# FCC CERTIFICATION
On Behalf of
La Crosse Technology

Thermo-hygro sensor
Model No.: TX62UTH-IT

FCC ID: OMO-M-10

| | | |
|---|---|---|
| Prepared for | : | La Crosse Technology |
| Address | : | 2809 Losey Blvd. So. La Crosse WI 54601, USA |
| Prepared by | : | ACCURATE TECHNOLOGY CO., LTD |
| Address | : | F1, Bldg. A&D, Changyuan New Material Port, Keyuan Rd., Science & Industry Park, Nanshan District, Shenzhen 518057, P. R. China |
| | | Tel: (0755) 26503290 |
| | | Fax: (0755) 26503396 |

| | | |
|---|---|---|
| Report Number | : | ATE20110531 |
| Date of Test | : | March 19-21, 2011 |
| Date of Report | : | March 30, 2011 |

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Description Page

# Test Report Certification

Applicant **:** La Crosse Technology

EUT Description **:** Thermo-hygro sensor

(A) MODEL NO.: TX62UTH-IT

(B) SERIAL NO.: N/A

(C) POWER SUPPLY: 3V DC ("AAA" batteries 2×)

Measurement Procedure Used:

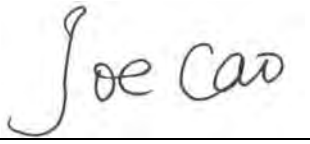
**FCC Rules and Regulations Part 15 Subpart C Section 15.249**
**ANSI C63.4: 2003**

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 Section15.249 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.

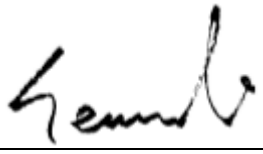
Date of Test : March 19-21, 2011

Prepared by :



(Engineer)

Approved & Authorized Signer :



(Manager)

# 1. GENERAL INFORMATION

## 1.1.Description of Device (EUT)

| | | |
|---|---|---|
| EUT | : | Thermo-hygro sensor |
| Model Number | : | TX62UTH-IT |
| Power Supply | : | 3V DC ("AAA" batteries 2×) |
| Transmitting Frequency | : | Channel 1: 903MHz<br>Channel 2: 915MHz<br>Channel 3: 927MHz |
| Channel Number | : | 3 Channels |
| Applicant | : | La Crosse Technology |
| Address | : | 2809 Losey Blvd. So. La Crosse WI 54601, USA |
| Date of sample received | : | March 17, 2011 |
| Date of Test | : | March 19-21, 2011 |

## 1.2.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 |

## 1.3.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 until |
|---|---|---|---|---|
| EMI Test Receiver | Rohde&Schwarz | ESCS30 | 100307 | Jan. 15, 2012 |
| EMI Test Receiver | Rohde&Schwarz | ESPI3 | 101526/003 | Jan. 15, 2012 |
| Spectrum Analyzer | Agilent | E7405A | MY45115511 | Jan. 15, 2012 |
| Pre-Amplifier | Rohde&Schwarz | CBLU1183540-01 | 3791 | Jan. 15, 2012 |
| Loop Antenna | Schwarzbeck | FMZB1516 | 1516131 | Jan. 15, 2012 |
| Bilog Antenna | Schwarzbeck | VULB9163 | 9163-323 | Jan. 15, 2012 |
| Horn Antenna | Schwarzbeck | BBHA9120D | 9120D-655 | Jan. 15, 2012 |
| Horn Antenna | Schwarzbeck | BBHA9170 | 9170-359 | Jan. 15, 2012 |
| LISN | Rohde&Schwarz | ESH3-Z5 | 100305 | Jan. 15, 2012 |
| LISN | Schwarzbeck | NSLK8126 | 8126431 | Jan. 15, 2012 |

# 3. SUMMARY OF TEST RESULTS

| **FCC Rules** | **Description of Test** | **Result** |
|---|---|---|
| Section 15.207 | Conducted Emission | N/A |
| Section 15.249(a) | Fundamental and Harmonics Radiated Emission | Compliant |
| Section 15.249(d) | Spurious Radiated Emission | Compliant |
| Section 15.249(d) | Band Edge | Compliant |
| Section 15.203 | Antenna Requirement | Compliant |

Remark: “N/A” means “Not applicable”.

# 4. FUNDAMENTAL AND HARMONICS RADIATED EMISSION FOR SECTION 15.249(A)

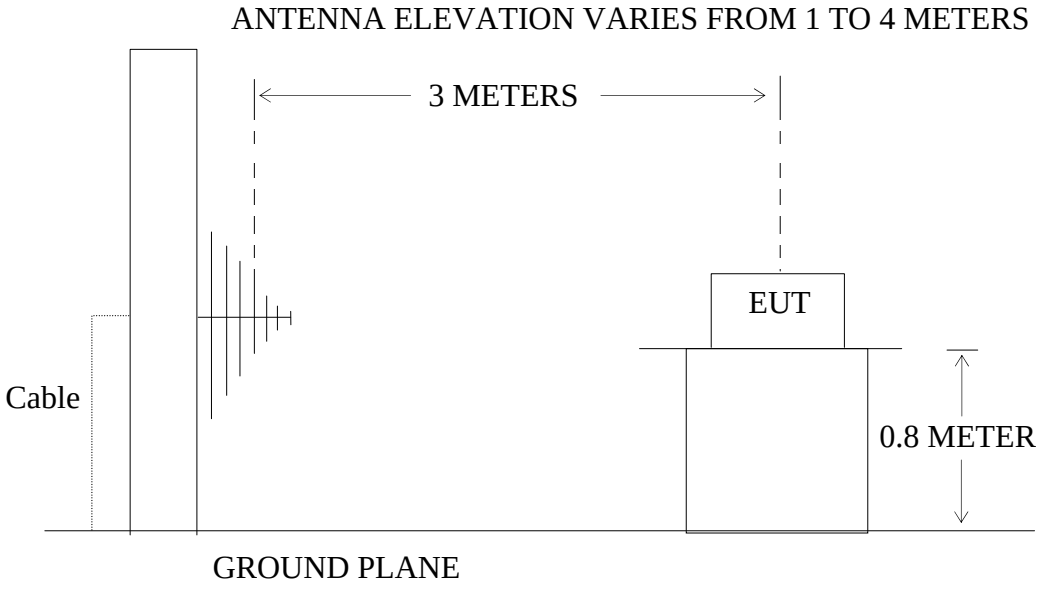
## 4.1.Block Diagram of Test Setup

### 4.1.1.Block diagram of connection between the EUT and simulators

EUT

(EUT: Thermo-hygro sensor)

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




(EUT: Thermo-hygro sensor)

## 4.2.The Emission Limit

4.2.1.For intentional radiators, According to section 15.249(a), Operation within the frequency band of 902 to 928MHz, The fundamental field strength shall not exceed 94 dBμV/m and the harmonics shall not exceed 54 dBμV/m.

| Fundamental Frequency | Field Strength of Fundamental (millivolts/meter) | Field Strength of harmonics (microvolts/meter) |
|---|---|---|
| 902-928MHz | 50 | 500 |
| 2400-2483.5MHz | 50 | 500 |
| 5725-5875MHz | 50 | 500 |
| 24.0-24.25GHz | 250 | 2500 |

4.2.2.According to section 15.249(e), as shown in section 15.35(b), the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

## 4.3.Configuration of EUT on Measurement

The following equipment is 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.

4.3.1.Thermo-hygro sensor (EUT)

Model Number : TX62UTH-IT
Serial Number : N/A
Manufacturer : La Crosse Technology

## 4.4.Operating Condition of EUT

4.4.1.Setup the EUT and simulator as shown as Section 4.1.

4.4.2.Turn on the power of all equipment.

4.4.3. Let the EUT work in TX mode measure it. The transmit frequency are 903MHz, 915MHz, 927MHz.

## 4.5.Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. 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 bilog 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 interface cables must be manipulated according to ANSI C63.4: 2003 on radiated emission measurement.

The bandwidth of test receiver is set at 120kHz in 30-1000MHz. and set at 1MHz in above 1000MHz.

