

FCC CERTIFICATION  
On Behalf of  
La Crosse Technology

Temperature Transmitter  
Model No.: TX61U-IT

FCC ID: OMO-M-02

Prepared for : La Crosse Technology  
Address : 2809 Losey Blvd. So. La Crosse WI 54601, USA

Prepared by : ACCURATE TECHNOLOGY CO. LTD  
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Report Number : ATE20091606  
Date of Test : August 21-22, 2009  
Date of Report : August 27, 2009

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APPENDIX I ( TEST CURVES) (16 pages)

## Test Report Certification

Applicant : La Crosse Technology  
Manufacturer : Golden ESL Instrument (S.Z.) Co. Ltd.  
EUT Description : Temperature Transmitter  
(A) MODEL NO.: TX61U-IT  
(B) SERIAL NO.: N/A  
(C) POWER SUPPLY: 3V DC (“AAA” batteries 2×)

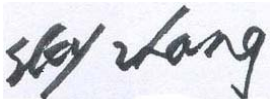
Measurement Procedure Used:

**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 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 : August 21-22, 2009

Prepared by :   
(Engineer)

Approved & Authorized Signer :   
(Manager)

## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

EUT : Temperature Transmitter

Model Number : TX61U-IT

Power Supply : 3V DC (“AAA” batteries 2×)

Operate Frequency : Channel 1: 903MHz  
Channel 2: 915MHz  
Channel 3: 927MHz

Channel Number : 3 Channels

Applicant : La Crosse Technology  
Address : 2809 Losey Blvd. So. La Crosse WI 54601, USA

Manufacturer : Golden ESL Instrument (S.Z.) Co. Ltd.  
Address : Fu Yuan #2 Manufactory Building, 45 Area of Baoan District, ShenZhen, China

Date of sample received : August 15, 2009

Date of Test : August 21-22, 2009

### 1.2. Description of Test Facility

EMC Lab : Accredited by TUV Rheinland Shenzhen

Listed by FCC  
The Registration Number is 752051

Listed by Industry Canada  
The Registration Number is 5077A-2

Accredited by China National Accreditation Committee  
for Laboratories  
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	03.28.2010
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	03.28.2010
Spectrum Analyzer	Agilent	E7405A	MY45115511	03.28.2010
Pre-Amplifier	Rohde&Schwarz	CBLU118354 0-01	3791	03.30.2010
Loop Antenna	Schwarzbeck	FMZB1516	1516131	03.28.2010
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	03.28.2010
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	12.19.2009
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	10.09.2009
LISN	Rohde&Schwarz	ESH3-Z5	100305	03.28.2010
LISN	Schwarzbeck	NSLK8126	8126431	03.28.2010

### 3. SUMMARY OF TEST RESULTS

<b>FCC Rules</b>	<b>Description of Test</b>	<b>Result</b>
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

Remark: "N/A" means "Not applicable".

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

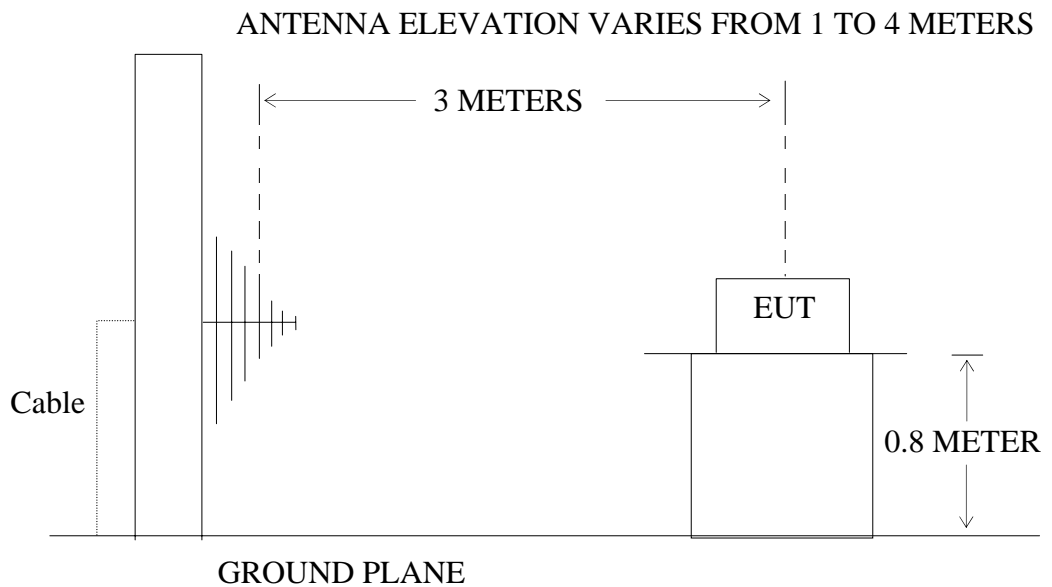
### 4.1. Block Diagram of Test Setup

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



(EUT: Temperature Transmitter)

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



(EUT: Temperature Transmitter)



## 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 dB $\mu$ V/m and the harmonics shall not exceed 54 dB $\mu$ V/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 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.

### 4.3.1. Temperature Transmitter (EUT)

Model Number : TX61U-IT  
 Serial Number : N/A  
 Manufacturer : Golden ESL Instrument (S.Z.) Co. Ltd.

## 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 modes 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:	<u>August 21, 2009</u>	Temperature:	<u>25°C</u>
EUT:	<u>Temperature Transmitter</u>	Humidity:	<u>50%</u>
Model No.:	<u>TX61U-IT</u>	Power Supply:	<u>3V DC ("AAA" batteries 2×)</u>
Test Mode:	<u>TX Channel 1: 903MHz</u>	Test Engineer:	<u>Joe</u>

#### Fundamental 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	
902.9850	42.89	45.46	28.79	71.68	74.25	94	114	-22.32	-39.75	Vertical
902.9850	45.63	48.29	28.79	74.42	77.08	94	114	-19.58	-36.92	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	
1805.972	52.70	55.31	-9.99	42.71	45.32	54	74	-11.29	-28.68	Vertical
3611.943	43.67	46.24	-2.76	40.91	43.48	54	74	-13.09	-30.52	Vertical
1805.972	45.18	47.77	-9.99	35.19	37.78	54	74	-18.81	-36.22	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:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

$$\text{Where Corrected Factor} = \text{Antenna Factor} + \text{Cable Loss} + \text{High Pass Filter Loss} - \text{Amplifier Gain}$$

3. The spectral diagrams in appendix I display the measurement of peak values.

Date of Test:	<u>August 21, 2009</u>	Temperature:	<u>25°C</u>
EUT:	<u>Temperature Transmitter</u>	Humidity:	<u>50%</u>
Model No.:	<u>TX61U-IT</u>	Power Supply:	<u>3V DC ("AAA" batteries 2×)</u>
Test Mode:	<u>TX Channel 2: 915MHz</u>	Test Engineer:	<u>Joe</u>

### Fundamental 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	
914.9860	40.97	43.55	28.92	69.89	72.47	94	114	-24.11	-41.53	Vertical
914.9860	44.52	47.09	28.92	73.44	76.01	94	114	-20.56	-37.99	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	
1829.973	46.80	49.37	-9.73	37.07	39.64	54	74	-16.93	-34.36	Vertical
3659.945	45.05	47.69	-2.56	42.49	45.13	54	74	-11.51	-28.87	Vertical
1829.973	44.04	46.58	-9.73	34.31	36.85	54	74	-19.69	-37.15	Horizontal

Note:

- Emissions attenuated more than 20 dB below the permissible value are not reported.
- 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:  

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

Where Corrected Factor = Antenna Factor + Cable Loss + High Pass Filter Loss – Amplifier Gain
- The spectral diagrams in appendix I display the measurement of peak values.

