# APPLICATION CERTIFICATION
On Behalf of
Fine Offset Electronics Co., Ltd.

Wireless weather station (Transmitter)
Model No.: WH32E

FCC ID: WA5WH32E

| | | |
|---|---|---|
| Prepared for | : | Fine Offset Electronics Co., Ltd. |
| Address | : | 2/F., Building no.3, Ping Shan Mingqi Industrial Park, Xili Town, Nanshan District. Shenzhen, Guangdong, China |
| Prepared by | : | ACCURATE TECHNOLOGY CO., LTD |
| Address | : | F1, Bldg. A, Changyuan New Material Port, Keyuan Rd. Science & Industry Park, Nanshan, Shenzhen, Guangdong P.R. China<br><br>Tel: (0755) 26503290<br>Fax: (0755) 26503396 |

| | | |
|---|---|---|
| Report Number | : | ATE20151986 |
| Date of Test | : | Sep 6-15, 2015 |
| Date of Report | : | Sep 16, 2015 |

# TABLE OF CONTENTS

Description Page

# Test Report Certification

| | | |
|---|---|---|
| Applicant | : | Fine Offset Electronics Co., Ltd. |
| Manufacturer | : | Fine Offset Electronics Co., Ltd. |
| EUT Description | : | Wireless weather station (Transmitter) |
| | | (A) MODEL NO.: WH32E |
| | | (B) TRADE NAME: N/A |
| | | (C) POWER SUPPLY: DC 3.0V(Battery) |

Measurement Procedure Used:

**FCC Rules and Regulations Part 15 Subpart C Section 15.249**
**ANSI C63.10: 2013**

The EUT was tested according to FCC 47CFR 15.249 for compliance to FCC 47CFR 15.249 requirements

The device described above is tested by ACCURATE TECHNOLOGY CO. LTD to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.249 limits. The measurement results are contained in this test report and ACCURATE TECHNOLOGY CO. LTD is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of ACCURATE TECHNOLOGY CO. LTD.

Date of Test : Sep 6-15, 2015

Date of Report : Sep 16, 2015

Prepared by : 

(Mark Chen, Engineer)

Approved & Authorized Signer : 

( Sean Liu, Manager)

# 1. GENERAL INFORMATION

## 1.1.Description of Device (EUT)

| | | |
|---|---|---|
| EUT | : | Wireless weather station(Transmitter) |
| Model Number | : | WH32E |
| Power Supply | : | DC 3V (battery) |
| Modulation: | : | FSK |
| Operation Frequency | : | 915MHz |
| Type of Antenna | : | Helical antenna |
| Max antenna gain | : | 1dBi |
| Applicant | : | Fine Offset Electronics Co., Ltd. |
| Address | : | 2/F., Building no.3, Ping Shan Mingqi Industrial Park, Xili Town, Nanshan District. Shenzhen, Guangdong, China |
| Manufacturer | : | Fine Offset Electronics Co., Ltd. |
| Address | : | 2/F., Building no.3, Ping Shan Mingqi Industrial Park, Xili Town, Nanshan District. Shenzhen, Guangdong, China |
| Date of sample received | : | Sep 6, 2015 |
| Date of Test | : | Sep 6-15, 2015 |

## 1.2.Special Accessory and Auxiliary Equipment

N/A

## 1.3.Description of Test Facility

| | | |
|---|---|---|
| EMC Lab | : | Accredited by TUV Rheinland Shenzhen<br><br>Listed by FCC<br>The Registration Number is 752051<br><br>Listed by Industry Canada<br>The Registration Number is 5077A-2<br><br>Accredited by China National Accreditation Committee for Laboratories<br>The Certificate Registration Number is L3193 |
| Name of Firm | : | ACCURATE TECHNOLOGY CO. LTD |
| Site Location | : | F1, Bldg. A, Changyuan New Material Port, Keyuan Rd. Science & Industry Park, Nanshan, Shenzhen, Guangdong P.R. China |

## 1.4.Measurement Uncertainty

| | | |
|---|---|---|
| Conducted Emission Expanded Uncertainty | = | 2.23dB, k=2 |
| Radiated emission expanded uncertainty (9kHz-30MHz) | = | 3.08dB, k=2 |
| Radiated emission expanded uncertainty (30MHz-1000MHz) | = | 4.42dB, k=2 |
| Radiated emission expanded uncertainty (Above 1GHz) | = | 4.06dB, k=2 |

# 2. MEASURING DEVICE AND TEST EQUIPMENT

**Table 1: List of Test and Measurement Equipment**

| Kind of equipment | Manufacturer | Type | S/N | Calibrated dates | Calibrated until |
|---|---|---|---|---|---|
| EMI Test Receiver | Rohde&Schwarz | ESCS30 | 100307 | Jan. 11, 2015 | Jan. 10, 2016 |
| EMI Test Receiver | Rohde&Schwarz | ESPI3 | 101526/003 | Jan. 11, 2015 | Jan. 10, 2016 |
| Spectrum Analyzer | Agilent | E7405A | MY45115511 | Jan. 11, 2015 | Jan. 10, 2016 |
| Pre-Amplifier | Rohde&Schwarz | CBLU1183540-01 | 3791 | Jan. 11, 2015 | Jan. 10, 2016 |
| Loop Antenna | Schwarzbeck | FMZB1516 | 1516131 | Jan. 15, 2015 | Jan. 14, 2016 |
| Bilog Antenna | Schwarzbeck | VULB9163 | 9163-323 | Jan. 15, 2015 | Jan. 14, 2016 |
| Horn Antenna | Schwarzbeck | BBHA9120D | 9120D-655 | Jan. 15, 2015 | Jan. 14, 2016 |
| Horn Antenna | Schwarzbeck | BBHA9170 | 9170-359 | Jan. 15, 2015 | Jan. 14, 2016 |
| LISN | Rohde&Schwarz | ESH3-Z5 | 100305 | Jan. 11, 2015 | Jan. 10, 2016 |
| LISN | Schwarzbeck | NSLK8126 | 8126431 | Jan. 11, 2015 | Jan. 10, 2016 |
| Highpass Filter | Wainwright Instruments | WHKX3.6/18G-10SS | N/A | Jan. 11, 2015 | Jan. 10, 2016 |
| Band Reject Filter | Wainwright Instruments | WRCG2400/2485-2375/2510-60/11SS | N/A | Jan. 11, 2015 | Jan. 10, 2016 |

