FCC CERTIFICATION
On Behalf of
La Crosse Technology

Wind Sensor
Model No.: TX63U-IT

FCC ID: OMO-M-12

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, Changyuan New Material Port, Keyuan Rd. Science & Industry Park, Nanshan, Shenzhen, Guangdong P.R. China
		Tel: (0755) 26503290
		Fax: (0755) 26503396

Report Number	:	ATE20101475
Date of Test	:	August 14, 2010
Date of Report	:	August 19, 2010

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Test Report Certification

Applicant	:	La Crosse Technology
Manufacturer	:	Golden ESL Instrument (S.Z.) Co., Ltd.
EUT Description	:	Wind Sensor
		(A) MODEL NO.: TX63U-IT
		(B) SERIAL NO.: N/A
		(C) POWER SUPPLY: 3V DC ("AAA" batteries 2×)

Measurement Procedure Used:

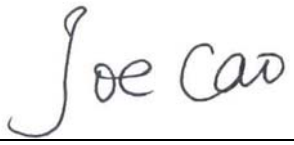
FCC Rules and Regulations Part 15 Subpart C Section 15.249
ANSI C63.4: 2003

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 : August 14, 2010

Prepared by :



(Joe Cao, Engineer)

Approved & Authorized Signer :

(Sean Liu, Manager)

1. GENERAL INFORMATION

1.1.Description of Device (EUT)

EUT	:	Wind Sensor
Model Number	:	TX63U-IT
Power Supply	:	3V DC ("AAA" batteries 2×)
Transmitting Frequency	:	924MHz
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 Baoan District, ShenZhen, China
Date of sample received	:	August 11, 2010
Date of Test	:	August 14, 2010

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	Jan. 9, 2011
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 9, 2011
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 9, 2011
Pre-Amplifier	Rohde&Schwarz	CBLU1183540-01	3791	Jan. 9, 2011
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 9, 2011
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 9, 2011
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 9, 2011
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 9, 2011
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 9, 2011
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 9, 2011

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)

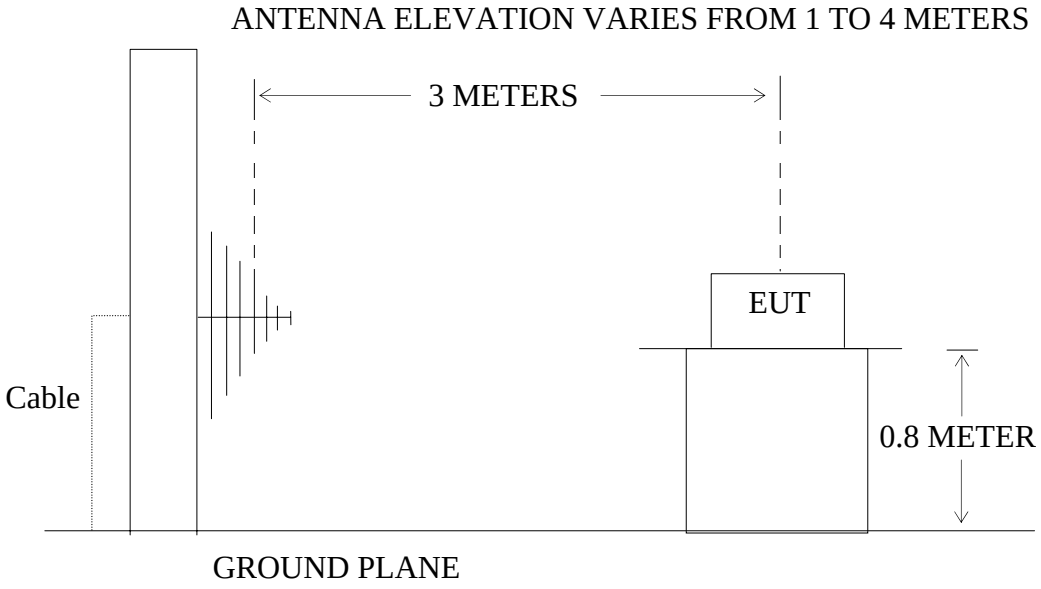
4.1.Block Diagram of Test Setup

4.1.1.Block diagram of connection between the EUT and simulators

EUT

(EUT: Wind Sensor)

4.1.2.Semi-Anechoic Chamber Test Setup Diagram



(EUT: Wind 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 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.Wind Sensor (EUT)

Model Number : TX63U-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 mode measure it. The transmit frequency is 924MHz.