Date of Test:	<u>August 21, 2009</u>	Temperature:	<u>25°C</u>
EUT:	<u>Temperature Transmitter</u>	Humidity:	<u>50%</u>
Model No.:	<u>TX61U-IT</u>	Power Supply:	<u>3V DC ("AAA" batteries 2×)</u>
Test Mode:	<u>TX Channel 3: 927MHz</u>	Test Engineer:	<u>Joe</u>

### Fundamental 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	
926.9850	41.74	44.31	29.19	70.93	73.50	94	114	-23.07	-40.50	Vertical
926.9850	44.54	47.11	29.19	73.73	76.30	94	114	-20.27	-37.70	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	
1835.973	46.42	49.06	-9.54	36.88	39.52	54	74	-17.12	-34.48	Vertical
1835.973	44.50	47.14	-9.54	34.96	37.60	54	74	-19.04	-36.40	Horizontal

Note:

- Emissions attenuated more than 20 dB below the permissible value are not reported.
- 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:  

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

Where Corrected Factor = Antenna Factor + Cable Loss + High Pass Filter Loss – Amplifier Gain
- The spectral diagrams in appendix I display the measurement of peak values.

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

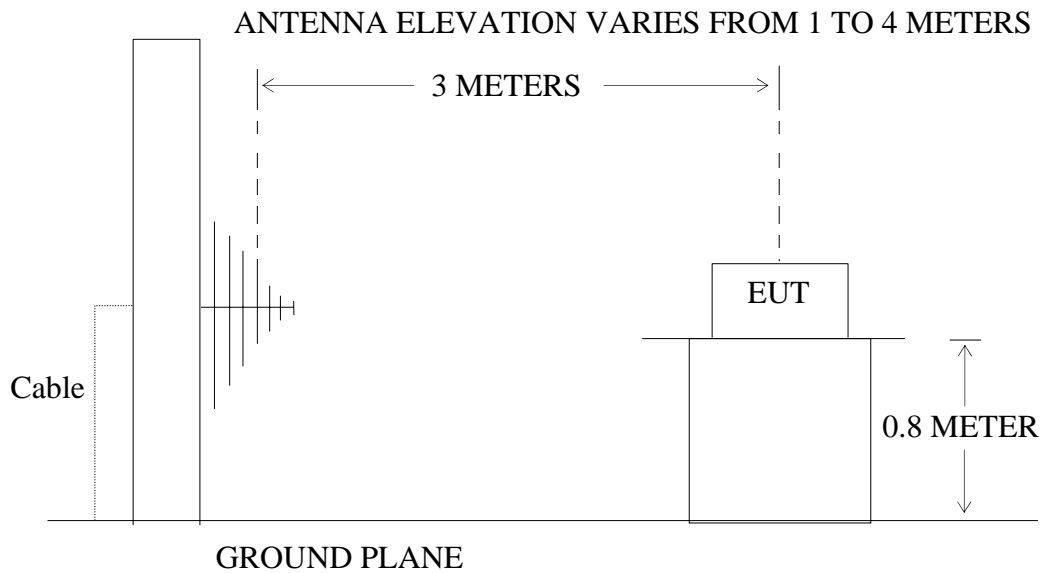
### 5.1. Block Diagram of Test Setup

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



(EUT: Temperature Transmitter)

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



(EUT: Temperature Transmitter)

## 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		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.
	Field Strength of Quasi-peak Value (microvolts/m)	Field Strength of Quasi-peak Value (dB $\mu$ V/m)	
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 are 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. Temperature Transmitter (EUT)

Model Number : TX61U-IT  
 Serial Number : N/A  
 Manufacturer : Golden ESL Instrument (S.Z.) Co. Ltd.

## 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 modes measure it. The transmit frequency are 903MHz, 915MHz, 920MHz.

## 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:	<u>August 21, 2009</u>	Temperature:	<u>25°C</u>
EUT:	<u>Temperature Transmitter</u>	Humidity:	<u>50%</u>
Model No.:	<u>TX61U-IT</u>	Power Supply:	<u>3V DC (“AAA” batteries 2×)</u>
Test Mode:	<u>TX Channel 1: 903MHz</u>	Test Engineer:	<u>Joe</u>

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:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

$$\text{Where Corrected Factor} = \text{Antenna Factor} + \text{Cable Loss} + \text{High Pass Filter Loss} - \text{Amplifier Gain}$$

3. The spectral diagrams in appendix I display the measurement of peak values.

Date of Test:	<u>August 21, 2009</u>	Temperature:	<u>25°C</u>
EUT:	<u>Temperature Transmitter</u>	Humidity:	<u>50%</u>
Model No.:	<u>TX61U-IT</u>	Power Supply:	<u>3V DC (“AAA” batteries 2×)</u>
Test Mode:	<u>TX Channel 2: 915MHz</u>	Test Engineer:	<u>Joe</u>

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:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

$$\text{Where Corrected Factor} = \text{Antenna Factor} + \text{Cable Loss} + \text{High Pass Filter Loss} - \text{Amplifier Gain}$$

3. The spectral diagrams in appendix I display the measurement of peak values.

Date of Test:	<u>August 21, 2009</u>	Temperature:	<u>25°C</u>
EUT:	<u>Temperature Transmitter</u>	Humidity:	<u>50%</u>
Model No.:	<u>TX61U-IT</u>	Power Supply:	<u>3V DC (“AAA” batteries 2×)</u>
Test Mode:	<u>TX Channel 3: 927MHz</u>	Test Engineer:	<u>Joe</u>

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:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

$$\text{Where Corrected Factor} = \text{Antenna Factor} + \text{Cable Loss} + \text{High Pass Filter Loss} - \text{Amplifier Gain}$$

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 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.

#### 6.2.1. Temperature Transmitter (EUT)

Model Number : TX61U-IT  
Serial Number : N/A  
Manufacturer : Golden ESL Instrument (S.Z.) Co. Ltd.

### 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 modes 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:	<u>August 22, 2009</u>	Temperature:	<u>25°C</u>
EUT:	<u>Temperature Transmitter</u>	Humidity:	<u>50%</u>
Model No.:	<u>TX61U-IT</u>	Power Supply:	<u>3V DC (“AAA” batteries 2×)</u>
Test Mode:	<u>TX Channel 1: 903MHz</u>	Test Engineer:	<u>Joe</u>

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:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

$$\text{Where Corrected Factor} = \text{Antenna Factor} + \text{Cable Loss} + \text{High Pass Filter Loss} - \text{Amplifier Gain}$$

3. The spectral diagrams in appendix I display the measurement of peak values.

Date of Test:	<u>August 22, 2009</u>	Temperature:	<u>25°C</u>
EUT:	<u>Temperature Transmitter</u>	Humidity:	<u>50%</u>
Model No.:	<u>TX61U-IT</u>	Power Supply:	<u>3V DC (“AAA” batteries 2×)</u>
Test Mode:	<u>TX Channel 3: 927MHz</u>	Test Engineer:	<u>Joe</u>

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:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

$$\text{Where Corrected Factor} = \text{Antenna Factor} + \text{Cable Loss} + \text{High Pass Filter Loss} - \text{Amplifier Gain}$$