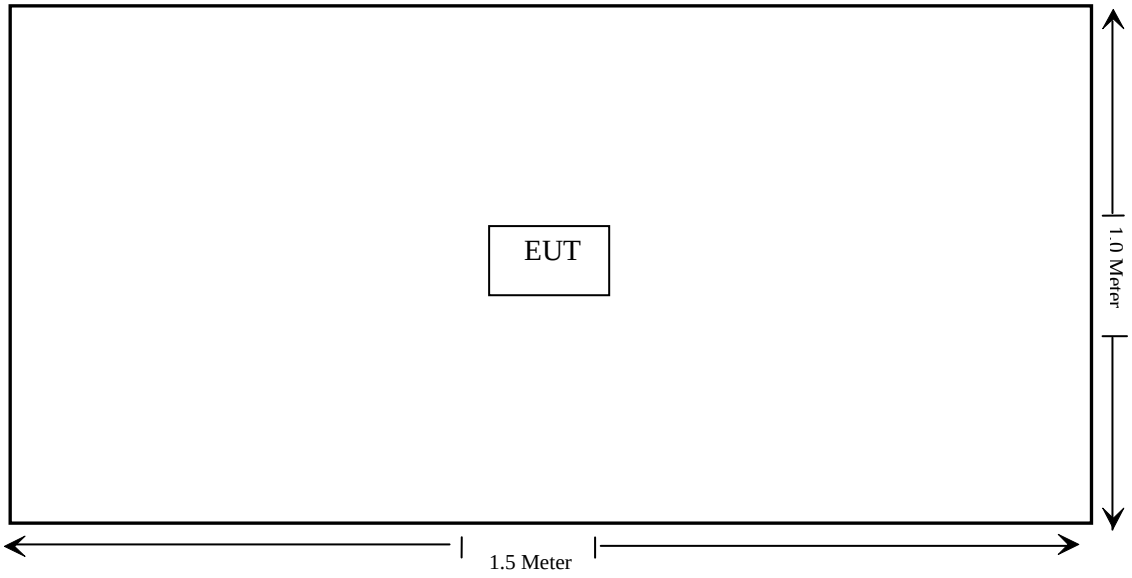
# 3. OPERATION OF EUT DURING TESTING

## 3.1.Operating Mode

The mode is used: **Transmitting mode**
TX Channel: 915MHz

## 3.2.Configuration and peripherals

Block Diagram of Test Setup

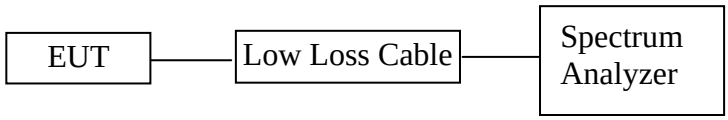


# 4. TEST PROCEDURES AND RESULTS

| FCC Rules | Description of Test | Result |
|---|---|---|
| Section 15.215(c) | 20dB Bandwidth | Compliant |
| Section 15.249(d) | Band Edge Compliance Test | Compliant |
| Section 15.205(a), Section 15.209(a), Section 15.249, Section 15.35 | Radiated Spurious Emission Test | Compliant |
| Section 15.207 | AC Power Line Conducted Emission Test | N/A |
| Section 15.203 | Antenna Requirement | Compliant |

# 5. 20DB BANDWIDTH MEASUREMENT

## 5.1.Block Diagram of Test Setup




## 5.2.The Requirement For Section 15.215(c)

The bandwidth of a frequency hopping channel is the 20 dB emission bandwidth, measured with the hopping stopped. The system RF bandwidth is equal to the channel bandwidth multiplied by the number of channels in the hopset. The hopset shall be such that the near-term distribution of frequencies appears random, with sequential hops randomly distributed in both direction and magnitude of change in the hopset while the long-term distribution appears evenly distributed.

## 5.3.Operating Condition of EUT

5.3.1.Setup the EUT and simulator as shown as Section 5.1.

5.3.2.Turn on the power of all equipment.

5.3.3.Let the EUT work in TX modes measure it. The transmit frequency is 915MHz.

## 5.4.Test Procedure

5.4.1.Place the EUT on the table and set it in transmitting mode.

5.4.2.Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

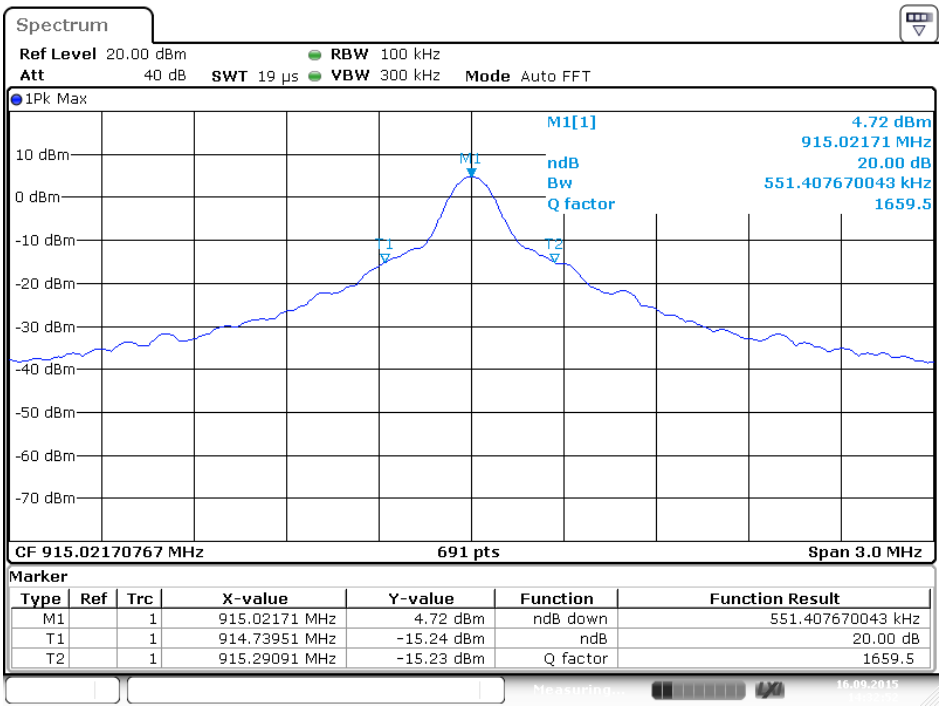
5.4.3.Set RBW of spectrum analyzer to 100 kHz and VBW to300 kHz, Detector function=peak, Trace=max hold, Sweep=auto.

5.4.4.Set the measured low, middle and high frequency and test 20dB bandwidth with spectrum analyzer.

## 5.5.Test Result

| Channel | Frequency (MHz) | 20 dB Bandwidth (MHz) |
|---|---|---|
| 1 | 915 | 0.551 |

The spectrum analyzer plots are attached as below.

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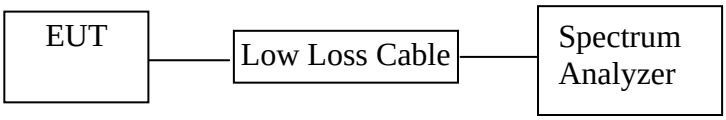
# 6. BAND EDGE COMPLIANCE TEST

## 6.1.Block Diagram of Test Setup




## 6.2.The Requirement For Section 15.249

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph A8.4(4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, 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).