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:	August 14, 2010	Temperature:	25°C
EUT:	Wind Sensor	Humidity:	50%
Model No.:	TX63U-IT	Power Supply:	3V DC (“AAA” batteries 2×)
Test Mode:	TX	Test Engineer:	Joe

Fundamental Radiated Emissions

Frequency	Reading(dBμV/m)		Factor(dB)	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
(MHz)	AV	PEAK	Corr.	AV	PEAK	AV	PEAK	AV	PEAK	
924.008	54.46	58.79	29.12	83.58	87.91	94	114	-10.42	-26.09	Vertical
924.008	56.93	61.24	29.12	86.05	90.36	94	114	-7.95	-23.64	Horizontal

Harmonics Radiated Emissions

Frequency	Reading(dBμV/m)		Factor(dB)	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
(MHz)	AV	PEAK	Corr.	AV	PEAK	AV	PEAK	AV	PEAK	
1848.012	58.20	62.54	-9.55	48.65	52.99	54	74	-5.35	-21.01	Vertical
2772.018	50.18	54.52	-6.09	44.09	48.43	54	74	-9.91	-25.57	Vertical
1848.012	60.42	64.79	-9.55	50.87	55.24	54	74	-3.13	-18.76	Horizontal
2772.018	52.38	56.70	-6.09	46.29	50.61	54	74	-7.71	-23.39	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)

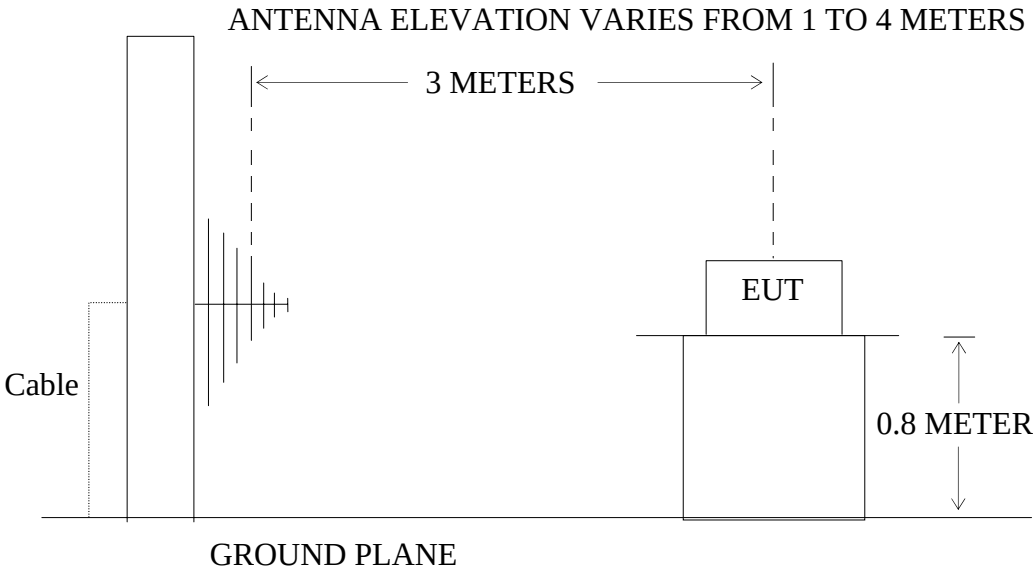
5.1.Block Diagram of Test Setup

5.1.1.Block diagram of connection between the EUT and simulators

EUT

(EUT: Wind Sensor)

5.1.2.Semi-Anechoic Chamber Test Setup Diagram



(EUT: Wind 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 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.Wind Sensor (EUT)

Model Number : TX63U-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 mode measure it. The transmit frequency is 924MHz.

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:	August 14, 2010	Temperature:	25°C
EUT:	Wind Sensor	Humidity:	50%
Model No.:	TX63U-IT	Power Supply:	3V DC (“AAA” batteries 2×)
Test Mode:	TX	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 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.Wind Sensor (EUT)

Model Number	**:**	TX63U-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 mode measure it. The transmit frequency is 924MHz.

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:	August 14, 2010	Temperature:	25°C
EUT:	Wind Sensor	Humidity:	50%
Model No.:	TX63U-IT	Power Supply:	3V DC ("AAA" batteries 2×)
Test Mode:	TX	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.