3. The spectral diagrams in appendix I display the measurement of peak values.

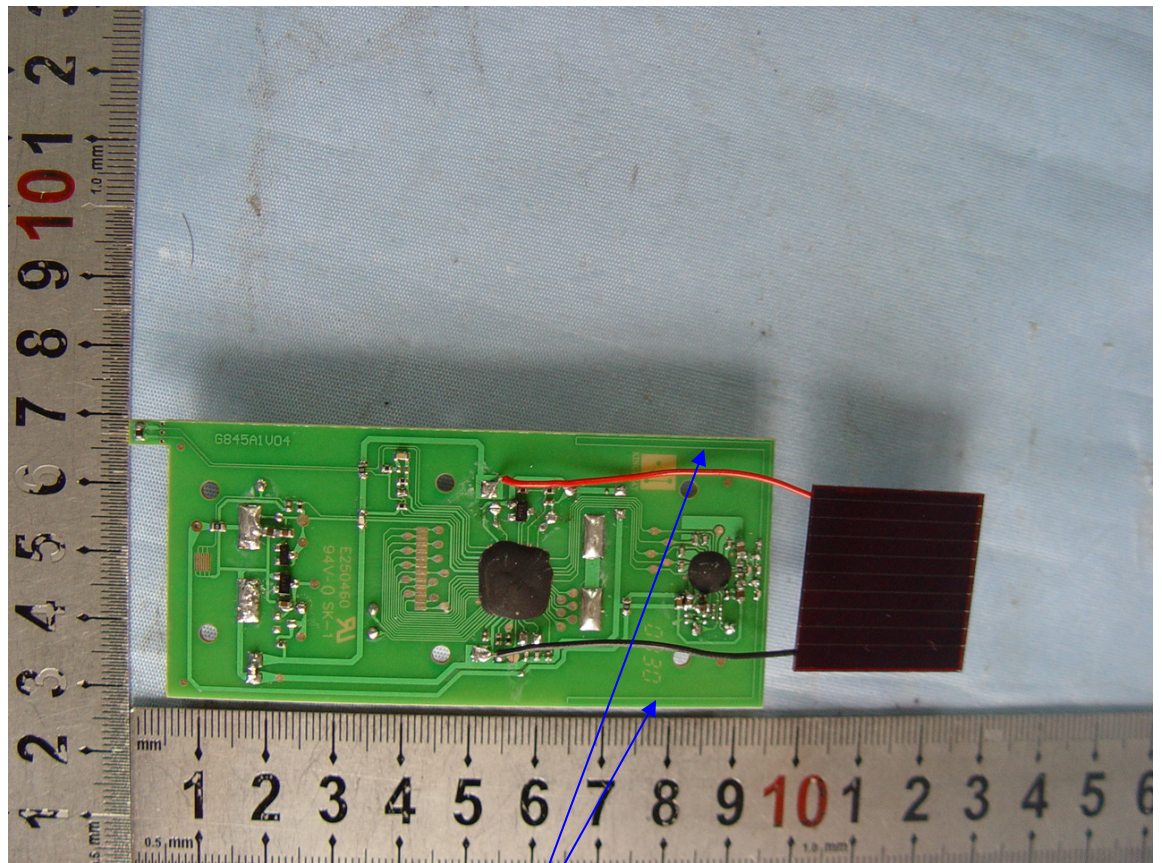
## 7. ANTENNA REQUIREMENT

### 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

Antenna is formed by a short copper wire soldered on the PCB, no consideration of replacement.



Antenna

# APPENDIX I (Test Curves)



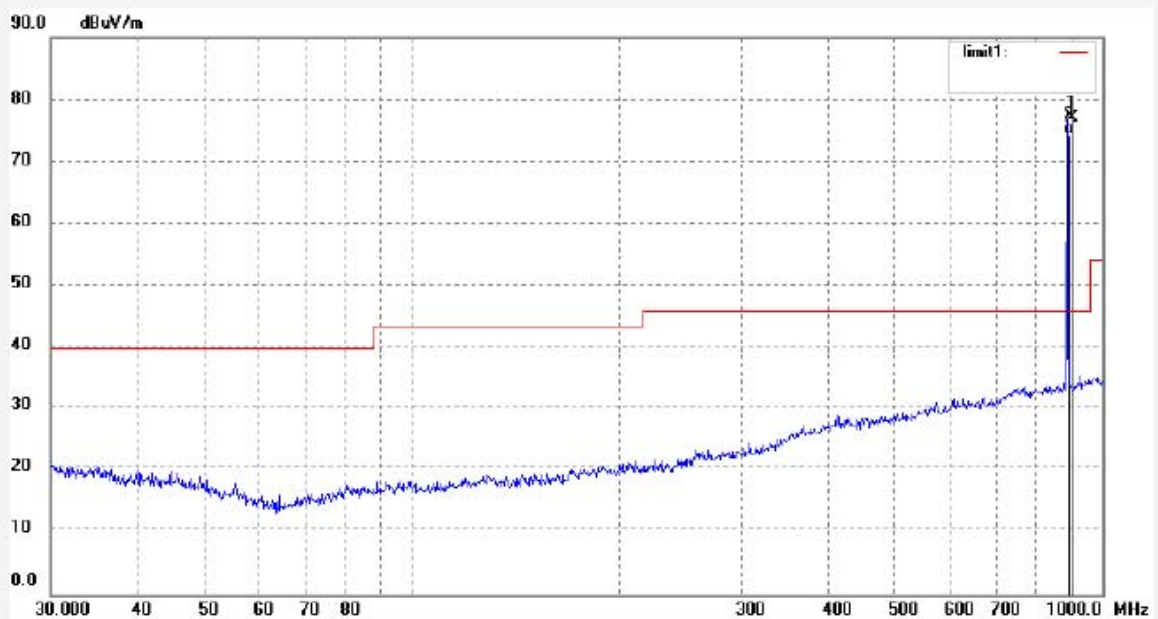


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 Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: RTTE #2611	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 2009/08/21
Temp.( C)/Hum.(%) 25 C / 50 %	Time: 16:17:50
EUT: Temperature transmitter	Engineer Signature: Joe
Mode: TX Channel 1	Distance: 3m
Model: TX61U-IT	
Manufacturer: La Crosse Technology	

Note: Sample No.:091837 Report No.:ATE20091606



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	902.9850	48.29	28.79	77.08	46.00	31.08	peak			
2	902.9850	45.63	28.79	74.42	46.00	28.42	AVG			



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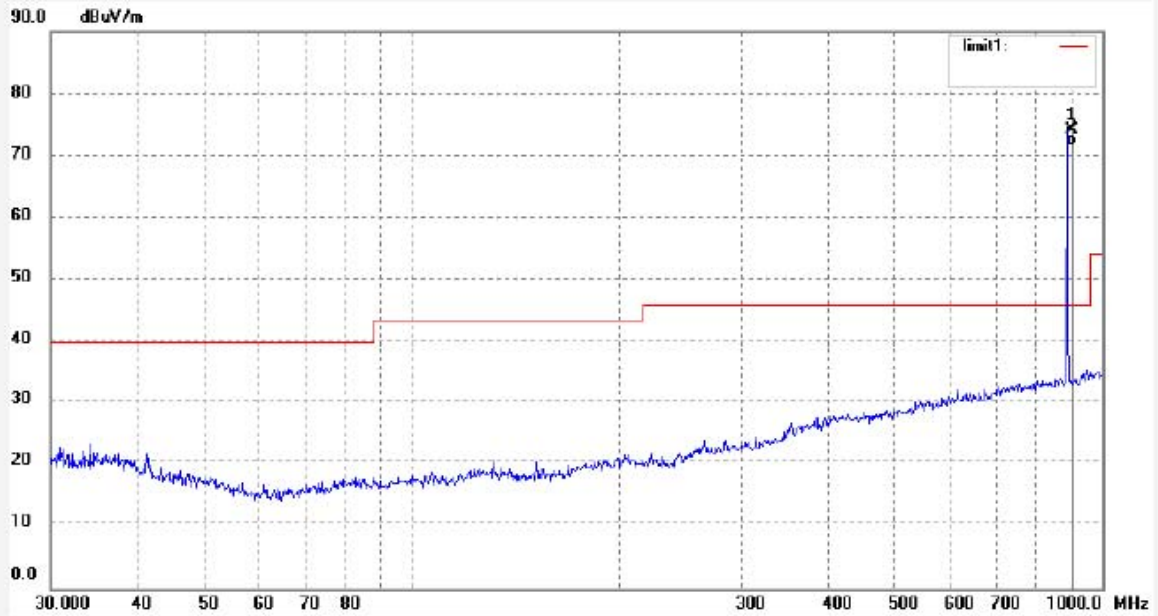
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: RTTE #2612  
Standard: FCC Class B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 50 %  
EUT: Temperature transmitter  
Mode: TX Channel 1  
Model: TX61U-IT  
Manufacturer: La Crosse Technology

Polarization: Vertical  
Power Source: DC 3V  
Date: 2009/08/21  
Time: 16:20:54  
Engineer Signature: Joe  
Distance: 3m

Note: Sample No.:091837 Report No.:ATE20091606



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	902.9850	45.46	28.79	74.25	46.00	28.25	peak			
2	902.9850	42.89	28.79	71.68	46.00	25.68	AVG			