## 6.3.EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

## 6.4.Operating Condition of EUT

6.4.1.Setup the EUT and simulator as shown as Section 6.1.

6.4.2.Turn on the power of all equipment.

6.4.3.Let the EUT work in TX modes measure it. The transmit frequency is 915 MHz.

## 6.5.Test Procedure

Conducted Band Edge:

6.5.1.The transmitter output was connected to the spectrum analyzer via a low loss cable.

6.5.2.Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz.

Radiated Band Edge:
Note:
1. Emissions attenuated more than 20 dB below the permissible value are not reported.
2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:
Result = Reading + Corrected Factor
3. Display the measurement of peak values.

Test Procedure:

The EUT and its simulators are placed on a turntable, which is 1.5 meter high above ground(Above 1GHz). The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bi-log antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the EUT location must be manipulated according to ANSI C63.10:2013 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

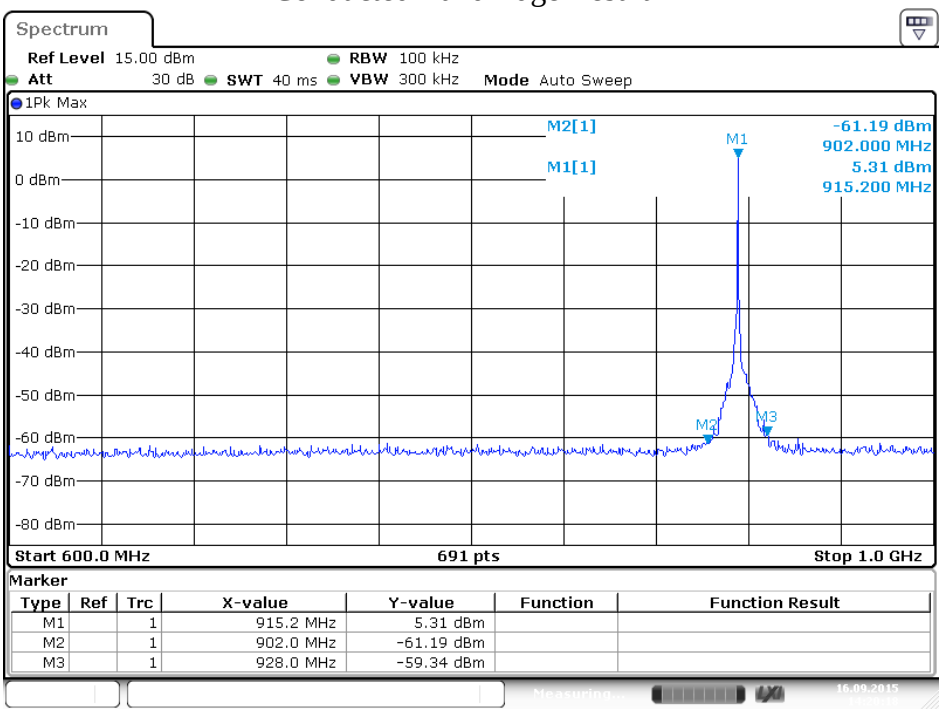
Let the EUT work in TX modes then measure it.

During the radiated emission test, the spectrum analyzer was set with the following configurations:
1.The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz.
2.The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.
3.All modes of operation were investigated and the worst-case emissions are reported.

## 6.6.Test Result

**Pass**

# Conducted Band Edge Result

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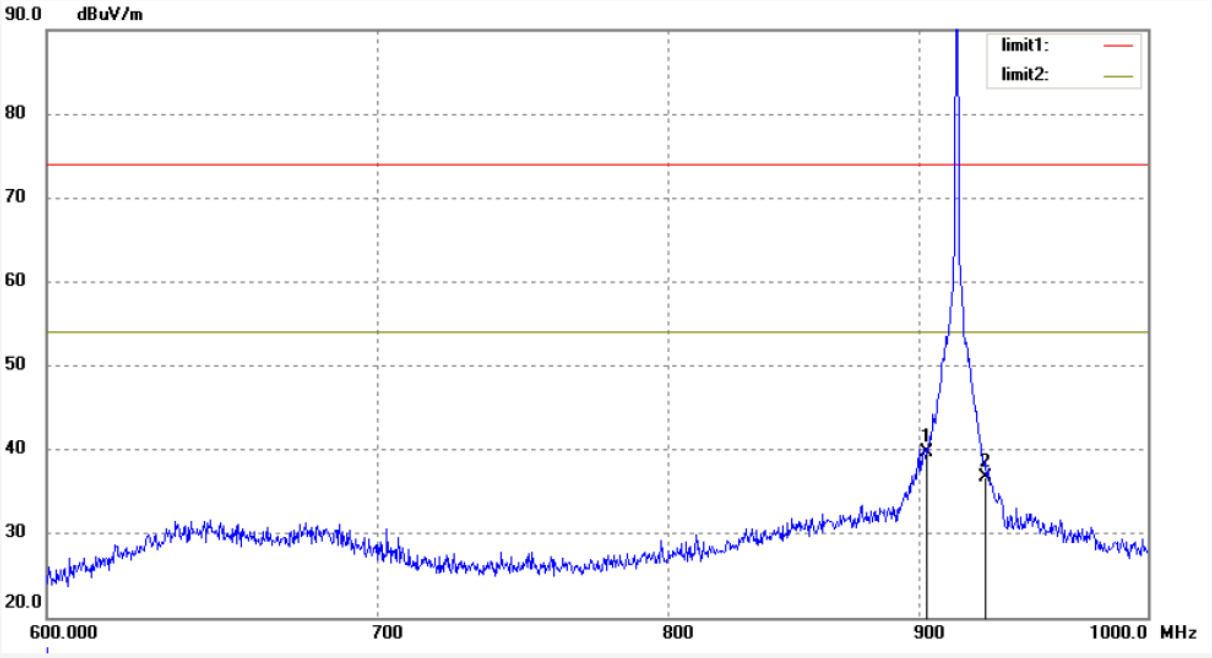
Radiated Band Edge Result

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

| | |
|---|---|
| Job No.: ricky2015 #135 | Polarization: Horizontal |
| Standard: FCC Bandedge Peak | Power Source: DC 3V |
| Test item: Radiation Test | Date: 2015/09/16 |
| Temp.( C)/Hum.(%) 23 C / 48 % | Time: 14:31:33 |
| EUT: Wireless weather station(Transmitter) | Engineer Signature: PEI |
| Mode: TX | Distance: 3m |
| Model: WH32E | |
| Manufacturer: Fine Offset | |

