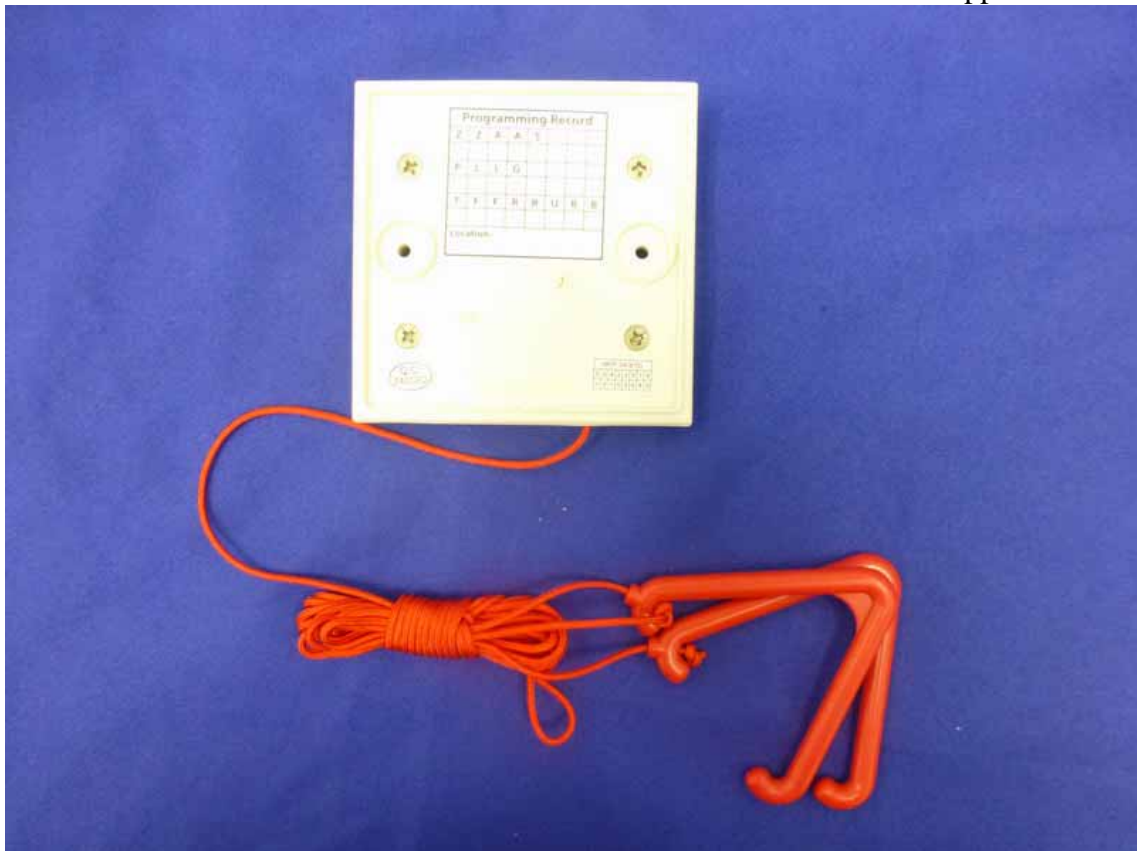


## 12. PHOTOGRAPH OF EUT

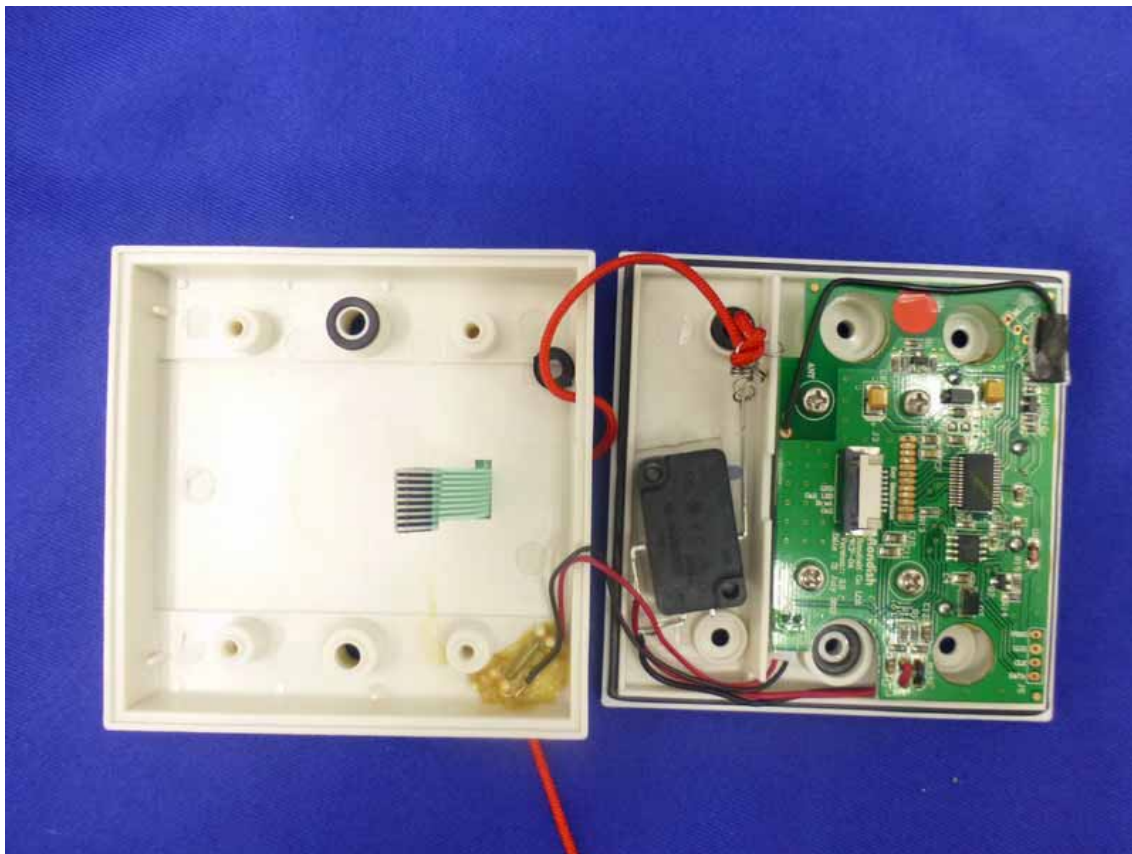