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

**PASS.**

| | | | |
|---|---|---|---|
| Date of Test: | March 19, 2011 | Temperature: | 21°C |
| EUT: | Thermo-hygro sensor | Humidity: | 55% |
| Model No.: | TX62UTH-IT | Power Supply: | 3V DC (“AAA” batteries 2×) |
| Test Mode: | TX 903MHz | Test Engineer: | Joe |

**Fundamental Radiated Emissions**

| Frequency (MHz) | Reading(dBμV/m) QP | Factor(dB) Corr. | Result(dBμV/m) QP | Limit(dBμV/m) QP | Margin(dB) QP | Polarization |
|---|---|---|---|---|---|---|
| 902.9800 | 40.29 | 28.79 | 69.08 | 94 | -24.92 | Vertical |
| 902.9800 | 41.13 | 28.79 | 69.92 | 94 | -24.08 | Horizontal |

**Harmonics Radiated Emissions**

| Frequency (MHz) | Reading(dBμV/m) | | Factor(dB) Corr. | Result(dBμV/m) | | Limit(dBμV/m) | | Margin(dB) | | Polarization |
|---|---|---|---|---|---|---|---|---|---|---|
| | AV | PEAK | | AV | PEAK | AV | PEAK | AV | PEAK | |
| 1805.978 | 52.36 | 54.90 | -9.99 | 42.37 | 44.91 | 54 | 74 | -11.63 | -29.09 | Vertical |
| 3611.970 | 44.30 | 46.78 | -2.76 | 41.54 | 44.02 | 54 | 74 | -12.46 | -29.98 | |
| 1805.978 | 45.33 | 47.87 | -9.99 | 35.34 | 37.88 | 54 | 74 | -18.66 | -36.123 | Horizontal |

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 in appendix I display the measurement of peak values.

| | | | |
|---|---|---|---|
| Date of Test: | March 19, 2011 | Temperature: | 21°C |
| EUT: | Thermo-hygro sensor | Humidity: | 55% |
| Model No.: | TX62UTH-IT | Power Supply: | 3V DC (“AAA” batteries 2×) |
| Test Mode: | TX 915MHz | Test Engineer: | Joe |

**Fundamental Radiated Emissions**

| Frequency (MHz) | Reading(dBμV/m) QP | Factor(dB) Corr. | Result(dBμV/m) QP | Limit(dBμV/m) QP | Margin(dB) QP | Polarization |
|---|---|---|---|---|---|---|
| 914.9810 | 37.82 | 28.92 | 66.74 | 94 | -27.26 | Vertical |
| 914.9810 | 39.61 | 28.92 | 68.53 | 94 | -25.47 | Horizontal |

**Harmonics Radiated Emissions**

| Frequency (MHz) | Reading(dBμV/m) | | Factor(dB) Corr. | Result(dBμV/m) | | Limit(dBμV/m) | | Margin(dB) | | Polarization |
|---|---|---|---|---|---|---|---|---|---|---|
| | AV | PEAK | | AV | PEAK | AV | PEAK | AV | PEAK | |
| 1829.982 | 52.08 | 53.63 | -9.73 | 42.35 | 43.90 | 54 | 74 | -11.65 | -30.10 | Vertical |
| 3659.979 | 48.74 | 51.26 | -2.56 | 46.18 | 48.70 | 54 | 74 | -7.82 | -25.30 | |
| 1829.982 | 47.06 | 49.59 | -9.73 | 37.33 | 39.86 | 54 | 74 | -16.67 | -34.14 | Horizontal |

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 in appendix I display the measurement of peak values.

| | | | |
|---|---|---|---|
| Date of Test: | March 19, 2011 | Temperature: | 21°C |
| EUT: | Thermo-hygro sensor | Humidity: | 55% |
| Model No.: | TX62UTH-IT | Power Supply: | 3V DC (“AAA” batteries 2×) |
| Test Mode: | TX 927MHz | Test Engineer: | Joe |

**Fundamental Radiated Emissions**

| Frequency (MHz) | Reading(dBμV/m) QP | Factor(dB) Corr. | Result(dBμV/m) QP | Limit(dBμV/m) QP | Margin(dB) QP | Polarization |
|---|---|---|---|---|---|---|
| 926.9840 | 36.69 | 29.19 | 65.88 | 94 | -28.12 | Vertical |
| 926.9840 | 36.59 | 29.19 | 65.78 | 94 | -28.22 | Horizontal |

**Harmonics Radiated Emissions**

| Frequency (MHz) | Reading(dBμV/m) | | Factor(dB) Corr. | Result(dBμV/m) | | Limit(dBμV/m) | | Margin(dB) | | Polarization |
|---|---|---|---|---|---|---|---|---|---|---|
| | AV | PEAK | | AV | PEAK | AV | PEAK | AV | PEAK | |
| 1853.983 | 50.92 | 53.45 | -9.54 | 41.38 | 43.91 | 54 | 74 | -12.62 | -30.09 | Vertical |
| 3707.980 | 46.02 | 48.54 | -2.38 | 43.64 | 46.16 | 54 | 74 | -10.36 | -27.84 | |
| 1853.983 | 47.47 | 49.99 | -9.54 | 37.93 | 40.45 | 54 | 74 | -16.07 | -33.55 | Horizontal |

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 in appendix I display the measurement of peak values.

# 5. SPURIOUS RADIATED EMISSION FOR SECTION 15.249(D)

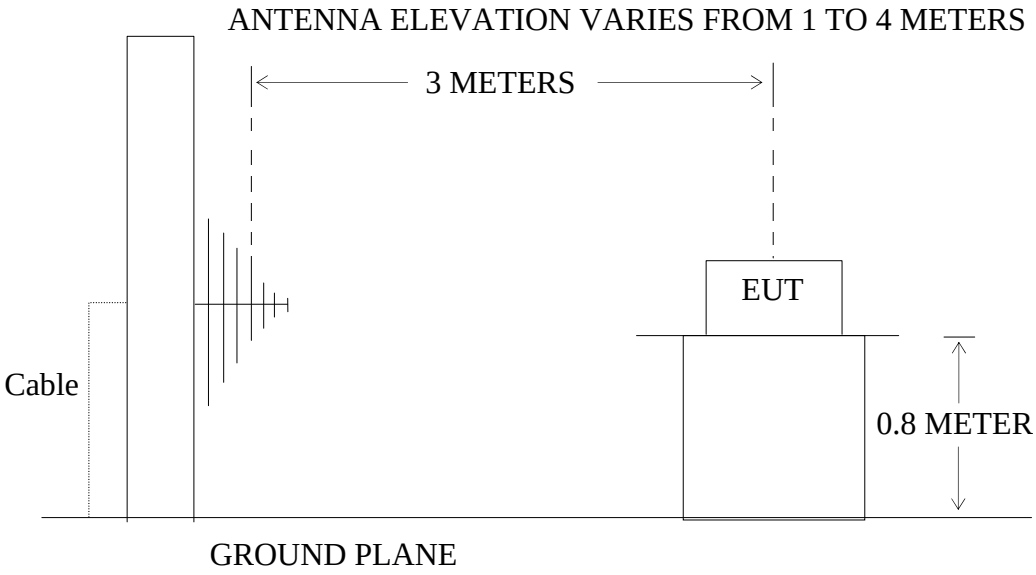
## 5.1.Block Diagram of Test Setup

### 5.1.1.Block diagram of connection between the EUT and simulators

EUT

(EUT: Thermo-hygro sensor)

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




(EUT: Thermo-hygro sensor)

## 5.2.The Emission Limit for Section 15.249(d)

5.2.1.Emission radiated outside of the specified frequency bands, except for harmonics, shall be comply with the general radiated emission limits in Section 15.209.

Radiation Emission Measurement Limits According to Section 15.209

| Frequency (MHz) | Limit | | |
|---|---|---|---|
| | Field Strength of Quasi-peak Value (microvolts/m) | Field Strength of Quasi-peak Value (dBμV/m) | The final measurement in band 9-90kHz, 110-490kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector. |
| 30 - 88 | 100 | 40 | |
| 88 - 216 | 150 | 43.5 | |
| 216 - 960 | 200 | 46 | |
| Above 960 | 500 | 54 | |

## 5.3.EUT Configuration on Measurement

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

5.3.1.Thermo-hygro sensor (EUT)

Model Number : TX62UTH-IT
Serial Number : N/A
Manufacturer : La Crosse Technology

## 5.4.Operating Condition of EUT

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

5.4.2.Turn on the power of all equipment.

5.4.3. Let the EUT work in TX mode measure it. The transmit frequency are 903MHz, 915MHz, 927MHz.

## 5.5. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. 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 bilog 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 interface cables must be manipulated according to ANSI C63.4: 2003 on radiated emission measurement.

The bandwidth of test receiver is set at 120kHz in 30-1000MHz. and set at 1MHz in above 1000MHz.

The frequency range from 30MHz to 10000MHz is checked.

The final measurement in band 9-90kHz, 110-490kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

## 5.6.The Emission Measurement Result

**PASS.**

| | | | |
|---|---|---|---|
| Date of Test: | March 19, 2011 | Temperature: | 21°C |
| EUT: | Thermo-hygro sensor | Humidity: | 55% |
| Model No.: | TX62UTH-IT | Power Supply: | 3V DC (“AAA” batteries 2×) |
| Test Mode: | TX 903MHz | Test Engineer: | Joe |

| Frequency (MHz) | Reading (dBμV/m) | Factor(dB) Corr. | Result (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|
| | QP | | QP | QP | QP | |
| - | - | - | - | - | - | Vertical |
| - | - | - | - | - | - | Horizontal |

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 in appendix I display the measurement of peak values.

| | | | |
|---|---|---|---|
| Date of Test: | March 19, 2011 | Temperature: | 21°C |
| EUT: | Thermo-hygro sensor | Humidity: | 55% |
| Model No.: | TX62UTH-IT | Power Supply: | 3V DC (“AAA” batteries 2×) |
| Test Mode: | TX 915MHz | Test Engineer: | Joe |

| Frequency (MHz) | Reading (dBμV/m) | Factor(dB) Corr. | Result (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|
| | QP | | QP | QP | QP | |
| - | - | - | - | - | - | Vertical |
| - | - | - | - | - | - | Horizontal |

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 in appendix I display the measurement of peak values.

| | | | |
|---|---|---|---|
| Date of Test: | March 19, 2011 | Temperature: | 21°C |
| EUT: | Thermo-hygro sensor | Humidity: | 55% |
| Model No.: | TX62UTH-IT | Power Supply: | 3V DC (“AAA” batteries 2×) |
| Test Mode: | TX 927MHz | Test Engineer: | Joe |

| Frequency (MHz) | Reading (dBμV/m) | Factor(dB) Corr. | Result (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|
| | QP | | QP | QP | QP | |
| - | - | - | - | - | - | Vertical |
| - | - | - | - | - | - | Horizontal |

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 in appendix I display the measurement of peak values.