Note: Report NO.:ATE20151986



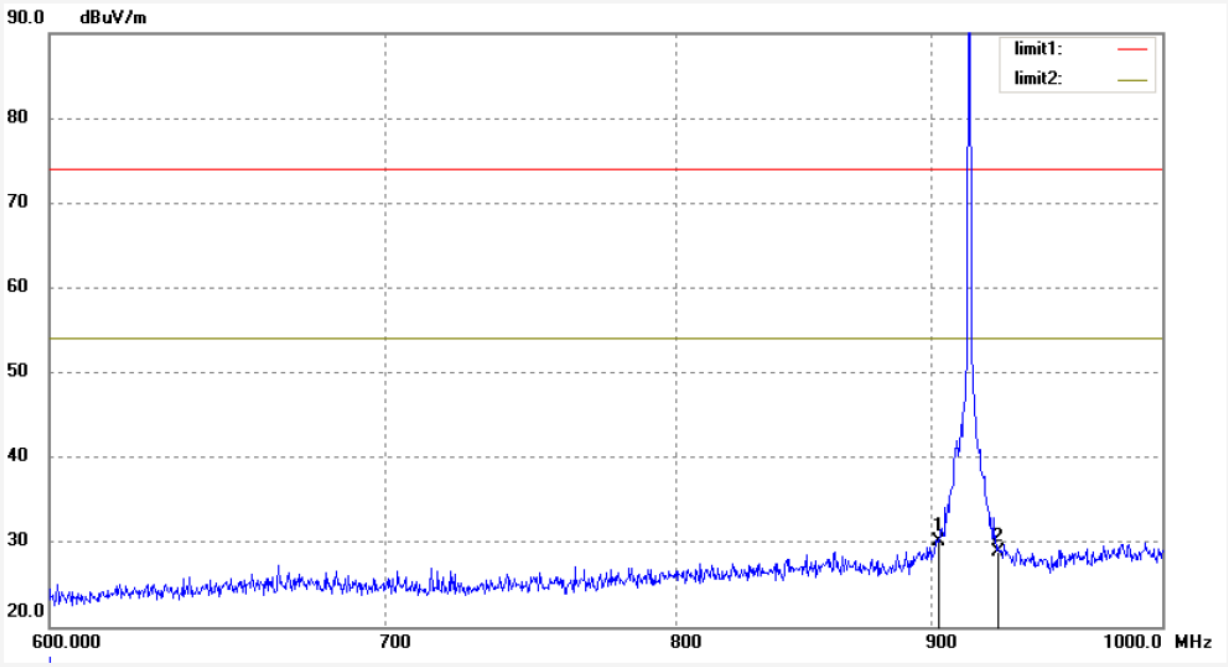

| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 902.0000 | 38.37 | 1.28 | 39.65 | 74.00 | -34.35 | peak | | | |
| 2 | 928.0000 | 34.97 | 1.80 | 36.77 | 74.00 | -37.23 | peak | | | |

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: ricky2015 #136
Standard: FCC Bandedge Peak
Test item: Radiation Test
Temp.( C)/Hum.(%) 23 C / 48 %
EUT: Wireless weather station(Transmitter)
Mode: TX
Model: WH32E
Manufacturer: Fine Offset

Polarization: Vertical
Power Source: DC 3V
Date: 2015/09/16
Time: 14:33:30
Engineer Signature: PEI
Distance: 3m

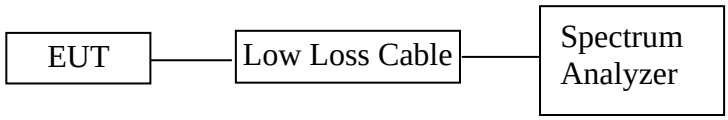
Note: Report NO.:ATE20151986




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 902.0000 | 28.80 | 1.28 | 30.08 | 74.00 | -43.92 | peak | | | |
| 2 | 928.0000 | 26.97 | 1.80 | 28.77 | 74.00 | -45.23 | peak | | | |

# 7. AVERAGE FACTOR MEASUREMENT

## 7.1.Block Diagram of Test Setup




## 7.2.Average factor Measurement according to ANSI C63.10-2013

**ANSI C63.10-2013 Section 7.5** Unless otherwise specified, when the radiated emission limits are expressed in terms of the average value of the emission, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 s (100 ms). In cases where the pulse train exceeds 0.1 s, the measured field strength shall be determined during a 0.1 s interval.64 The following procedure is an example of how the average value may be determined. The average field strength may be found by measuring the peak pulse amplitude (in log equivalent units) and determining the duty cycle correction factor (in dB) associated with the pulse modulation as shown in Equation (10):
**Average factor in dB = 20 log (duty cycle)**

## 7.3.EUT Configuration on Measurement

The following equipment are installed on average factor Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

## 7.4.Operating Condition of EUT

7.4.1.Setup the EUT and simulator as shown as Section 7.1.

7.4.2.Turn on the power of all equipment.

7.4.3.Let the EUT work in TX mode measure it.

## 7.5. Test Procedure

7.5.1. The time period over which the duty cycle is measured is 100 milliseconds, or the repetition cycle, whichever is a shorter time frame. The worst case (highest percentage on) duty cycle is used for the calculation.