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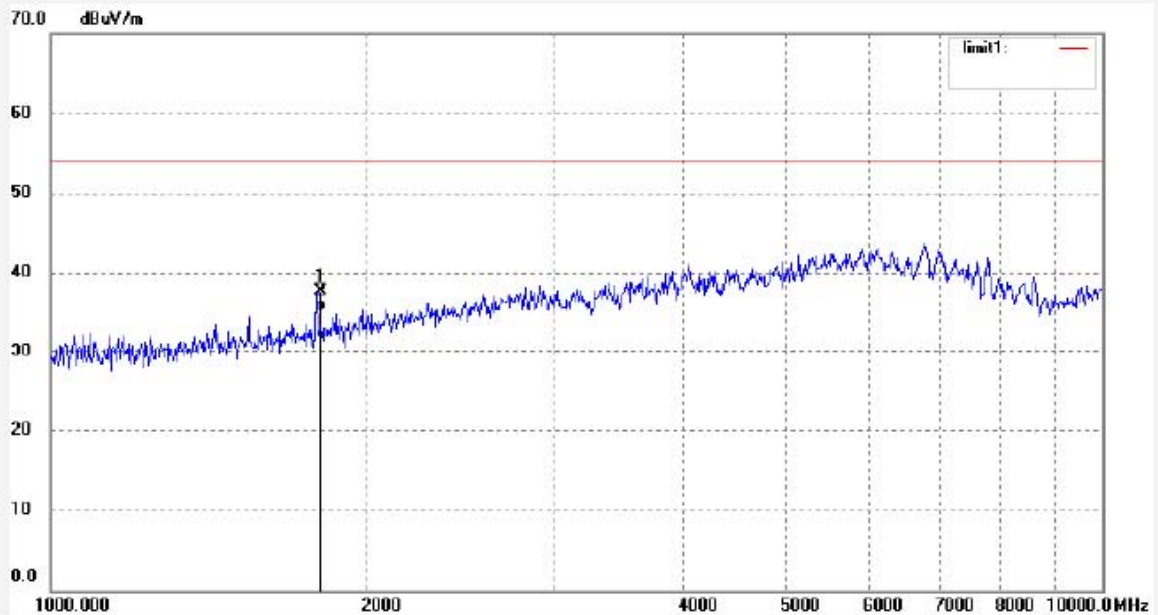
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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: RTTE #2617  
Standard: FCC Class B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 50 %  
EUT: Temperature transmitter  
Mode: TX Channal 1  
Model: TX61U-IT  
Manufacturer: La Crosse Technology

Polarization: Horizontal  
Power Source: DC 3V  
Date: 2009/08/21  
Time: 16:45:24  
Engineer Signature: Joe  
Distance: 3m

Note: Sample No.:091837 Report No.:ATE20091606



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1805.972	47.77	-9.99	37.78	54.00	-16.22	peak			
2	1805.972	45.18	-9.99	35.19	54.00	-18.81	AVG			



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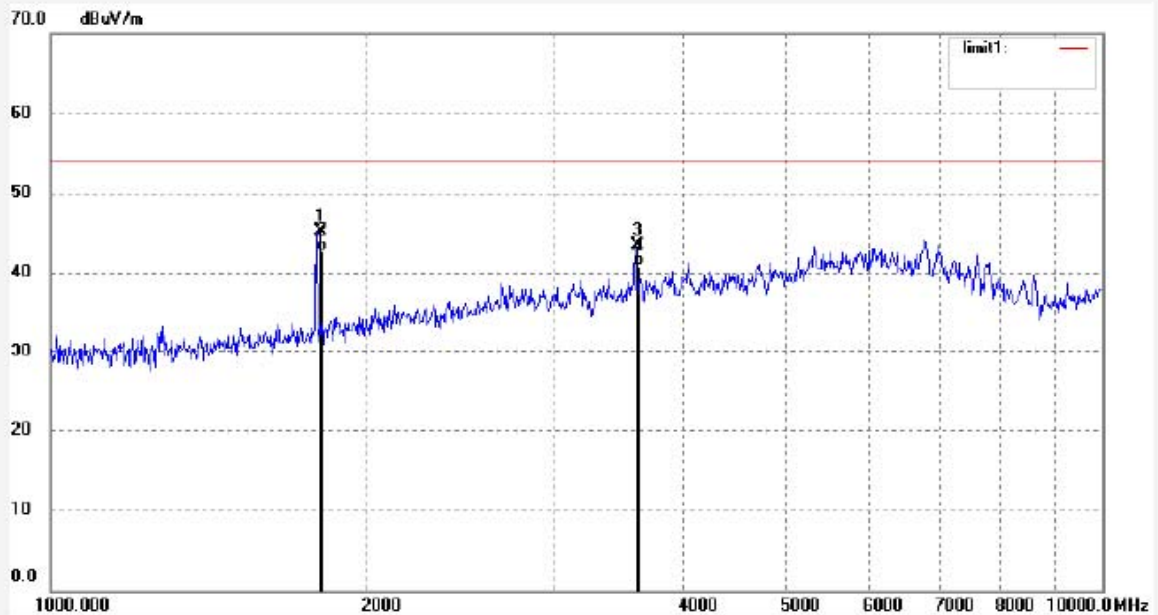
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
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Site: 966 chamber  
Tel:+86-0755-26503290  
Fax:+86-0755-26503396

Job No.: RTTE #2618  
Standard: FCC Class B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 50 %  
EUT: Temperature transmitter  
Mode: TX Channel 1  
Model: TX61U-IT  
Manufacturer: La Crosse Technology

Polarization: Vertical  
Power Source: DC 3V  
Date: 2009/08/21  
Time: 16:48:37  
Engineer Signature: Joe  
Distance: 3m

Note: Sample No.:091837 Report No.:ATE20091606



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1805.972	55.31	-9.99	45.32	54.00	-8.68	peak			
2	1805.972	52.70	-9.99	42.71	54.00	-11.29	AVG			
3	3611.943	46.24	-2.76	43.48	54.00	-10.52	peak			
4	3611.943	43.67	-2.76	40.91	54.00	-13.09	AVG			



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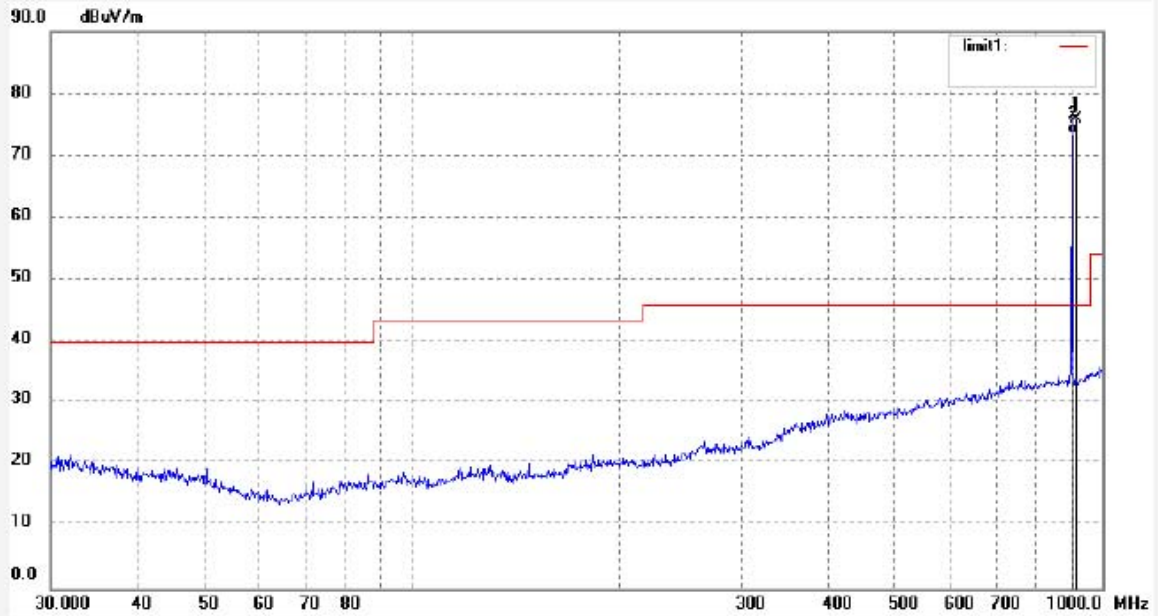
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: RTTE #2614  
Standard: FCC Class B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 50 %  
EUT: Temperature transmitter  
Mode: TX Channel 2  
Model: TX61U-IT  
Manufacturer: La Crosse Technology