# 6. BAND EDGES

## 6.1. The Requirement

6.1.1. Band Edge from 902MHz to 928MHz. Emission radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

## 6.2. EUT Configuration on Measurement

The following equipment is 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.

6.2.1. Thermo-hygro sensor (EUT)

| | | |
|---|---|---|
| Model Number | : | TX62UTH-IT |
| Serial Number | : | N/A |
| Manufacturer | : | La Crosse Technology |

## 6.3. Operating Condition of EUT

6.3.1. Setup the EUT and simulator as shown as Section 4.1.

6.3.2. Turn on the power of all equipment.

6.3.3. Let the EUT work in TX mode measure it. The transmit frequency are 903MHz, 915MHz, 927MHz. We select 903MHz, 927MHz TX frequency to transmit.

## 6.4. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. 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 bilog 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 interface cables must be manipulated according to ANSI C63.4: 2003 on radiated emission measurement.

The bandwidth of test receiver is set at 120kHz in 30-1000MHz. and set at 1MHz in above 1000MHz.

## 6.5.The Measurement Result

**PASS.**

| | | | |
|---|---|---|---|
| Date of Test: | March 19, 2011 | Temperature: | 21°C |
| EUT: | Thermo-hygro sensor | Humidity: | 55% |
| Model No.: | TX60UTH-IT | Power Supply: | 3V DC (“AAA” batteries 2×) |
| Test Mode: | TX 903MHz | Test Engineer: | Joe |

| Frequency (MHz) | Reading (dBμV/m) | Factor(dB) Corr. | Result (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|
| | QP | | QP | QP | QP | |
| 902.000 | 7.54 | 28.78 | 36.32 | 46 | -9.68 | Vertical |
| 902.000 | 8.84 | 28.78 | 37.62 | 46 | -8.38 | Horizontal |

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 in appendix I display the measurement of peak values.

| | | | |
|---|---|---|---|
| Date of Test: | March 19, 2011 | Temperature: | 21°C |
| EUT: | Thermo-hygro sensor | Humidity: | 55% |
| Model No.: | TX62UTH-IT | Power Supply: | 3V DC (“AAA” batteries 2×) |
| Test Mode: | TX 927MHz | Test Engineer: | Joe |

| Frequency (MHz) | Reading (dBμV/m) | Factor(dB) Corr. | Result (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|
| | QP | | QP | QP | QP | |
| 928.000 | 3.51 | 29.22 | 32.73 | 46 | -13.27 | Vertical |
| 928.000 | 4.29 | 29.22 | 33.51 | 46. | -12.49 | Horizontal |

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 in appendix I display the measurement of peak values.

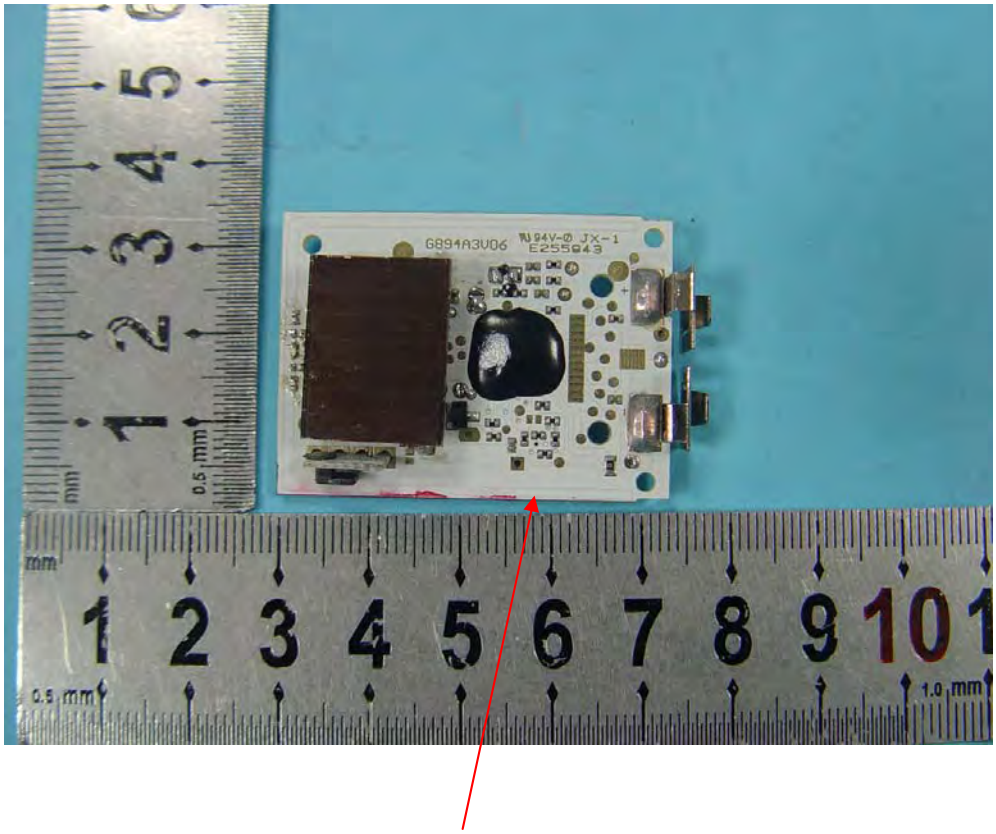
# 7. ANTENNA REQUIREMENT

## 7.1. The Requirement

7.1.1. 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.

## 7.2. Antenna Construction

The antenna is PCB Layout antenna, no consideration of replacement.



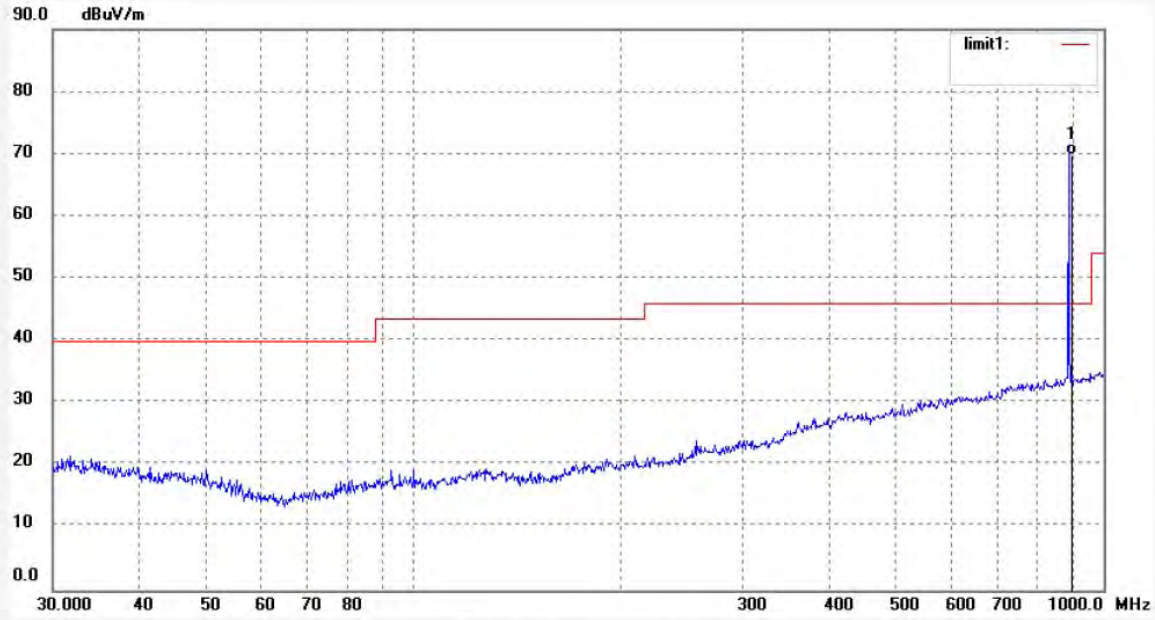

Antenna

# APPENDIX I
# (Test Curves)

**ACCURATE TECHNOLOGY CO., LTD.**
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

| | |
|---|---|
| Job No.: RTTE #6458 | Polarization: Horizontal |
| Standard: FCC Class B 3M Radiated | Power Source: DC 3V |
| Test item: Radiation Test | Date: 2011/03/19 |
| Temp.( C)/Hum.(%) 21 C / 55 % | Time: 17:18:56 |
| EUT: Thermo-hygro sensor | Engineer Signature: Joe |
| Mode: TX 903MHz | Distance: 3m |
| Model: TX62UTH-IT | |
| Manufacturer: La Crosse Technology | |

Note: Report No.:ATE20110531




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 902.9800 | 41.13 | 28.79 | 69.92 | 94.00 | -24.08 | QP | | | |