7.5.2. Set SPA Center Frequency = Fundamental frequency, RBW = 100 kHz, VBW = 300 kHz, Span = 0 Hz.

7.5.3. Set EUT as normal operation.

7.5.4. Set SPA View. Delta Mark time.

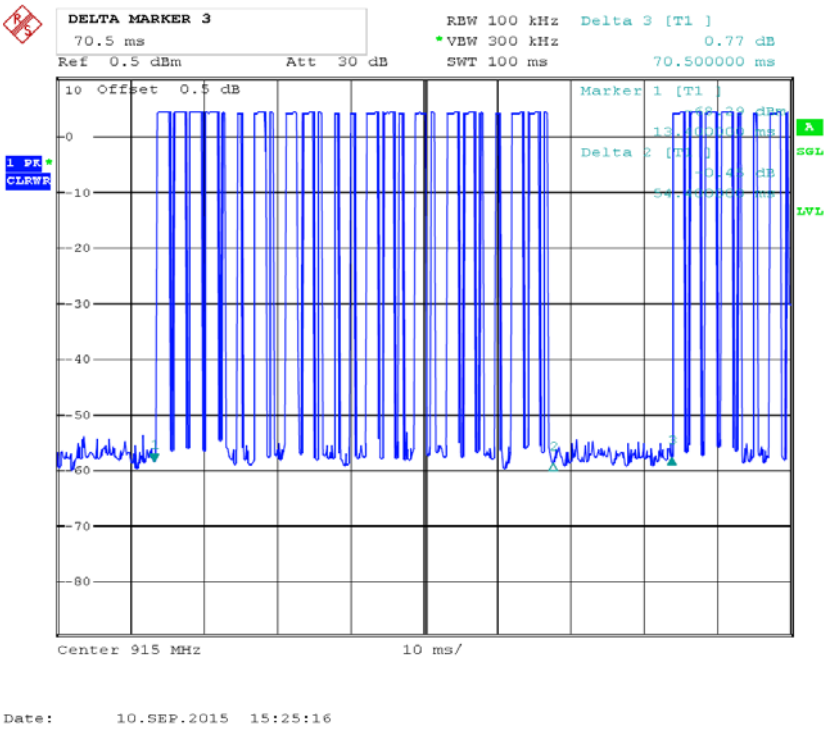
## 7.6. Measurement Result

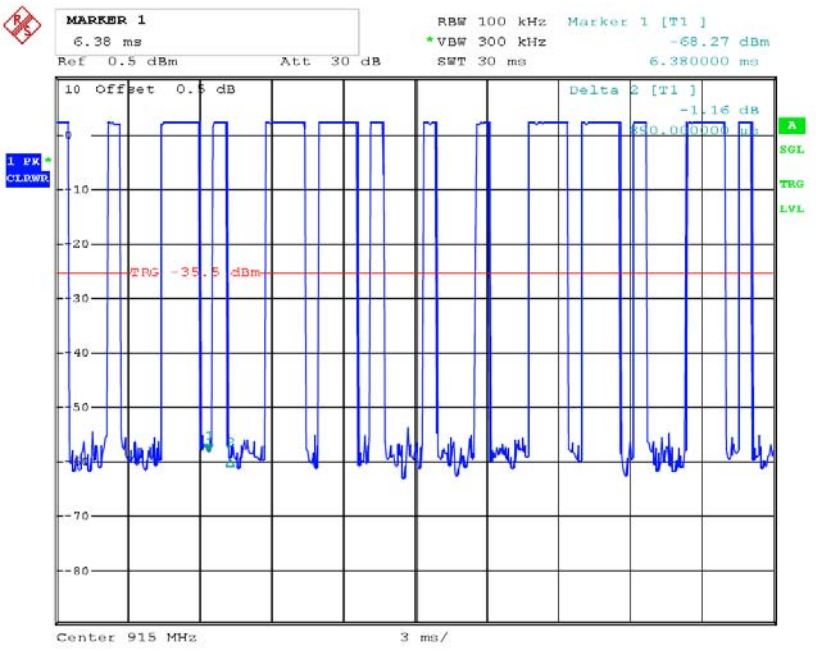
**The duty cycle is simply the on time divided by the period:**

Effective period of the cycle = (0.89*11) + (1.78*14)ms =34.71 ms

DC =34.71ms/70.5ms=0.4923

**Therefore, the average factor is found by 20log0.4923= -6.16dB**



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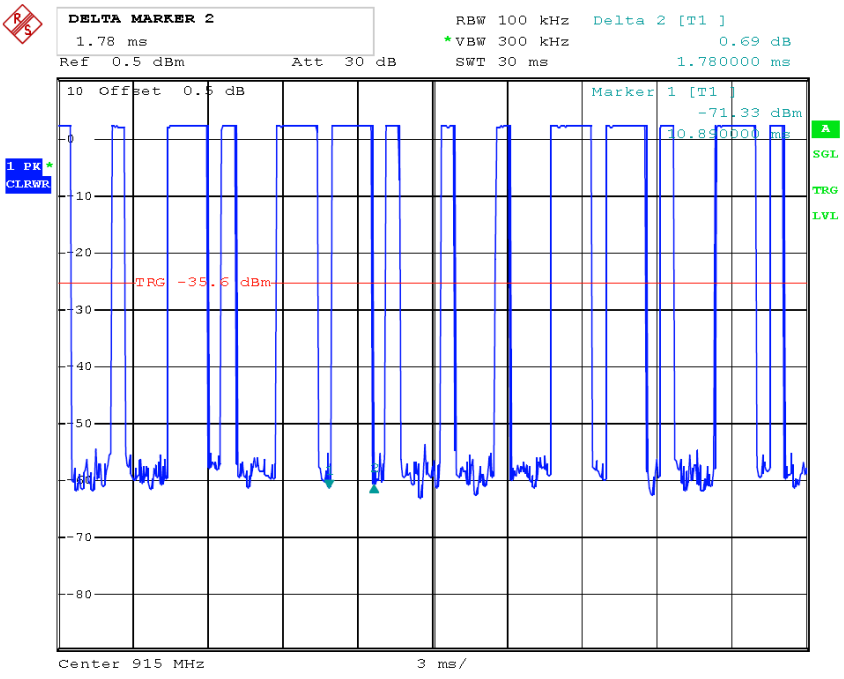


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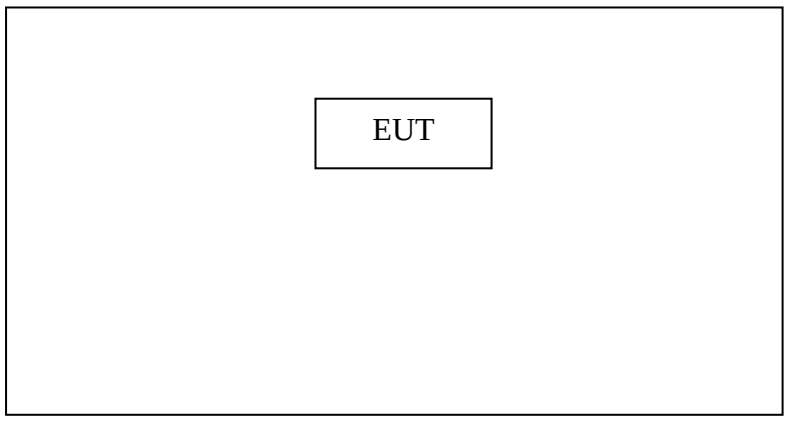
# 8. RADIATED SPURIOUS EMISSION TEST