Polarization: Horizontal  
Power Source: DC 3V  
Date: 2009/08/21  
Time: 16:27:49  
Engineer Signature: Joe  
Distance: 3m

Note: Sample No.:091837 Report No.:ATE20091606



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	914.9860	47.09	28.92	76.01	46.00	30.01	peak			
2	914.9860	44.52	28.92	73.44	46.00	27.44	AVG			

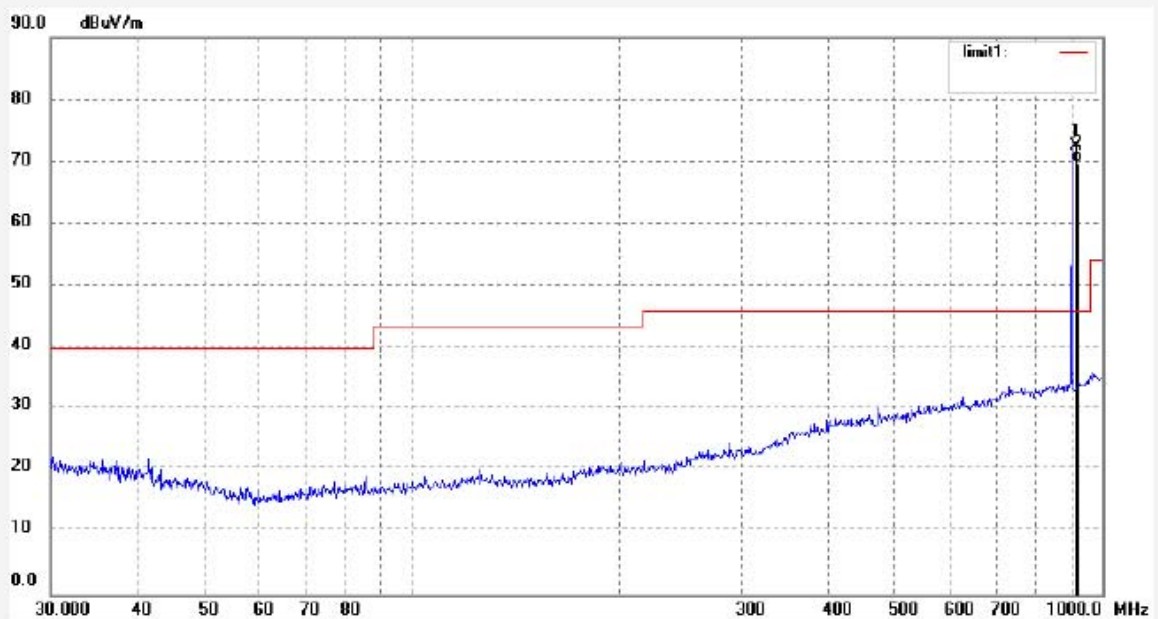


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 Fax:+86-0755-26503396

Job No.: RTTE #2613	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 2009/08/21
Temp.( C)/Hum.(%) 25 C / 50 %	Time: 16:24:38
EUT: Temperature transmitter	Engineer Signature: Joe
Mode: TX Channel 2	Distance: 3m
Model: TX61U-IT	
Manufacturer: La Crosse Technology	

Note: Sample No.:091837 Report No.:ATE20091606



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	914.9860	43.55	28.92	72.47	46.00	26.47	peak			
2	914.9860	40.97	28.92	69.89	46.00	23.89	AVG			



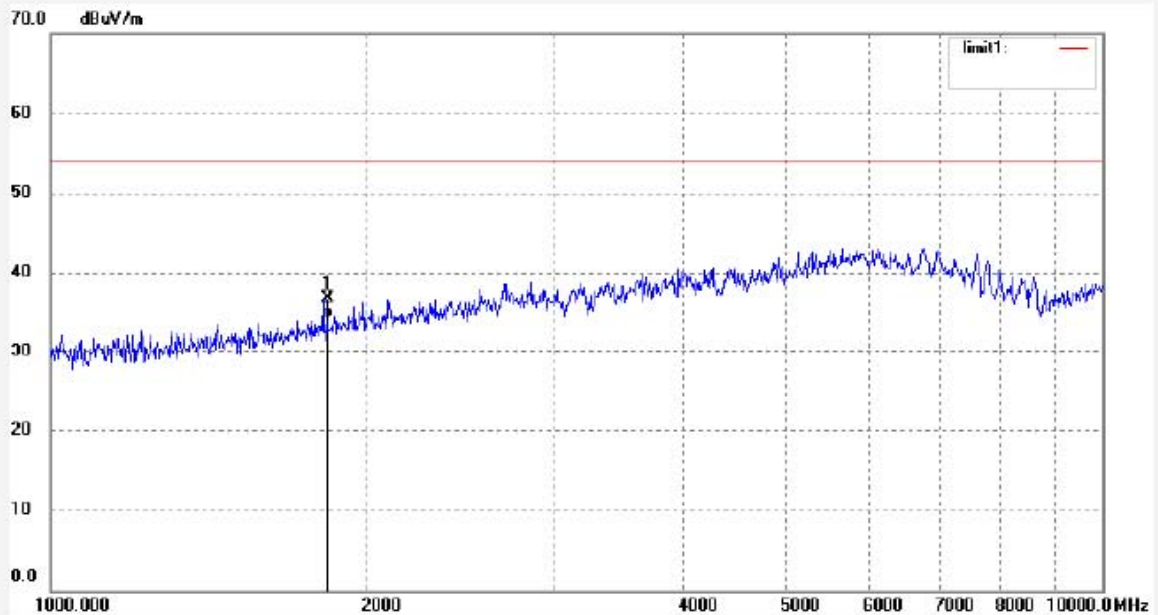
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Fax:+86-0755-26503396

Job No.: RTTE #2620	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 2009/08/21
Temp.( C)/Hum.(%) 25 C / 50 %	Time: 16:55:48
EUT: Temperature transmitter	Engineer Signature: Joe
Mode: TX Channal 2	Distance: 3m
Model: TX61U-IT	
Manufacturer: La Crosse Technology	

Note: Sample No.:091837 Report No.:ATE20091606



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1829.973	46.58	-9.73	36.85	54.00	-17.15	peak			
2	1829.973	44.04	-9.73	34.31	54.00	-19.69	AVG			



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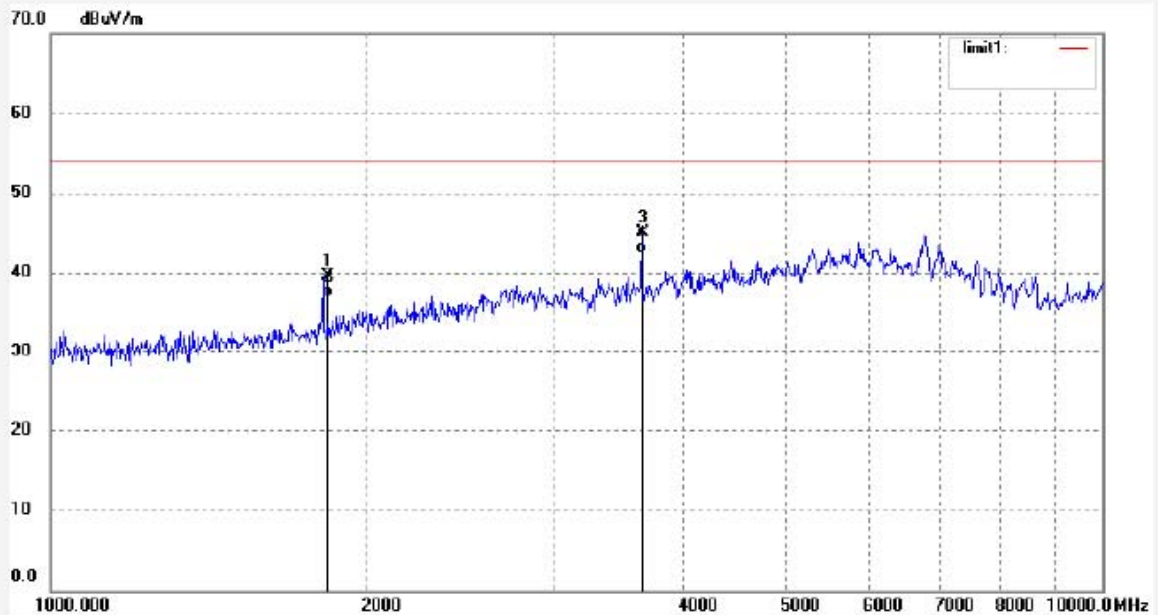
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Site: 966 chamber  
Tel:+86-0755-26503290  
Fax:+86-0755-26503396