**Figure 1**  
General Appearance of the EUT



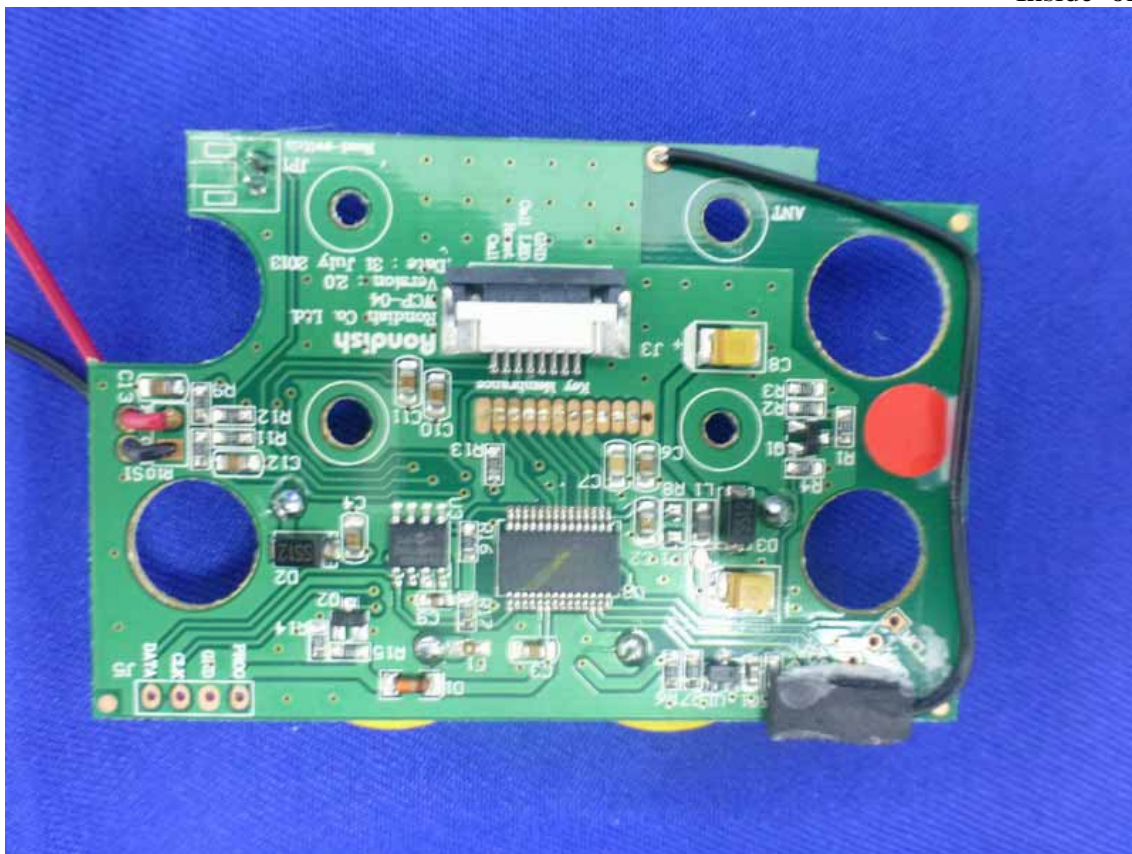
**Figure 2**  
General Appearance of the EUT