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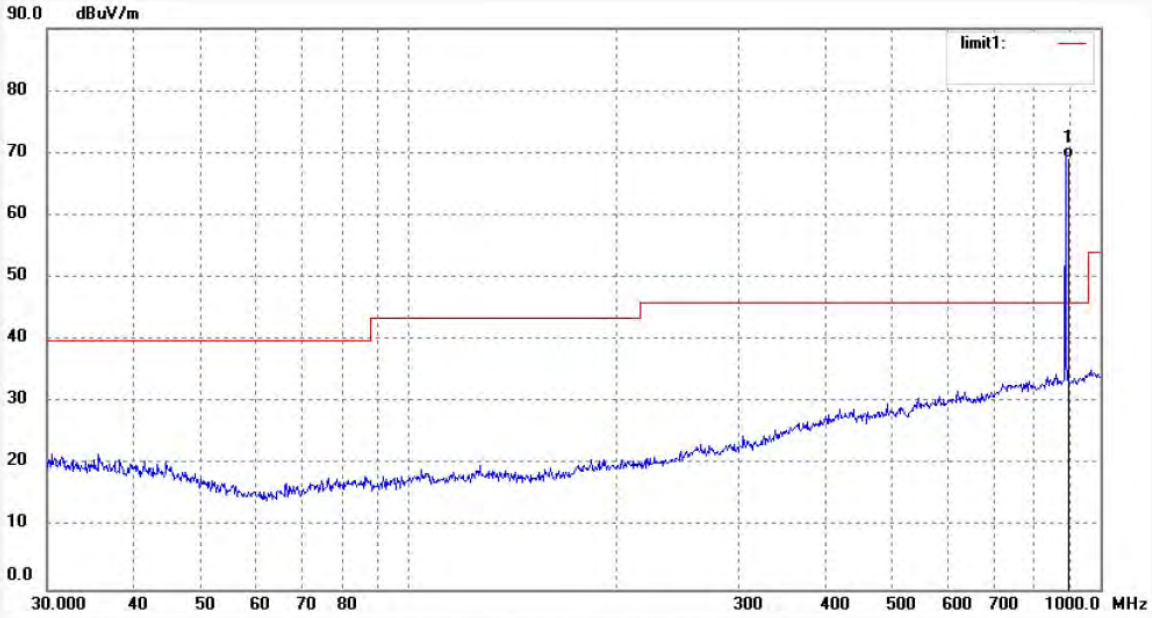
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: RTTE #6459
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.( C)/Hum.(%) 21 C / 55 %
EUT: Thermo-hygro sensor
Mode: TX 903MHz
Model: TX62UTH-IT
Manufacturer: La Crosse Technology

Polarization: Vertical
Power Source: DC 3V
Date: 2011/03/19
Time: 17:23:02
Engineer Signature: Joe
Distance: 3m

Note: Report No.:ATE20110531




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 902.9800 | 40.29 | 28.79 | 69.08 | 94.00 | -24.92 | QP | | | |

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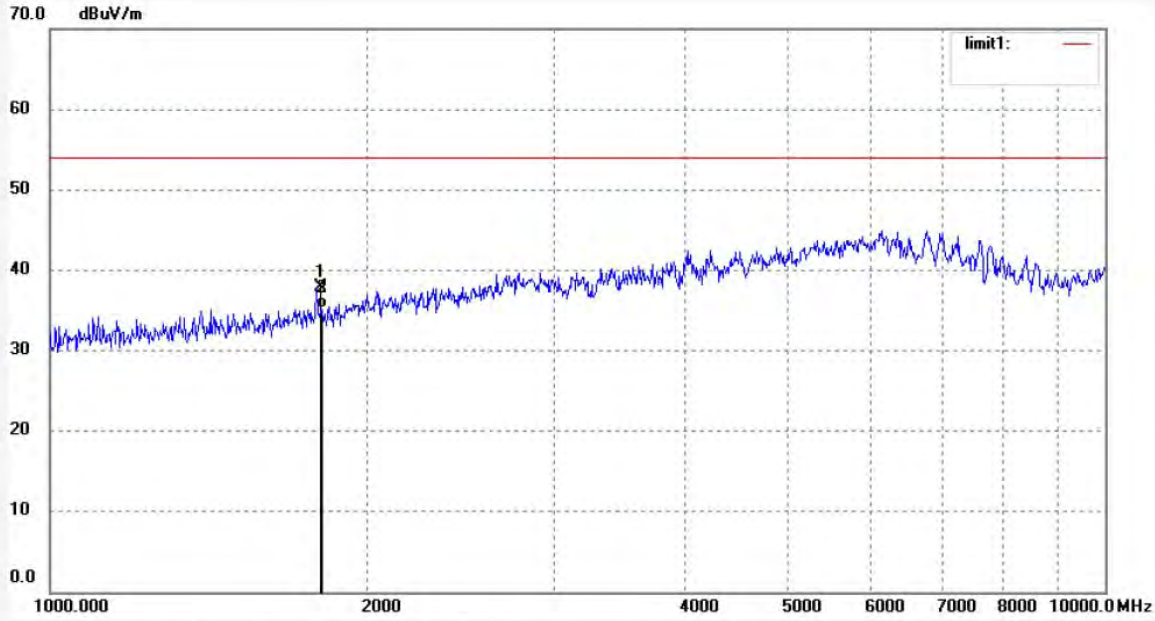
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: RTTE #6469
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.( C)/Hum.(%) 21 C / 55 %
EUT: Thermo-hygro sensor
Mode: TX 903MHz
Model: TX62UTH-IT
Manufacturer: La Crosse Technology

Polarization: Horizontal
Power Source: DC 3V
Date: 2011/03/19
Time: 18:18:41
Engineer Signature: Joe
Distance: 3m

Note: Report No.:ATE20110531




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1805.978 | 47.87 | -9.99 | 37.88 | 74.00 | -36.12 | peak | | | |
| 2 | 1805.978 | 45.33 | -9.99 | 35.34 | 54.00 | -18.66 | AVG | | | |

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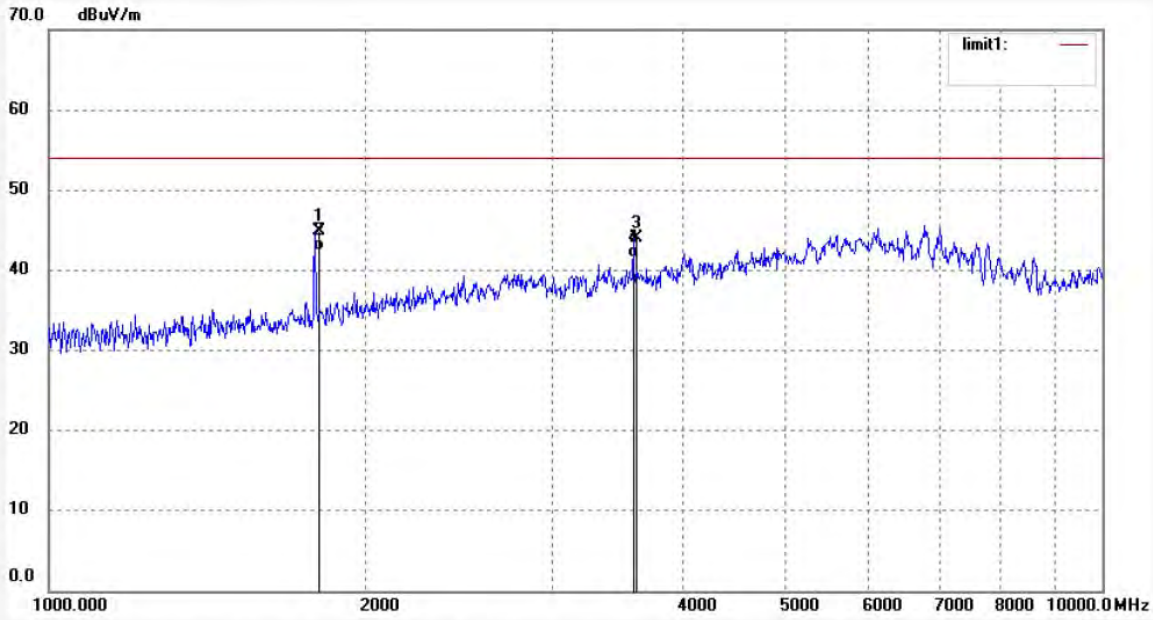
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: RTTE #6468
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.( C)/Hum.(%) 21 C / 55 %
EUT: Thermo-hygro sensor
Mode: TX 903MHz
Model: TX62UTH-IT
Manufacturer: La Crosse Technology

Polarization: Vertical
Power Source: DC 3V
Date: 2011/03/19
Time: 18:14:35
Engineer Signature: Joe
Distance: 3m

Note: Report No.:ATE20110531




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1805.978 | 54.90 | -9.99 | 44.91 | 74.00 | -29.09 | peak | | | |
| 2 | 1805.978 | 52.36 | -9.99 | 42.37 | 54.00 | -11.63 | AVG | | | |
| 3 | 3611.970 | 46.78 | -2.76 | 44.02 | 74.00 | -29.98 | peak | | | |
| 4 | 3611.970 | 44.30 | -2.76 | 41.54 | 54.00 | -12.46 | AVG | | | |