Job No.: RTTE #2619  
Standard: FCC Class B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 50 %  
EUT: Temperature transmitter  
Mode: TX Channel 2  
Model: TX61U-IT  
Manufacturer: La Crosse Technology

Polarization: Vertical  
Power Source: DC 3V  
Date: 2009/08/21  
Time: 16:52:35  
Engineer Signature: Joe  
Distance: 3m

Note: Sample No.:091837 Report No.:ATE20091606



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1829.973	49.37	-9.73	39.64	54.00	-14.36	peak			
2	1829.973	46.80	-9.73	37.07	54.00	-16.93	AVG			
3	3659.945	47.69	-2.56	45.13	54.00	-8.87	peak			
4	3659.945	45.05	-2.56	42.49	54.00	-11.51	AVG			





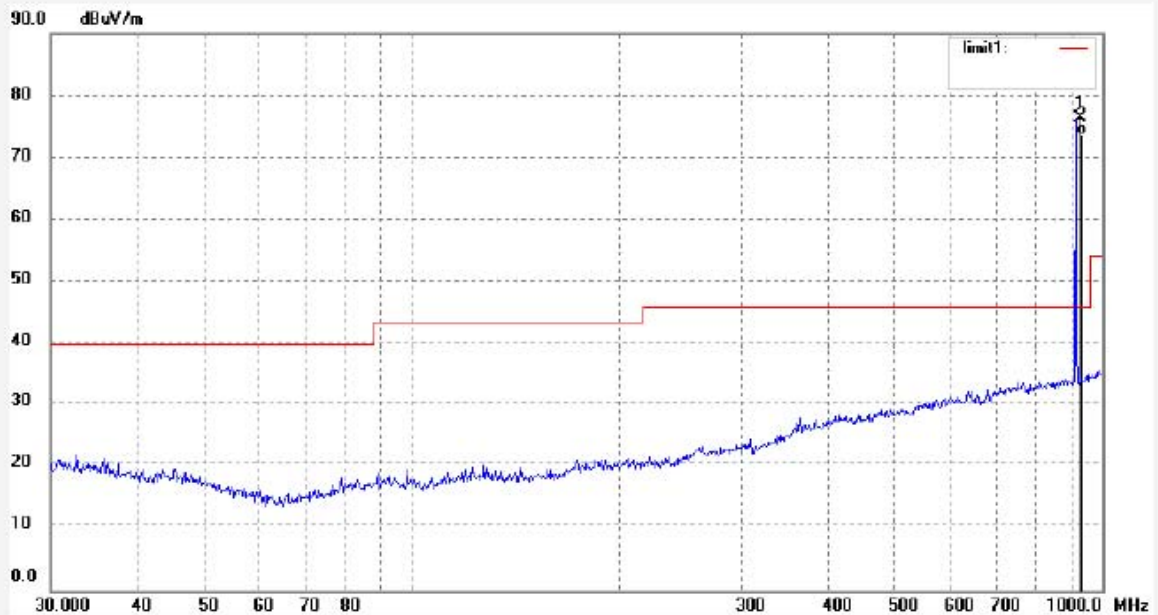
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Site: 966 chamber  
Tel:+86-0755-26503290  
Fax:+86-0755-26503396

Job No.: RTTE #2615	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 2009/08/21
Temp.( C)/Hum.(%) 25 C / 50 %	Time: 16:32:00
EUT: Temperature transmitter	Engineer Signature: Joe
Mode: TX Channel 3	Distance: 3m
Model: TX61U-IT	
Manufacturer: La Crosse Technology	

Note: Sample No.:091837 Report No.:ATE20091606



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	926.9850	47.11	29.19	76.30	46.00	30.30	peak			
2	926.9850	44.54	29.19	73.73	46.00	27.73	AVG			

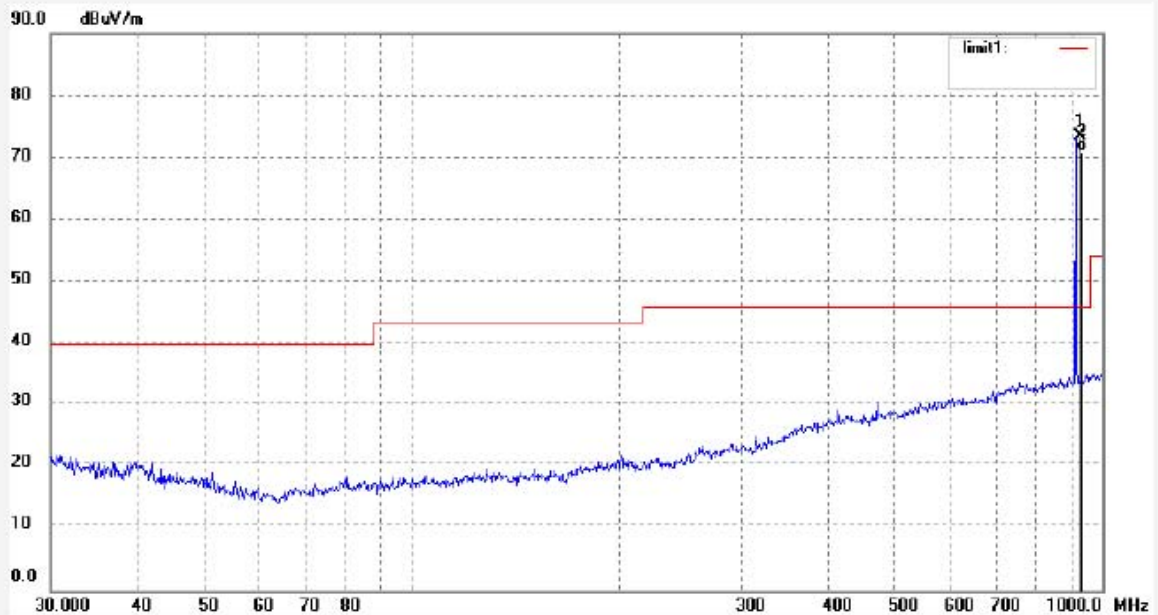


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 Tel:+86-0755-26503290  
 Fax:+86-0755-26503396

Job No.: RTTE #2616	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 2009/08/21
Temp.( C)/Hum.(%) 25 C / 50 %	Time: 16:35:18
EUT: Temperature transmitter	Engineer Signature: Joe
Mode: TX Channel 3	Distance: 3m
Model: TX61U-IT	
Manufacturer: La Crosse Technology	

Note: Sample No.:091837 Report No.:ATE20091606



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	926.9850	44.31	29.19	73.50	46.00	27.50	peak			
2	926.9850	41.74	29.19	70.93	46.00	24.93	AVG			