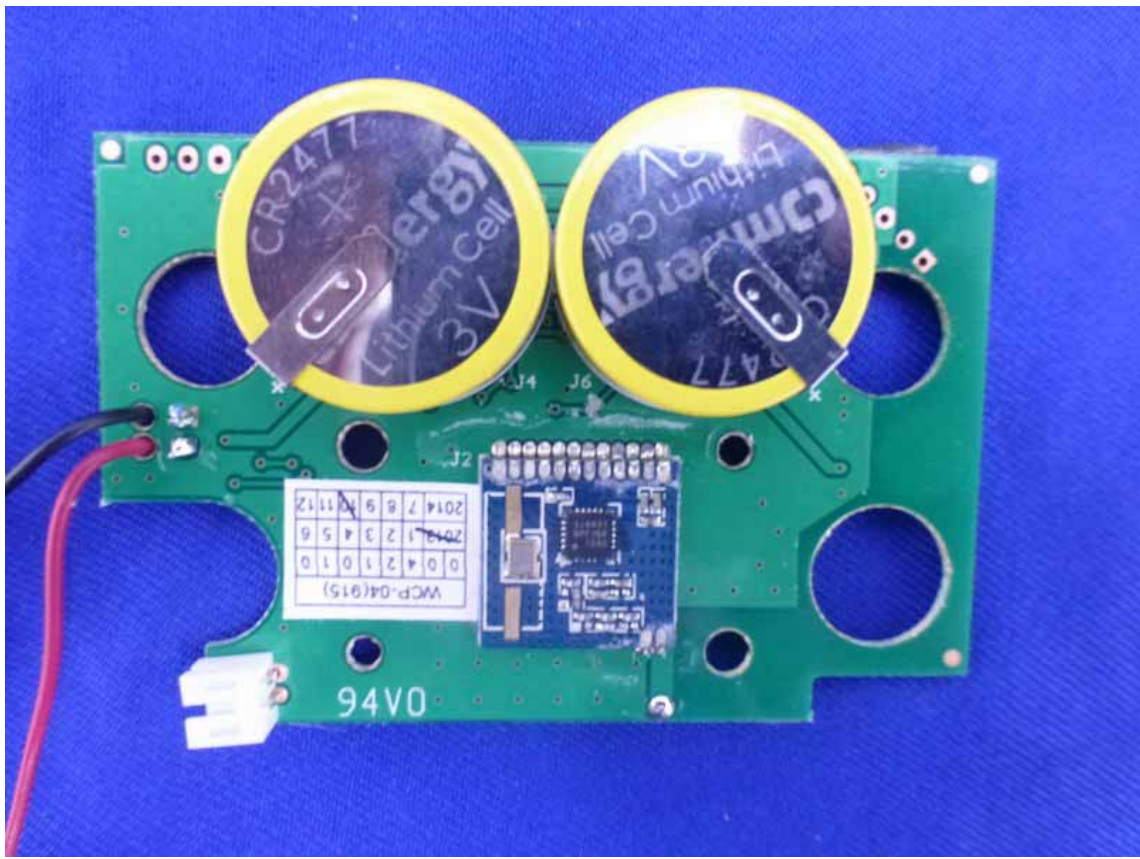
**Figure 3**  
Inside of the EUT



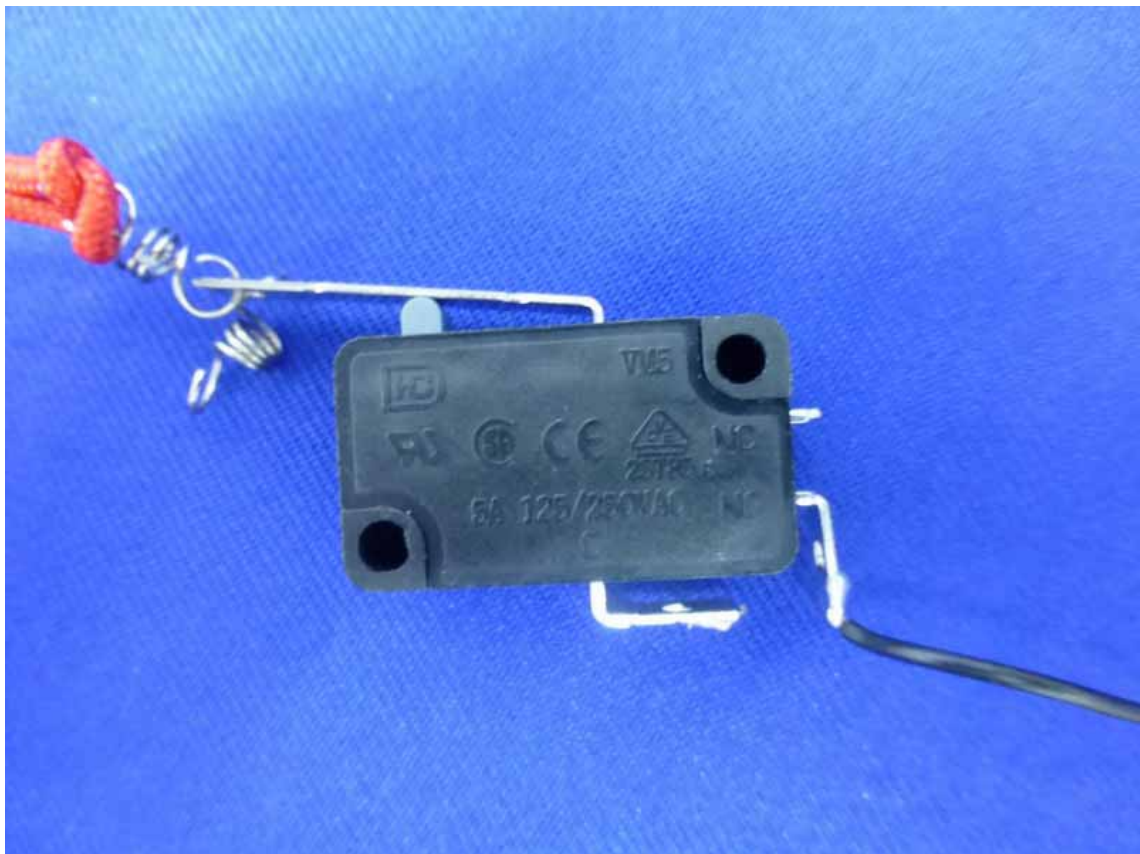
**Figure 4**  
Inside of the EUT



**Figure 5**  
Inside of the EUT



**Figure 6**  
Inside of the EUT



**Figure 7**  
Inside of the EUT