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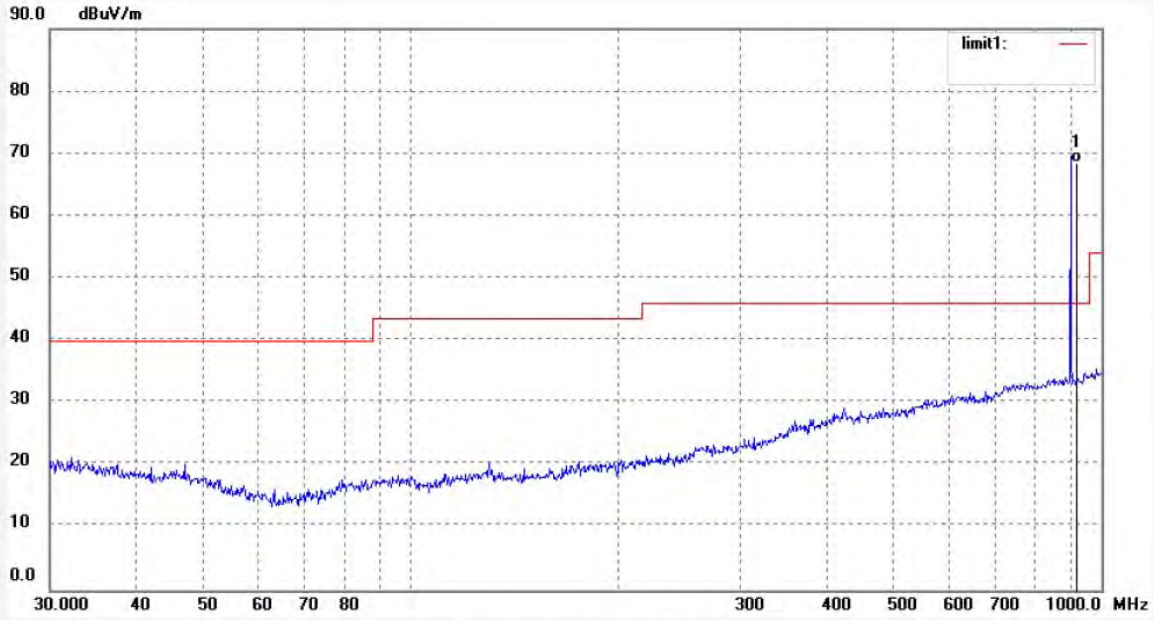
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

| | |
|---|---|
| Job No.: RTTE #6461 | Polarization: Horizontal |
| Standard: FCC Class B 3M Radiated | Power Source: DC 3V |
| Test item: Radiation Test | Date: 2011/03/19 |
| Temp.( C)/Hum.(%) 21 C / 55 % | Time: 17:32:36 |
| EUT: Thermo-hygro sensor | Engineer Signature: Joe |
| Mode: TX 915MHz | Distance: 3m |
| Model: TX62UTH-IT | |
| Manufacturer: La Crosse Technology | |

Note: Report No.:ATE20110531




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 914.9810 | 39.61 | 28.92 | 68.53 | 94.00 | -25.47 | QP | | | |

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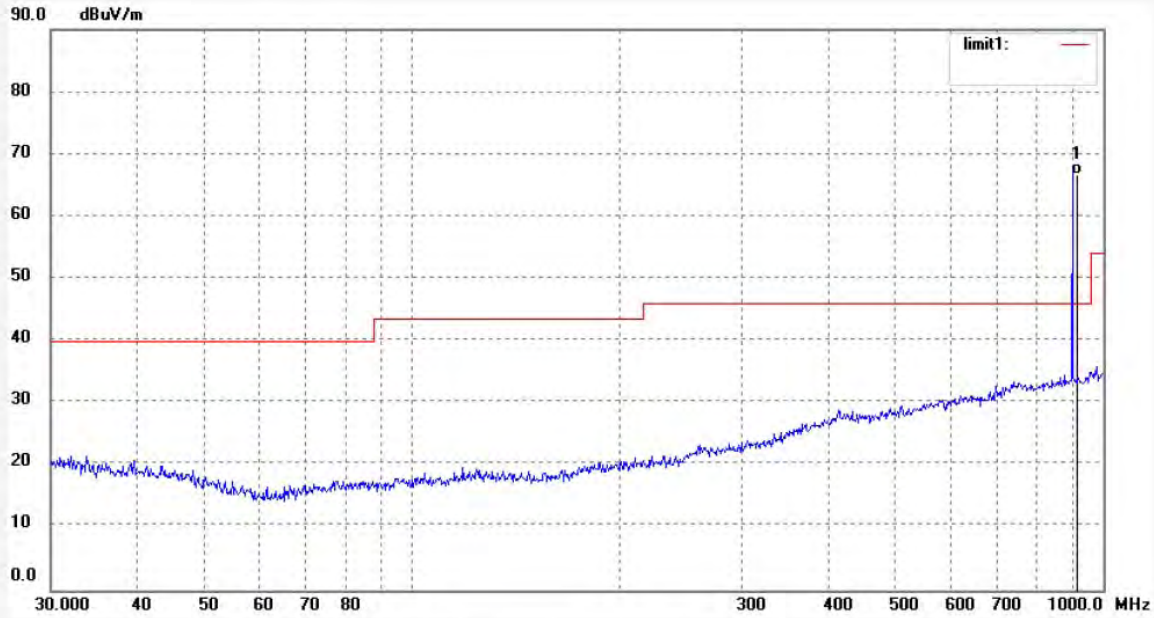
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

| | |
|---|---|
| Job No.: RTTE #6460 | Polarization: Vertical |
| Standard: FCC Class B 3M Radiated | Power Source: DC 3V |
| Test item: Radiation Test | Date: 2011/03/19 |
| Temp.( C)/Hum.(%) 21 C / 55 % | Time: 17:28:28 |
| EUT: Thermo-hygro sensor | Engineer Signature: Joe |
| Mode: TX 915MHz | Distance: 3m |
| Model: TX62UTH-IT | |
| Manufacturer: La Crosse Technology | |

Note: Report No.:ATE20110531




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 914.9810 | 37.82 | 28.92 | 66.74 | 94.00 | -27.26 | QP | | | |

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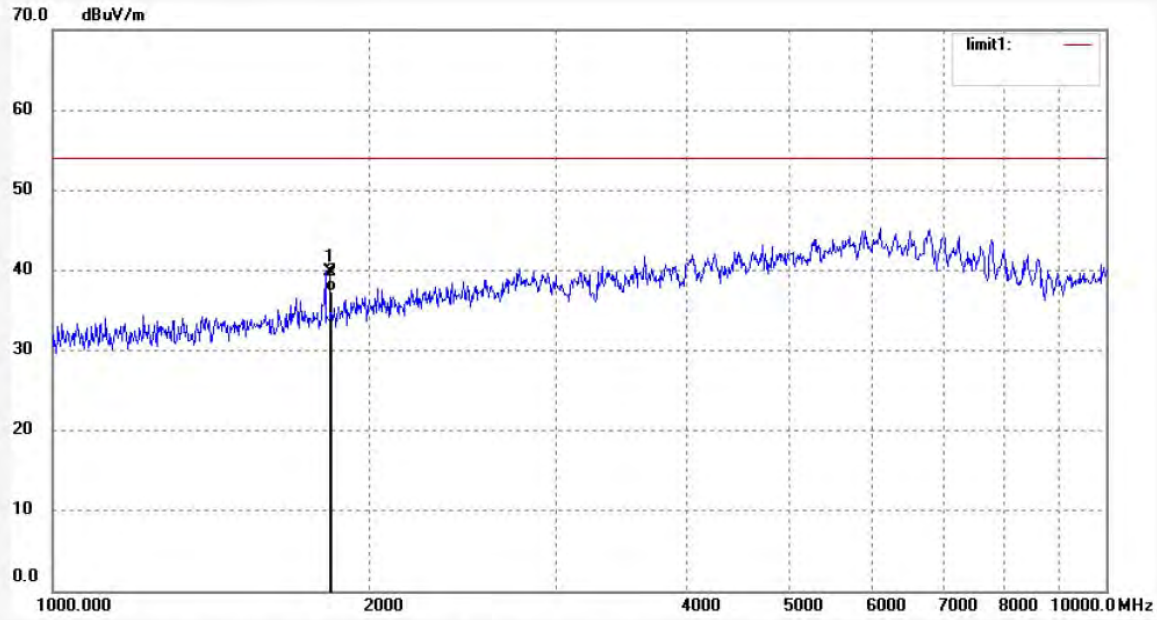
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: RTTE #6470
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.( C)/Hum.(%) 21 C / 55 %
EUT: Thermo-hygro sensor
Mode: TX 915MHz
Model: TX62UTH-IT
Manufacturer: La Crosse Technology

Polarization: Horizontal
Power Source: DC 3V
Date: 2011/03/19
Time: 18:24:17
Engineer Signature: Joe
Distance: 3m

Note: Report No.:ATE20110531




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1829.982 | 49.59 | -9.73 | 39.86 | 74.00 | -34.14 | peak | | | |
| 2 | 1829.982 | 47.06 | -9.73 | 37.33 | 54.00 | -16.67 | AVG | | | |