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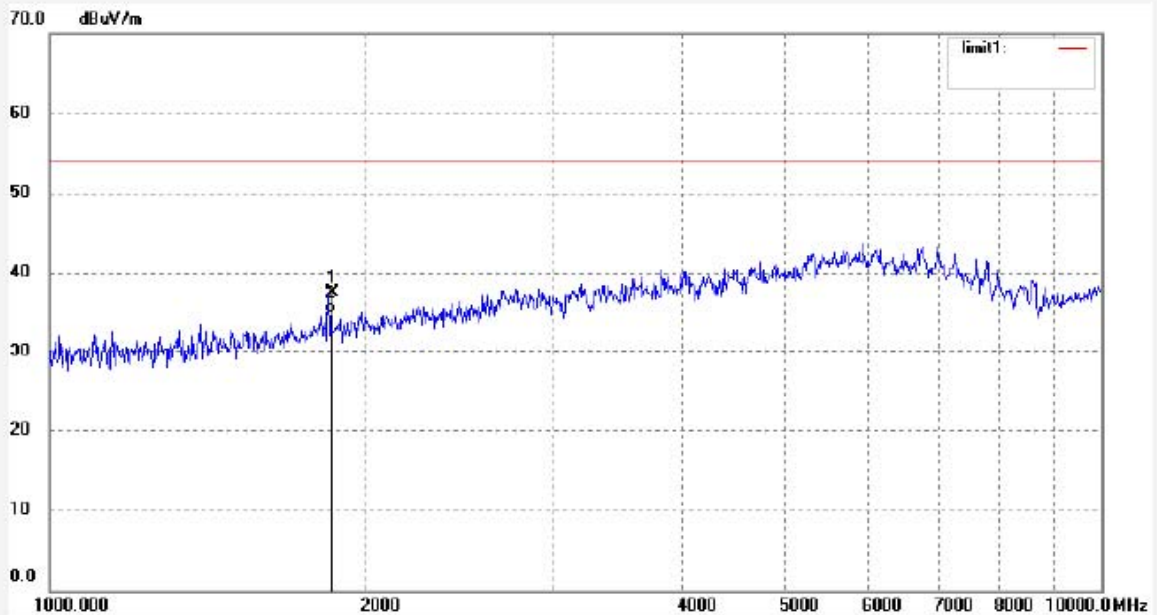
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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: RTTE #2621  
Standard: FCC Class B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 50 %  
EUT: Temperature transmitter  
Mode: TX Channal 3  
Model: TX61U-IT  
Manufacturer: La Crosse Technology

Polarization: Horizontal  
Power Source: DC 3V  
Date: 2009/08/21  
Time: 16:59:50  
Engineer Signature: Joe  
Distance: 3m

Note: Sample No.:091837 Report No.:ATE20091606



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1853.973	47.14	-9.54	37.60	54.00	-16.40	peak			
2	1853.973	44.50	-9.54	34.96	54.00	-19.04	AVG			



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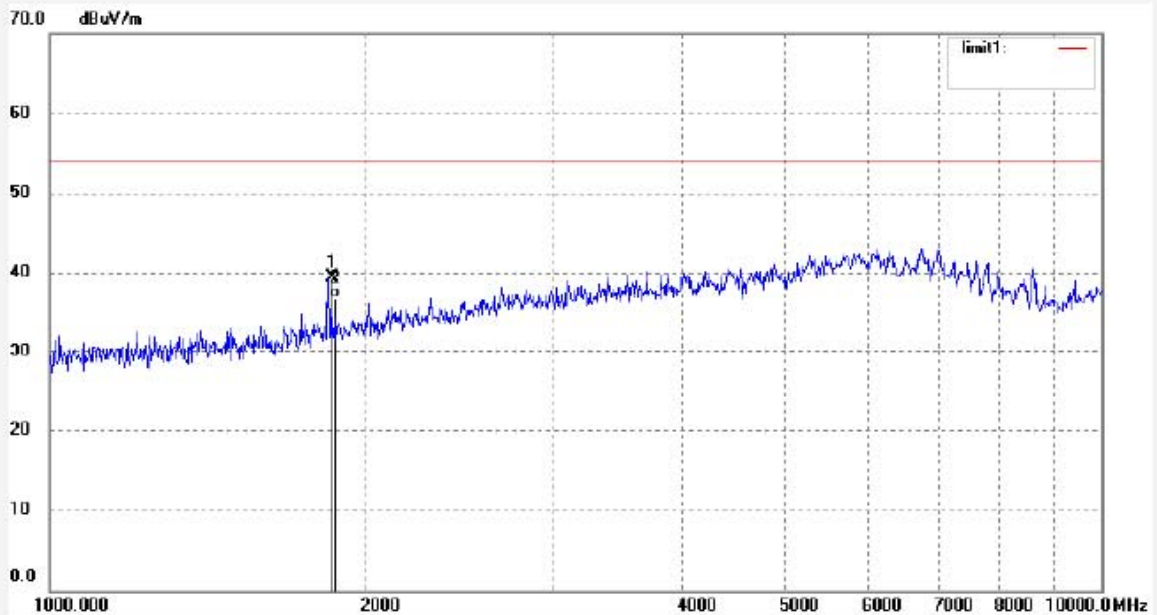
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: RTTE #2622  
Standard: FCC Class B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 50 %  
EUT: Temperature transmitter  
Mode: TX Channal 3  
Model: TX61U-IT  
Manufacturer: La Crosse Technology

Polarization: Vertical  
Power Source: DC 3V  
Date: 2009/08/21  
Time: 17:03:16  
Engineer Signature: Joe  
Distance: 3m

Note: Sample No.:091837 Report No.:ATE20091606



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1853.973	49.06	-9.54	39.52	54.00	-14.48	peak			
2	1853.973	46.42	-9.54	36.88	54.00	-17.12	AVG			



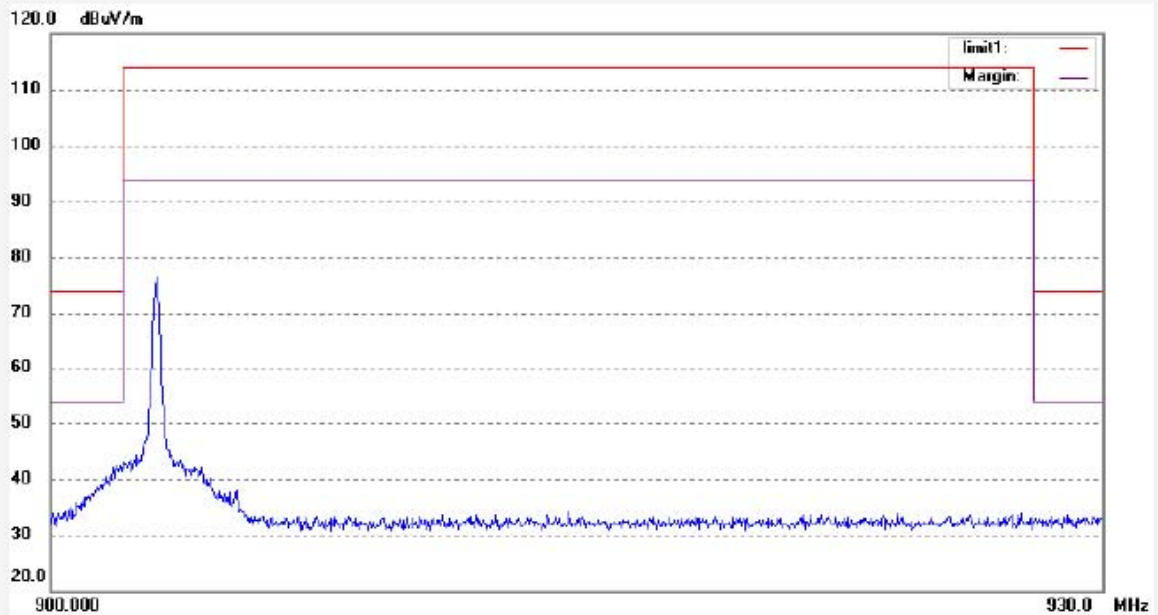
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Site: 966 chamber  
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Job No.: RTTE #2626	Polarization: Horizontal
Standard: RSS-210 Band Edge	Power Source: DC 3V
Test item: Radiation Test	Date: 2009/08/22
Temp.( C)/Hum.(%) 25 C / 50 %	Time: 16:57:26
EUT: Temperature transmitter	Engineer Signature: Joe
Mode: TX Channel 1	Distance: 3m
Model: TX61U-IT	
Manufacturer: La Crosse Technology	