## 8.1.Block Diagram of Test Setup

### 8.1.1.Block diagram of connection between the EUT and peripherals

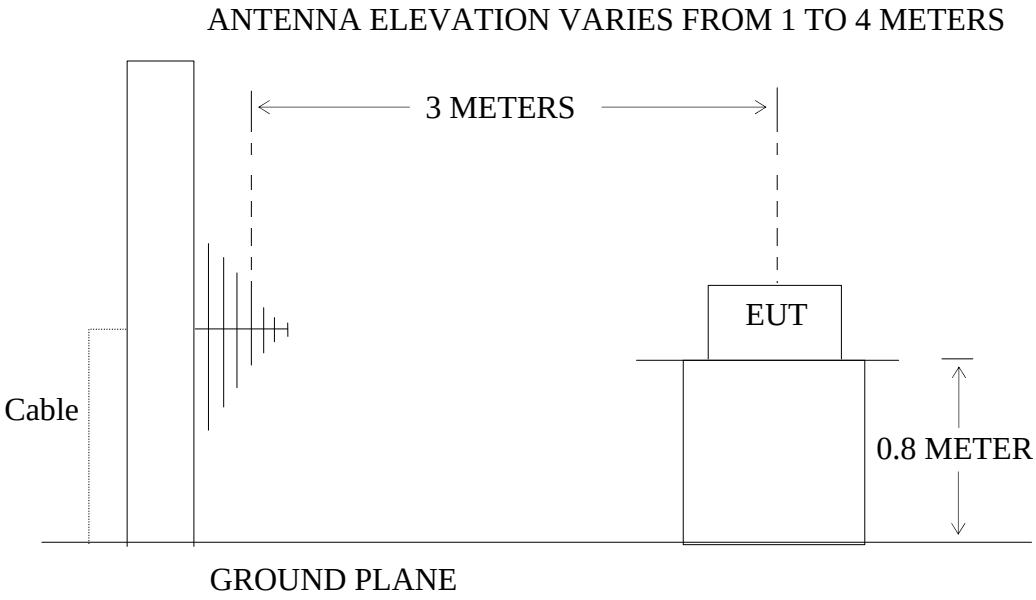



Setup: Transmitting mode

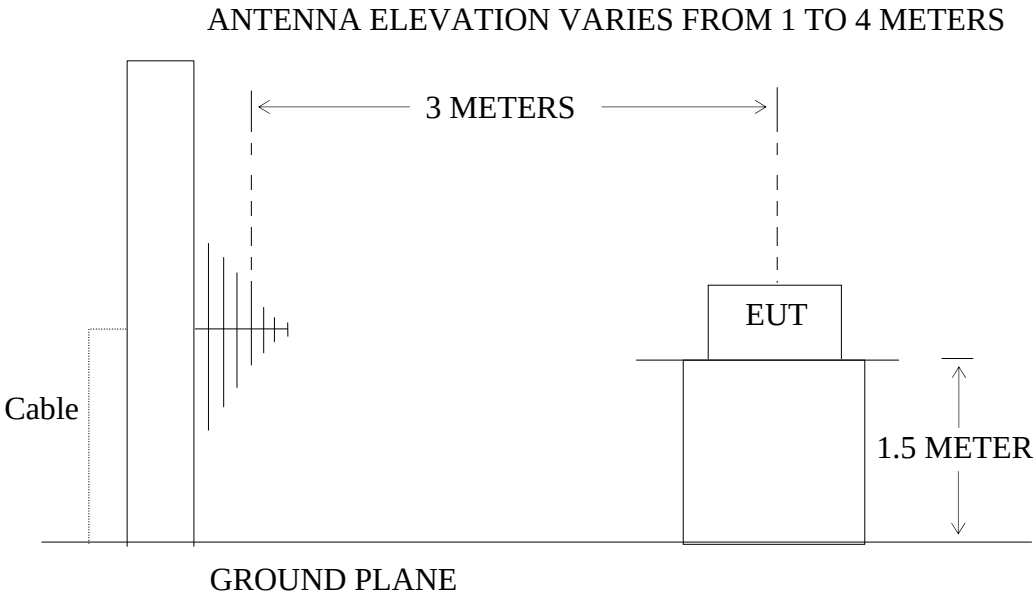
(EUT: Wireless weather station (Transmitter))

### 8.1.2.Semi-Anechoic Chamber Test Setup Diagram

**Below 1GHz**



**Above 1GHz**




## 8.2.The Limit For Section 15.249

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph A8.4(4), the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, 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).

## 8.3.Restricted bands of operation

### 8.3.1.FCC Part 15.205 Restricted bands of operation

(a) Except as shown in paragraph (d) of this section, Only spurious emissions are permitted in any of the frequency bands listed below:

| MHz | MHz | MHz | GHz |
|---|---|---|---|
| 0.090-0.110 | 16.42-16.423 | 399.9-410 | 4.5-5.15 |
| [1]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 | ([2]) |
| 13.36-13.41 | | | |

[1]Until February 1, 1999, this restricted band shall be 0.490-0.510
[2]Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emission appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, Compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

## 8.4.Configuration of EUT on Measurement

The equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

## 8.5.Operating Condition of EUT

8.5.1.Setup the EUT and simulator as shown as Section 7.1.

8.5.2.Turn on the power of all equipment.

8.5.3.Let the EUT work in TX modes measure it. The transmit frequency is 915MHz.

## 8.6.Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground(Below 1GHz). The EUT and its simulators are placed on a turntable, which is 1.5 meter high above ground(Above 1GHz). The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bi-log antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the EUT location must be manipulated according to ANSI C63.10:2013 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

The frequency range from 30MHz to 25000MHz is checked.
Result = Reading + Corrected Factor
Where Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

During the radiated emission test, the spectrum analyzer was set with the following configurations:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

## 8.7.The Field Strength of Radiation Emission Measurement Results

**PASS.**

EUT: Wireless weather station (Transmitter)
Model No.: WH32E Power Supply: DC 3V
Test Mode: TX Test Engineer: Star

| Frequency (MHz) | Reading (dBμV/m) | Factor Corr. | Average Factor | Result(dBμV/m) | | Limit(dBμV/m) | | Margin(dB) | | Polarization |
|---|---|---|---|---|---|---|---|---|---|---|
| | PEAK | (dB) | (dB) | AV | PEAK | AV | PEAK | AV | PEAK | |
| **915** | **94.70** | **-4.11** | **-6.16** | **84.43** | **90.59** | **94.0** | **114.0** | **--9.57** | **-23.41** | Horizontal |
| 5768 | 48.42 | 2.63 | -6.16 | 44.89 | 51.05 | 54.00 | 74.00 | -9.11 | -22.95 | |
| **915** | **94.24** | **-4.11** | **-6.16** | **83.97** | **90.13** | **94.0** | **114.0** | **-10.03** | **-23.87** | Vertical |
| 5768 | 49.14 | 2.63 | -6.16 | 45.61 | 51.77 | 54.00 | 74.00 | -8.39 | -22.23 | |

Note:

1. Emissions attenuated more than 20 dB below the permissible value are not reported.
2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

   Result = Reading + Corrected Factor

   Where Corrected Factor = Antenna Factor + Cable Loss + High Pass Filter Loss – Amplifier Gain
3. The spectral diagrams display the measurement of peak values.
4. Average value= PK value + Average Factor (duty factor)
5. If the peak-detected amplitude can be shown to comply with the average limit, then it is not necessary to perform a separate average measurement.
6. The EUT is tested radiation emission in three axes(X,Y,Z). The worst emissions are reported in three axes.