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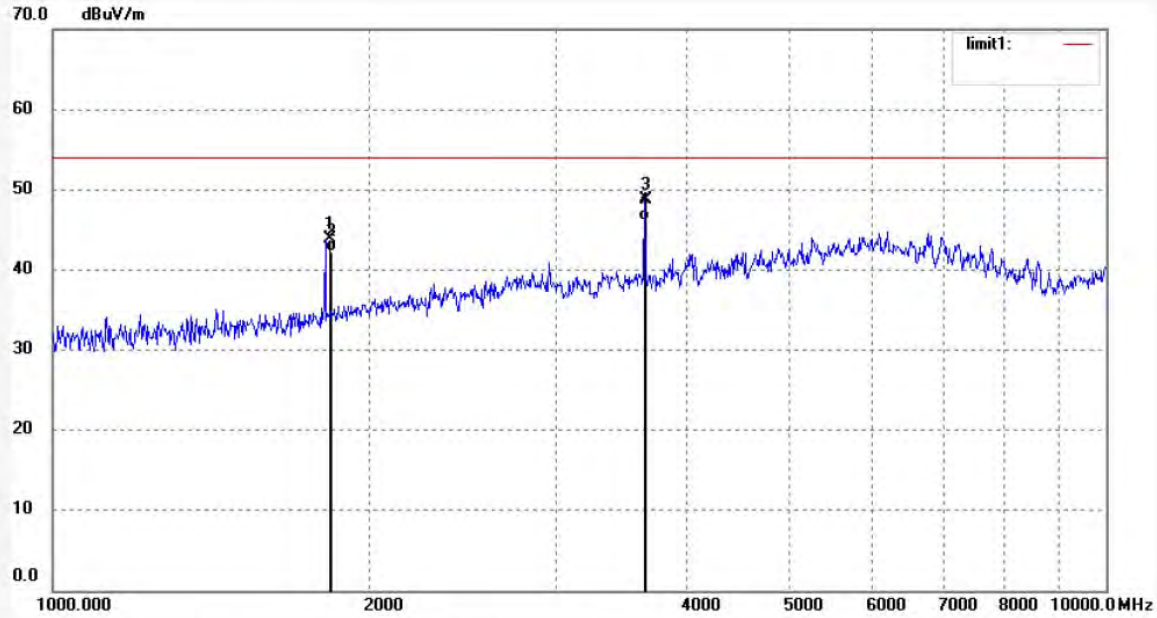
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

| | |
|---|---|
| Job No.: RTTE #6471 | Polarization: Vertical |
| Standard: FCC Class B 3M Radiated | Power Source: DC 3V |
| Test item: Radiation Test | Date: 2011/03/19 |
| Temp.( C)/Hum.(%) 21 C / 55 % | Time: 18:28:14 |
| EUT: Thermo-hygro sensor | Engineer Signature: Joe |
| Mode: TX 915MHz | Distance: 3m |
| Model: TX62UTH-IT | |
| Manufacturer: La Crosse Technology | |

Note: Report No.:ATE20110531




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1829.982 | 53.63 | -9.73 | 43.90 | 74.00 | -30.10 | peak | | | |
| 2 | 1829.982 | 52.08 | -9.73 | 42.35 | 54.00 | -11.65 | AVG | | | |
| 3 | 3659.979 | 51.26 | -2.56 | 48.70 | 74.00 | -25.30 | peak | | | |
| 4 | 3659.979 | 48.74 | -2.56 | 46.18 | 54.00 | -7.82 | AVG | | | |

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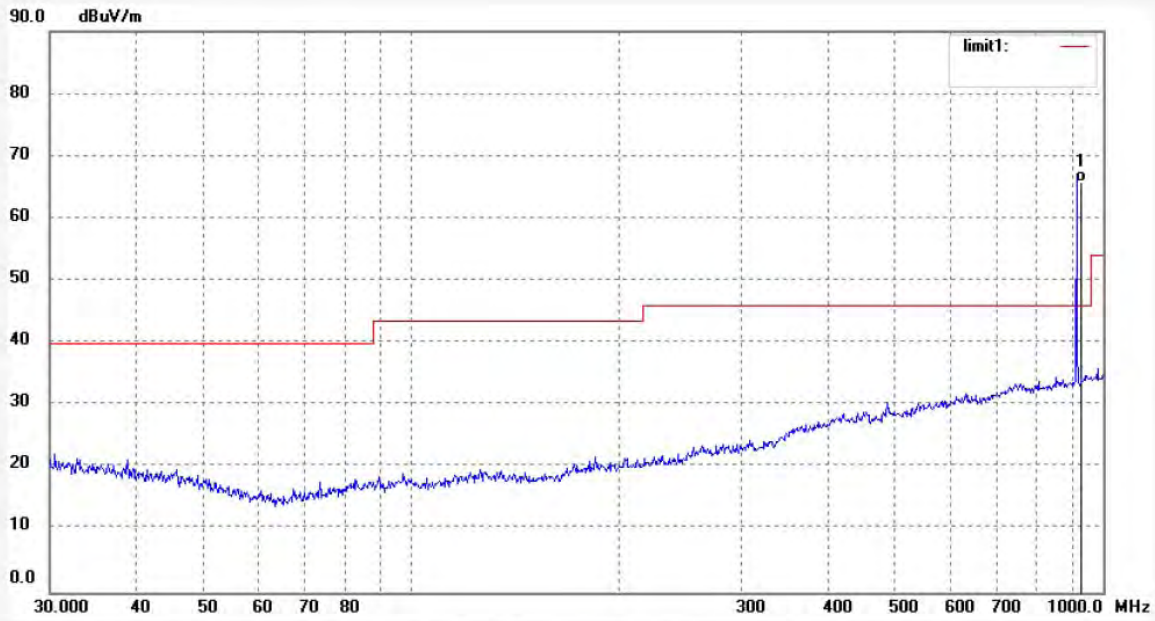
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

| | |
|---|---|
| Job No.: RTTE #6462 | Polarization: Horizontal |
| Standard: FCC Class B 3M Radiated | Power Source: DC 3V |
| Test item: Radiation Test | Date: 2011/03/19 |
| Temp.( C)/Hum.(%) 21 C / 55 % | Time: 17:38:12 |
| EUT: Thermo-hygro sensor | Engineer Signature: Joe |
| Mode: TX 927MHz | Distance: 3m |
| Model: TX62UTH-IT | |
| Manufacturer: La Crosse Technology | |

Note: Report No.:ATE20110531




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 926.9840 | 36.59 | 29.19 | 65.78 | 94.00 | -28.22 | QP | | | |

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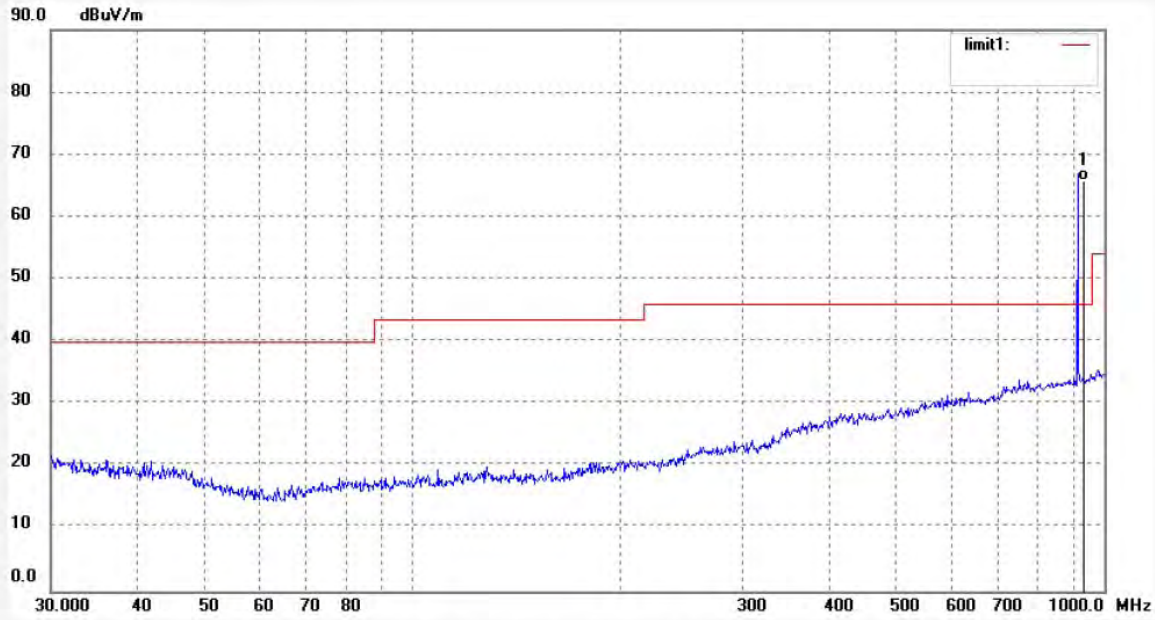
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

| | |
|---|---|
| Job No.: RTTE #6463 | Polarization: Vertical |
| Standard: FCC Class B 3M Radiated | Power Source: DC 3V |
| Test item: Radiation Test | Date: 2011/03/19 |
| Temp.( C)/Hum.(%) 21 C / 55 % | Time: 17:42:25 |
| EUT: Thermo-hygro sensor | Engineer Signature: Joe |
| Mode: TX 927MHz | Distance: 3m |
| Model: TX62UTH-IT | |
| Manufacturer: La Crosse Technology | |

Note: Report No.:ATE20110531




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 926.9840 | 36.69 | 29.19 | 65.88 | 94.00 | -28.12 | QP | | | |