Note: Sample No.:091837 Report No.:ATE20091606



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
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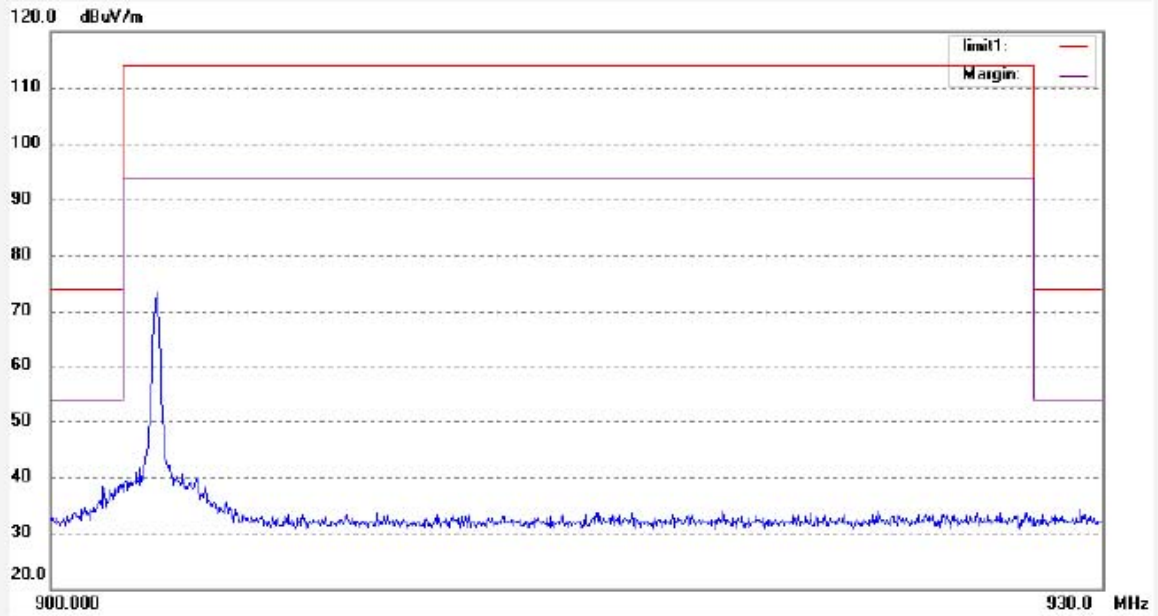
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Site: 966 chamber  
Tel:+86-0755-26503290  
Fax:+86-0755-26503396

Job No.: RTTE #2625  
Standard: RSS-210 Band Edge  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 50 %  
EUT: Temperature transmitter  
Mode: TX Channel 1  
Model: TX61U-IT  
Manufacturer: La Crosse Technology

Polarization: Vertical  
Power Source: DC 3V  
Date: 2009/08/22  
Time: 16:54:02  
Engineer Signature: Joe  
Distance: 3m

Note: Sample No.:091837 Report No.:ATE20091606



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
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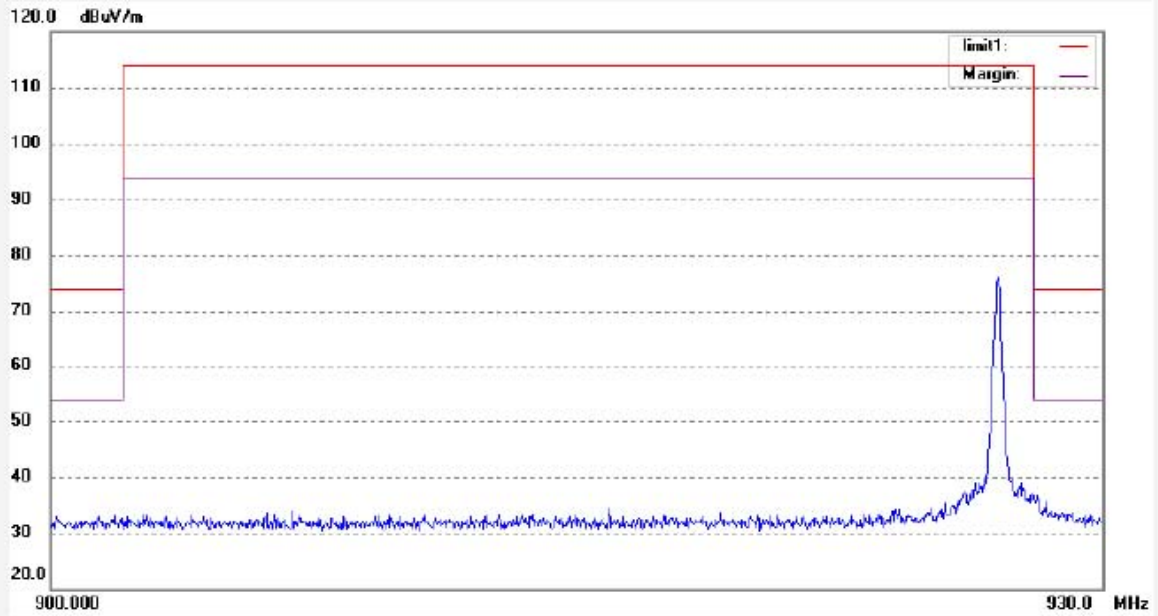
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Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: RTTE #2623  
Standard: RSS-210 Band Edge  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 50 %  
EUT: Temperature transmitter  
Mode: TX Channel 3  
Model: TX61U-IT  
Manufacturer: La Crosse Technology

Polarization: Horizontal  
Power Source: DC 3V  
Date: 2009/08/22  
Time: 16:47:28  
Engineer Signature: Joe  
Distance: 3m

Note: Sample No.:091837 Report No.:ATE20091606



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
-----	-------------	------------------	-------------	-----------------	----------------	-------------	----------	-------------	---------------	--------



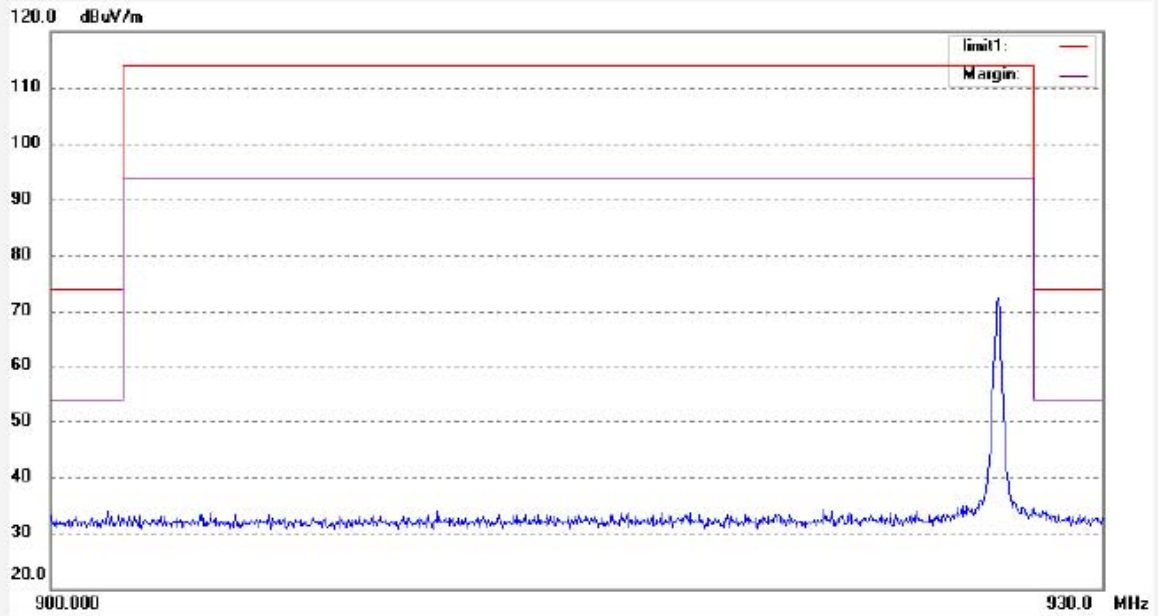
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Fax:+86-0755-26503396

Job No.: RTTE #2624	Polarization: Vertical
Standard: RSS-210 Band Edge	Power Source: DC 3V
Test item: Radiation Test	Date: 2009/08/22
Temp.( C)/Hum.(%) 25 C / 50 %	Time: 16:50:23
EUT: Temperature transmitter	Engineer Signature: Joe
Mode: TX Channal 3	Distance: 3m
Model: TX61U-IT	
Manufacturer: La Crosse Technology	

Note: Sample No.:091837 Report No.:ATE20091606



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
-----	-------------	------------------	-------------	-----------------	----------------	-------------	----------	-------------	---------------	--------