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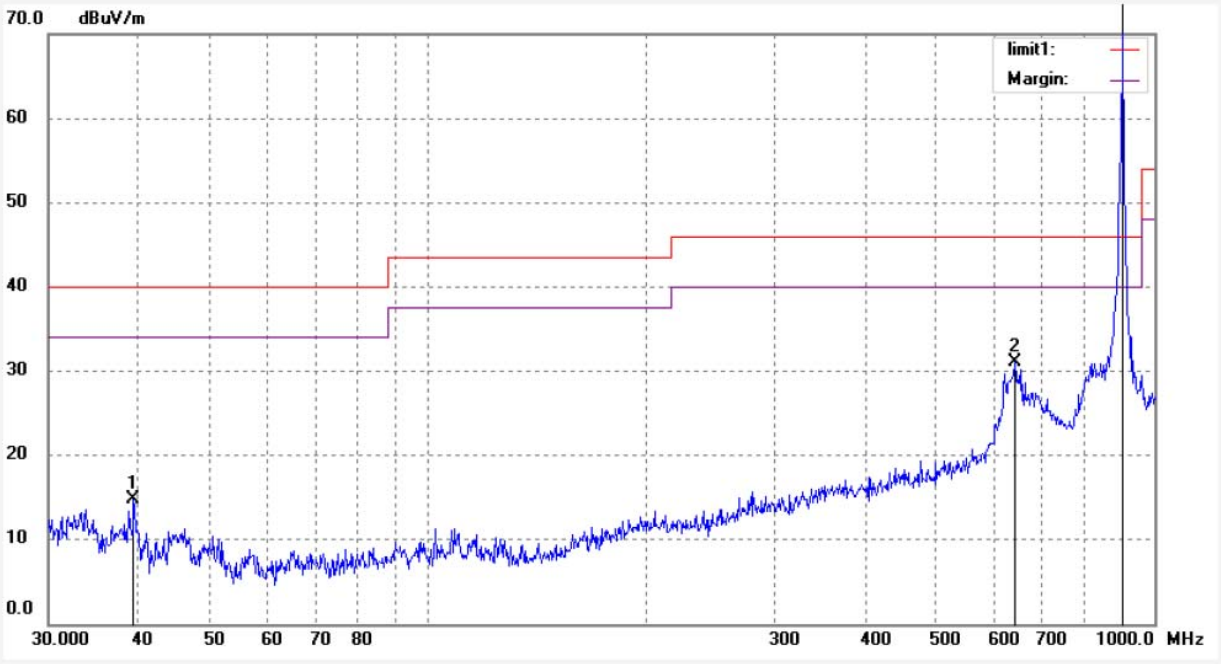
Fax:+86-0755-26503396

Job No.: Ricky2015 #798
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.( C)/Hum.(%) 25 C / 55 %
EUT: Wireless weather station(Transmitter)
Mode: TX
Model: WH32E
Manufacturer: Fine Offset

Polarization: Horizontal
Power Source: DC 3V
Date: 2015/09/10
Time: 15:41:04
Engineer Signature: Ricky
Distance: 3m

Note: Report NO.:ATE20151986




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 39.3204 | 33.71 | -18.88 | 14.83 | 40.00 | -25.17 | peak | | | |
| 2 | 642.2923 | 40.00 | -9.00 | 31.00 | 46.00 | -15.00 | peak | | | |
| 3 | 915.0000 | 94.70 | -4.11 | 90.59 | / | / | peak | | | |

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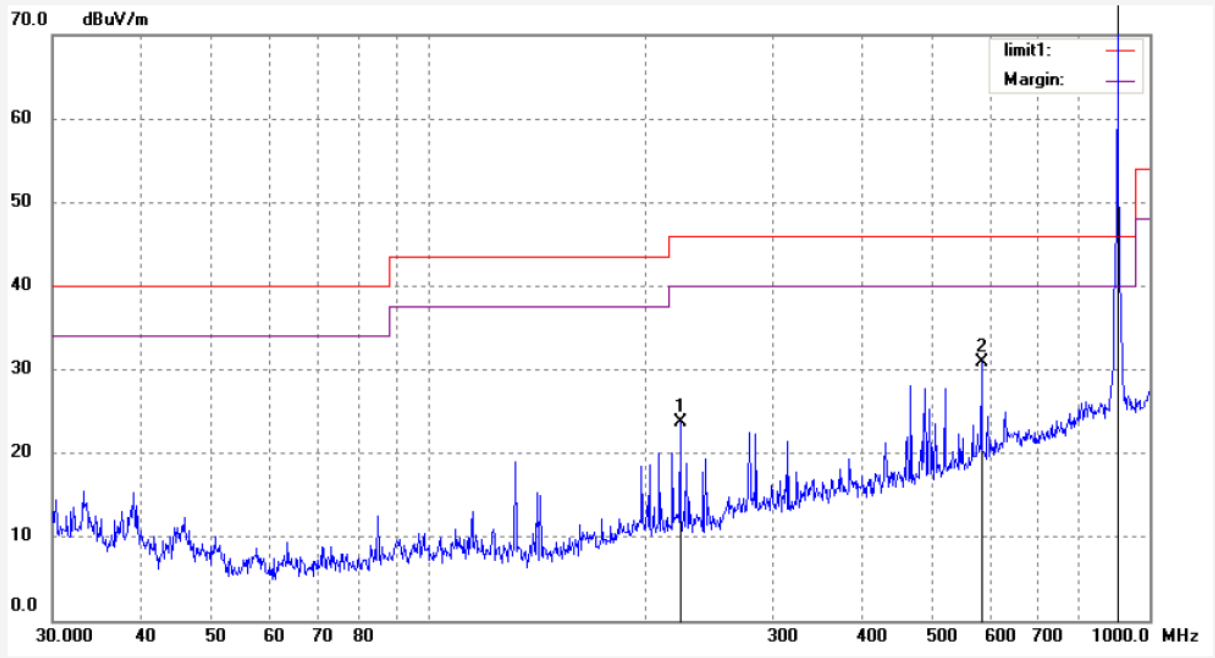
| | |
|---|---|
| Job No.: Ricky2015 #799 | Polarization: Vertical |
| Standard: FCC Class B 3M Radiated | Power Source: DC 3V |
| Test item: Radiation Test | Date: 2015/09/10 |
| Temp.( C)/Hum.(%) 25 C / 55 % | Time: 15:41:44 |
| EUT: Wireless weather station(Transmitter) | Engineer Signature: Ricky |
| Mode: TX | Distance: 3m |
| Model: WH32E | |
| Manufacturer: Fine Offset | |

Note: Report NO.:ATE20151986




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 223.0630 | 42.03 | -18.37 | 23.66 | 46.00 | -22.34 | peak | | | |
| 2 | 584.1611 | 41.18 | -10.27 | 30.91 | 46.00 | -15.09 | peak | | | |
| 3 | 915.0000 | 94.24 | -4.11 | 90.13 | / | / | peak | | | |