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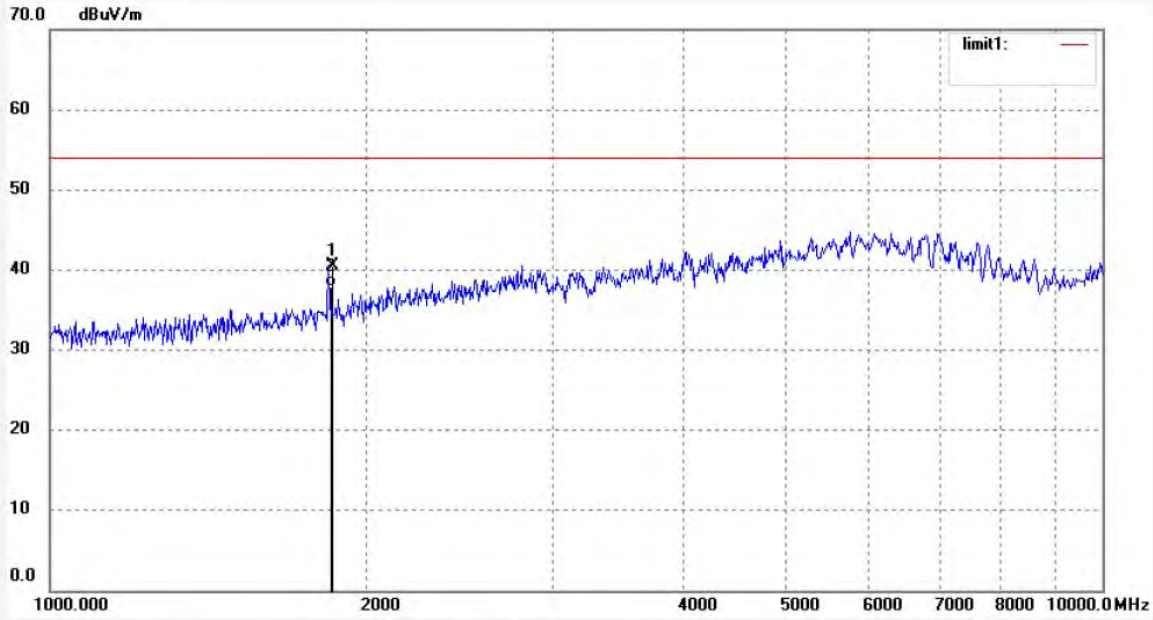
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: RTTE #6473
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.( C)/Hum.(%) 21 C / 55 %
EUT: Thermo-hygro sensor
Mode: TX 927MHz
Model: TX62UTH-IT
Manufacturer: La Crosse Technology

Polarization: Horizontal
Power Source: DC 3V
Date: 2011/03/19
Time: 18:37:51
Engineer Signature: Joe
Distance: 3m

Note: Report No.:ATE20110531




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1853.983 | 49.99 | -9.54 | 40.45 | 74.00 | -33.55 | peak | | | |
| 2 | 1853.983 | 47.47 | -9.54 | 37.93 | 54.00 | -16.07 | AVG | | | |

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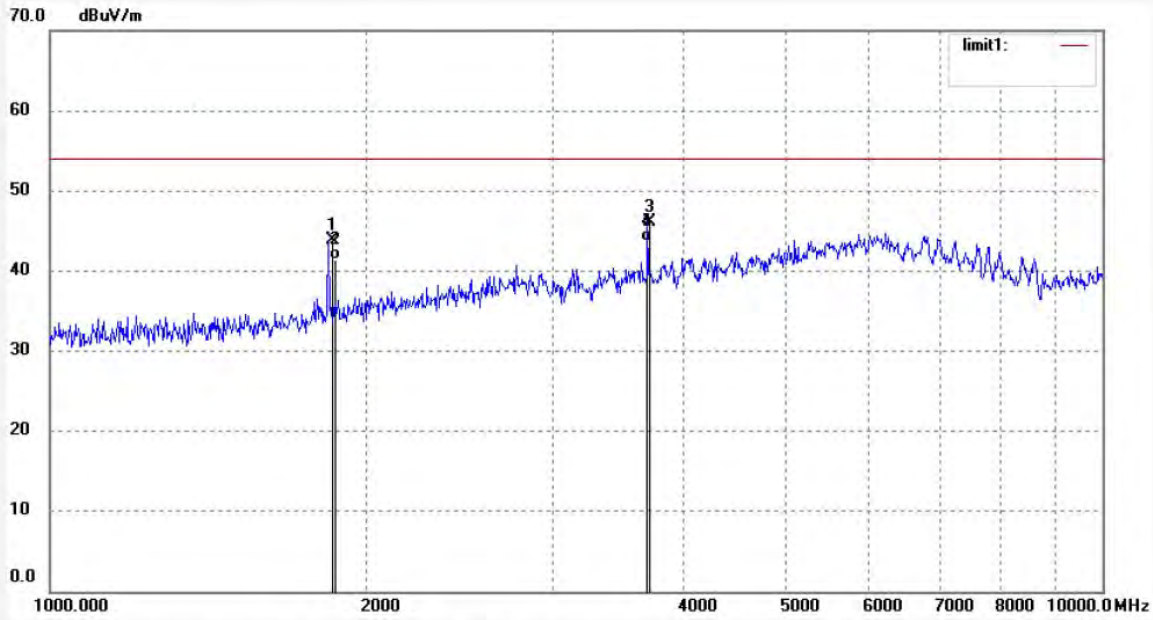
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: RTTE #6472
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.( C)/Hum.(%) 21 C / 55 %
EUT: Thermo-hygro sensor
Mode: TX 927MHz
Model: TX62UTH-IT
Manufacturer: La Crosse Technology

Polarization: Vertical
Power Source: DC 3V
Date: 2011/03/19
Time: 18:34:02
Engineer Signature: Joe
Distance: 3m

Note: Report No.:ATE20110531




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1853.983 | 53.45 | -9.54 | 43.91 | 74.00 | -30.09 | peak | | | |
| 2 | 1853.983 | 50.92 | -9.54 | 41.38 | 54.00 | -12.62 | AVG | | | |
| 3 | 3707.980 | 48.54 | -2.38 | 46.16 | 74.00 | -27.84 | peak | | | |
| 4 | 3707.980 | 46.02 | -2.38 | 43.64 | 54.00 | -10.36 | AVG | | | |

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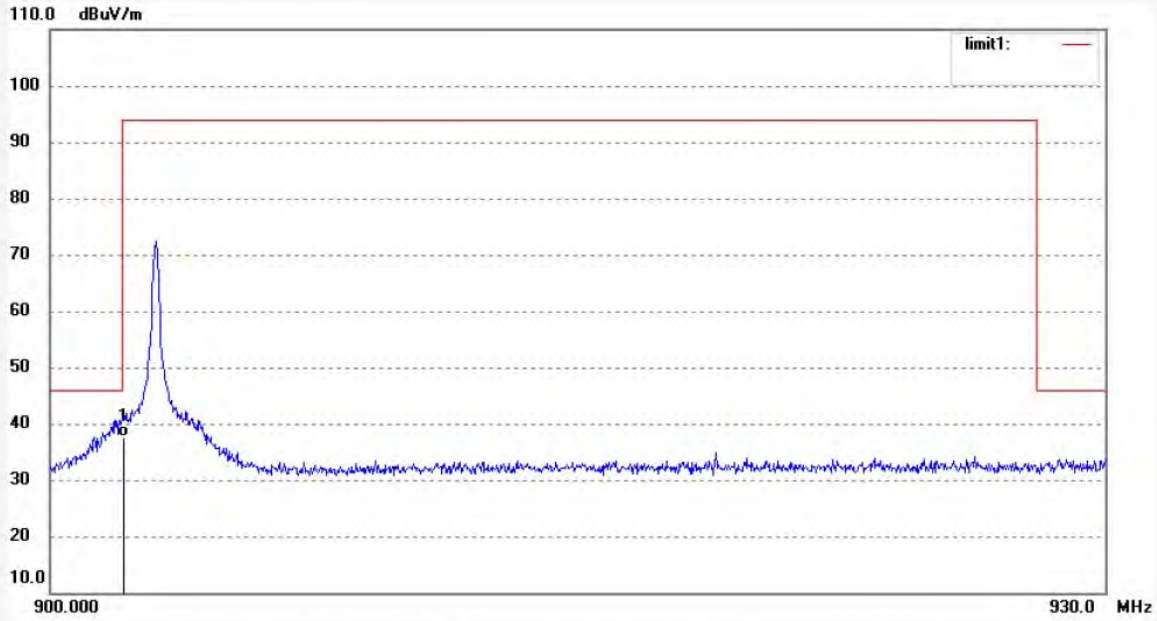
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

| | |
|---|---|
| Job No.: RTTE #6466 | Polarization: Horizontal |
| Standard: FCC Part 15 Band Edge | Power Source: DC 3V |
| Test item: Radiation Test | Date: 2011/03/19 |
| Temp.( C)/Hum.(%) 21 C / 55 % | Time: 17:58:54 |
| EUT: Thermo-hygro sensor | Engineer Signature: Joe |
| Mode: TX 903MHz | Distance: 3m |
| Model: TX62UTH-IT | |
| Manufacturer: La Crosse Technology | |

Note: Report No.:ATE20110531




| 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 | 8.84 | 28.78 | 37.62 | 46.00 | -8.38 | QP | | | |

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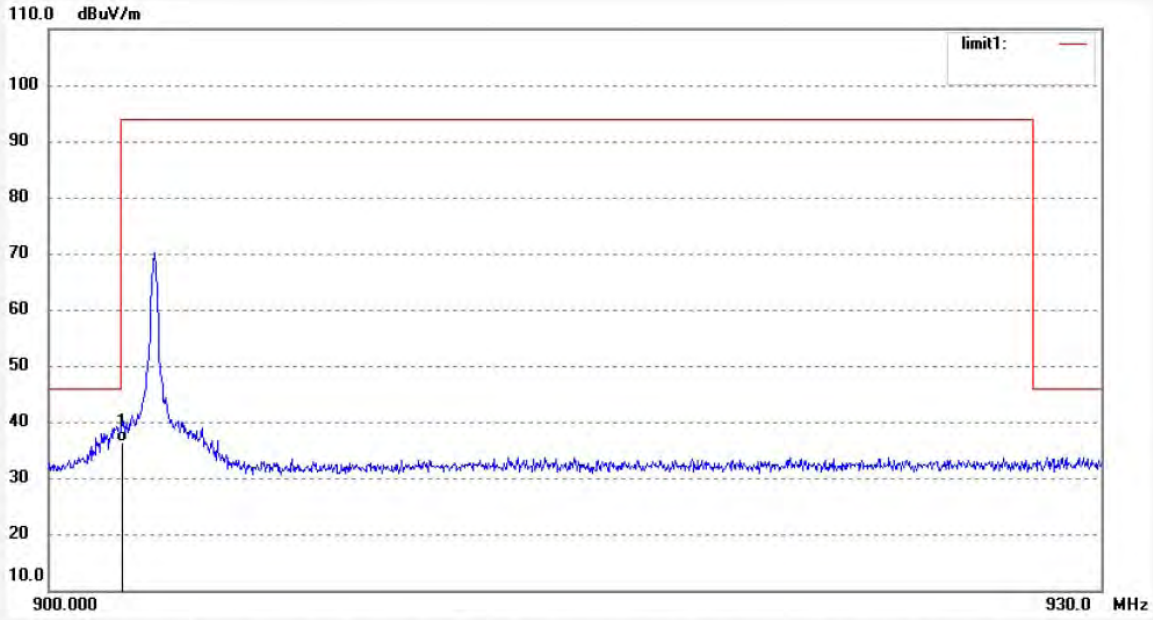
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

| | |
|---|---|
| Job No.: RTTE #6467 | Polarization: Vertical |
| Standard: FCC Part 15 Band Edge | Power Source: DC 3V |
| Test item: Radiation Test | Date: 2011/03/19 |
| Temp.( C)/Hum.(%) 21 C / 55 % | Time: 18:02:48 |
| EUT: Thermo-hygro sensor | Engineer Signature: Joe |
| Mode: TX 903MHz | Distance: 3m |
| Model: TX62UTH-IT | |
| Manufacturer: La Crosse Technology | |

Note: Report No.:ATE20110531




| 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 | 7.54 | 28.78 | 36.32 | 46.00 | -9.68 | QP | | | |

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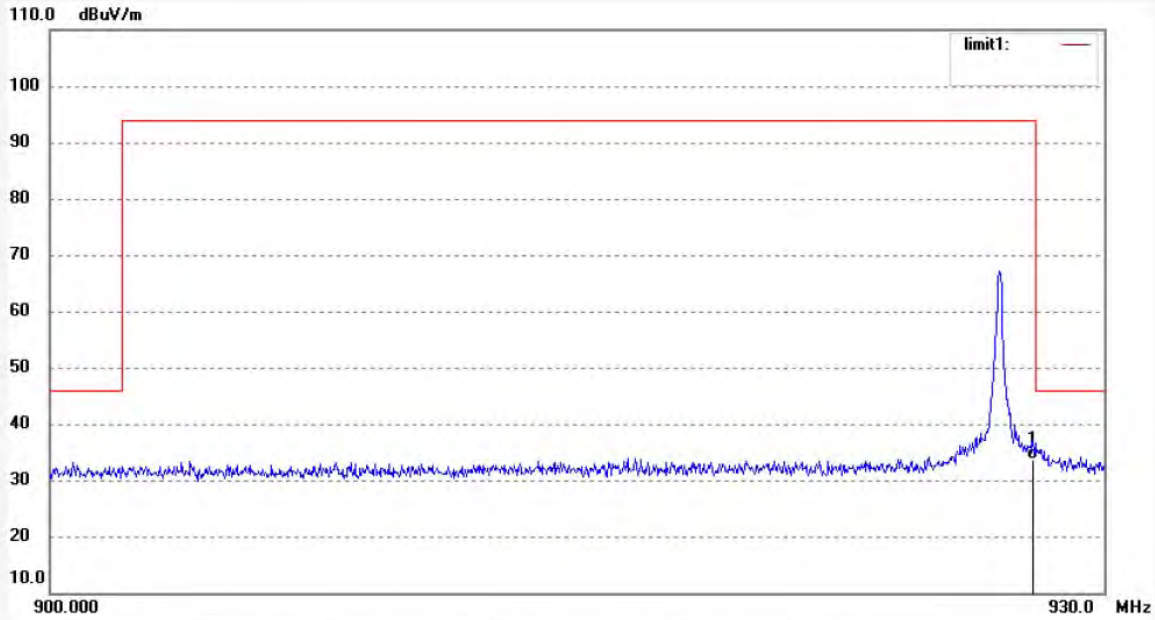
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

| | |
|---|---|
| Job No.: RTTE #6465 | Polarization: Horizontal |
| Standard: FCC Part 15 Band Edge | Power Source: DC 3V |
| Test item: Radiation Test | Date: 2011/03/19 |
| Temp.( C)/Hum.(%) 21 C / 55 % | Time: 17:53:03 |
| EUT: Thermo-hygro sensor | Engineer Signature: Joe |
| Mode: TX 927MHz | Distance: 3m |
| Model: TX62UTH-IT | |
| Manufacturer: La Crosse Technology | |

Note: Report No.:ATE20110531

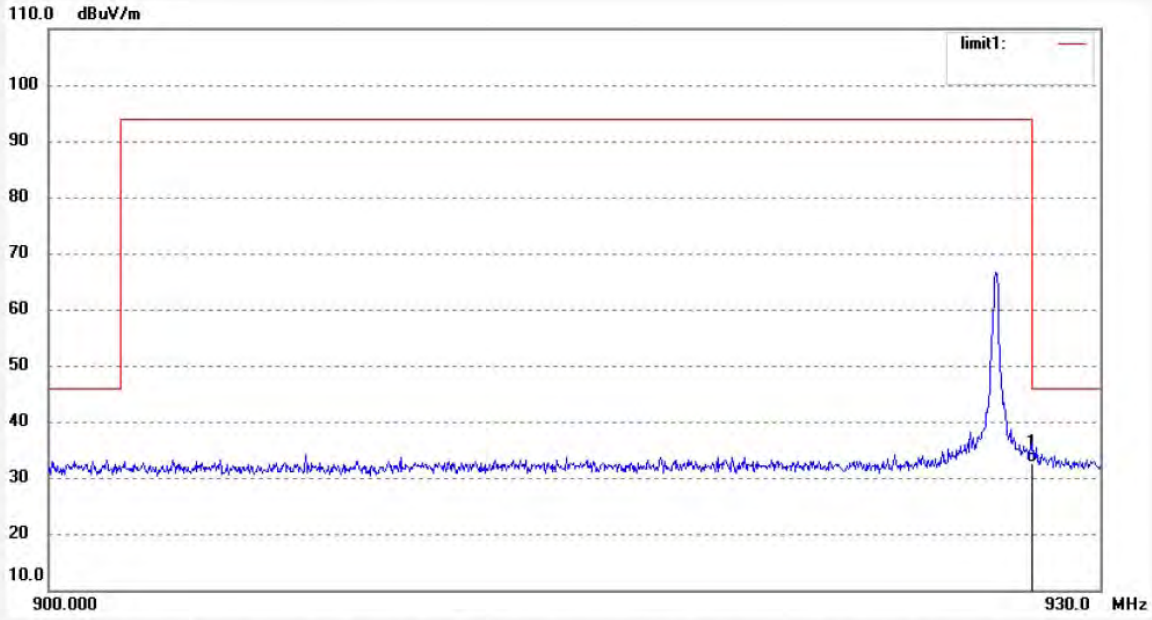



| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 928.0000 | 4.29 | 29.22 | 33.51 | 46.00 | -12.49 | QP | | | |

**ACCURATE TECHNOLOGY CO., LTD.**
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

| | |
|---|---|
| Job No.: RTTE #6464 | Polarization: Vertical |
| Standard: FCC Part 15 Band Edge | Power Source: DC 3V |
| Test item: Radiation Test | Date: 2011/03/19 |
| Temp.( C)/Hum.(%) 21 C / 55 % | Time: 17:49:14 |
| EUT: Thermo-hygro sensor | Engineer Signature: Joe |
| Mode: TX 927MHz | Distance: 3m |
| Model: TX62UTH-IT | |
| Manufacturer: La Crosse Technology | |

Note: Report No.:ATE20110531




| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 928.0000 | 3.51 | 29.22 | 32.73 | 46.00 | -13.27 | QP | | | |