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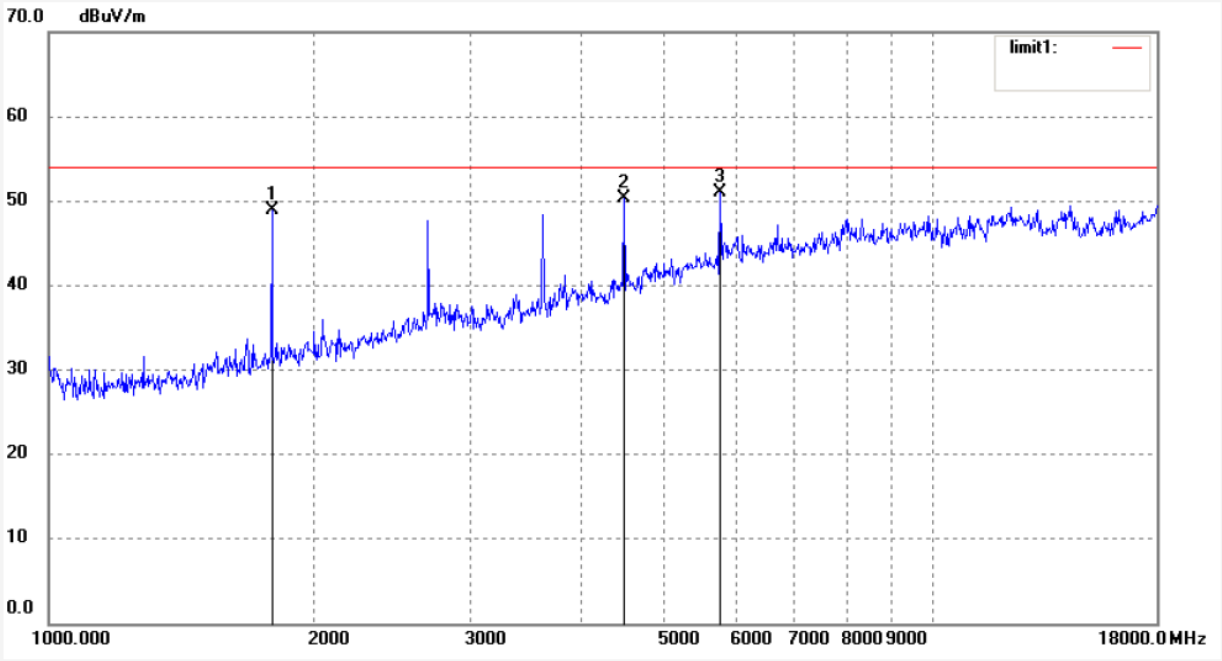
Job No.: Ricky2015 #802
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.( C)/Hum.(%) 25 C / 55 %
EUT: Wireless weather station(Transmitter)
Mode: TX
Model: WH32E
Manufacturer: Fine Offset

Polarization: Horizontal
Power Source: DC 3V
Date: 2015/09/10
Time: 15:44:59
Engineer Signature: Ricky
Distance: 3m

Note: Report NO.:ATE20151986




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1789.881 | 58.86 | -10.03 | 48.83 | 74.00 | -25.17 | peak | | | |
| 2 | 4490.416 | 51.24 | -0.94 | 50.30 | 74.00 | -23.70 | peak | | | |
| 3 | 5767.679 | 48.42 | 2.63 | 51.05 | 74.00 | -22.95 | peak | | | |

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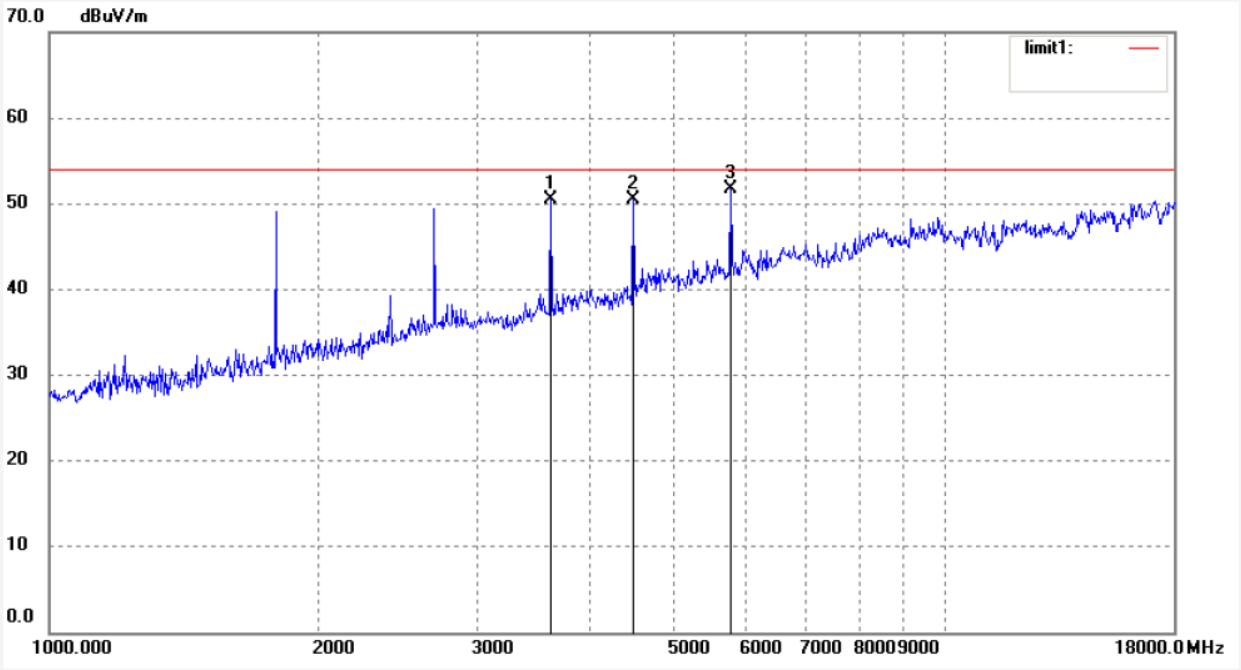
Job No.: Ricky2015 #801
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.( C)/Hum.(%) 25 C / 55 %
EUT: Wireless weather station(Transmitter)
Mode: TX
Model: WH32E
Manufacturer: Fine Offset

Polarization: Vertical
Power Source: DC 3V
Date: 2015/09/10
Time: 15:44:07
Engineer Signature: Ricky
Distance: 3m

Note: Report NO.:ATE20151986




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3630.829 | 52.92 | -2.51 | 50.41 | 74.00 | -23.59 | peak | | | |
| 2 | 4490.416 | 51.42 | -0.94 | 50.48 | 74.00 | -23.52 | peak | | | |
| 3 | 5767.679 | 49.14 | 2.63 | 51.77 | 74.00 | -22.23 | peak | | | |

# 9. ANTENNA REQUIREMENT

## 9.1.The Requirement

According to 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.

## 9.2.Antenna Construction

Device is equipped with permanent attached antenna, which isn't displaced by other antenna. The Antenna gain of EUT is 1dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.