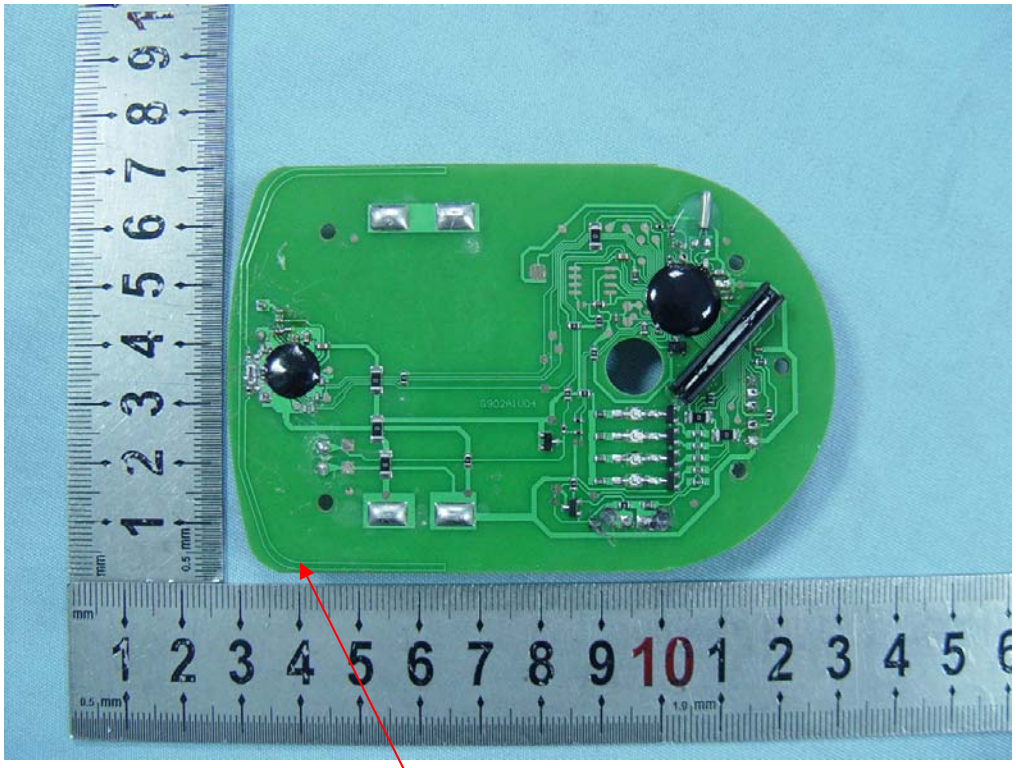
7. ANTENNA REQUIREMENT

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.



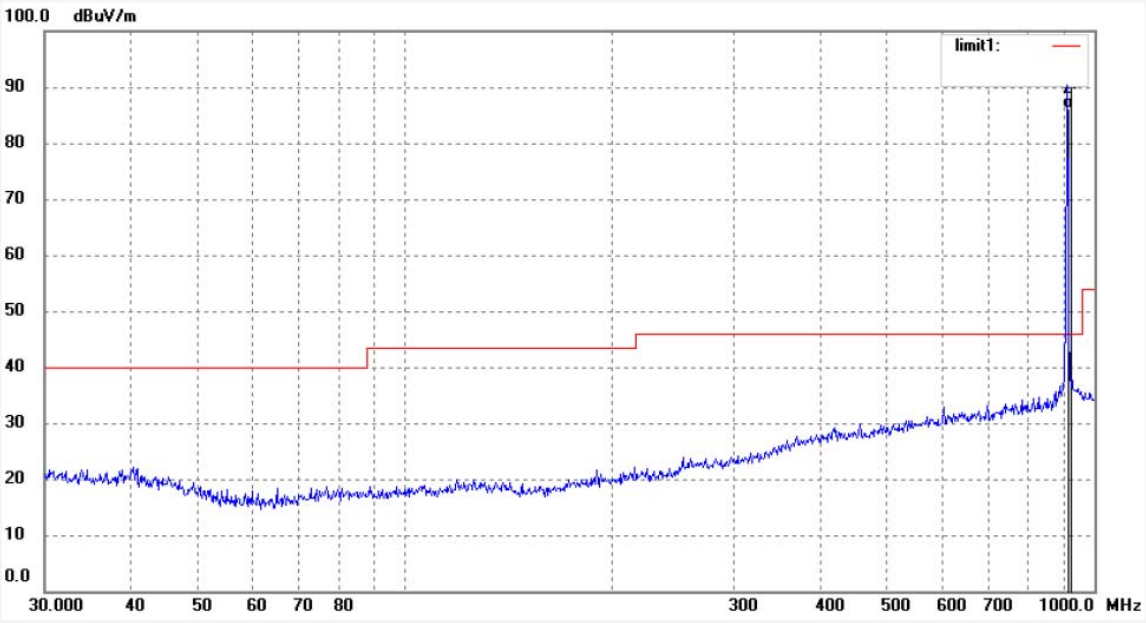
Antenna

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 #5709	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 2010/08/14
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 17:08:34
EUT: Wind Sensor	Engineer Signature: Joe
Mode: TX	Distance: 3m
Model: TX63U-IT	
Manufacturer: La Crosse Technology	

Note: Sample No.:101677 Report No.:ATE20101475

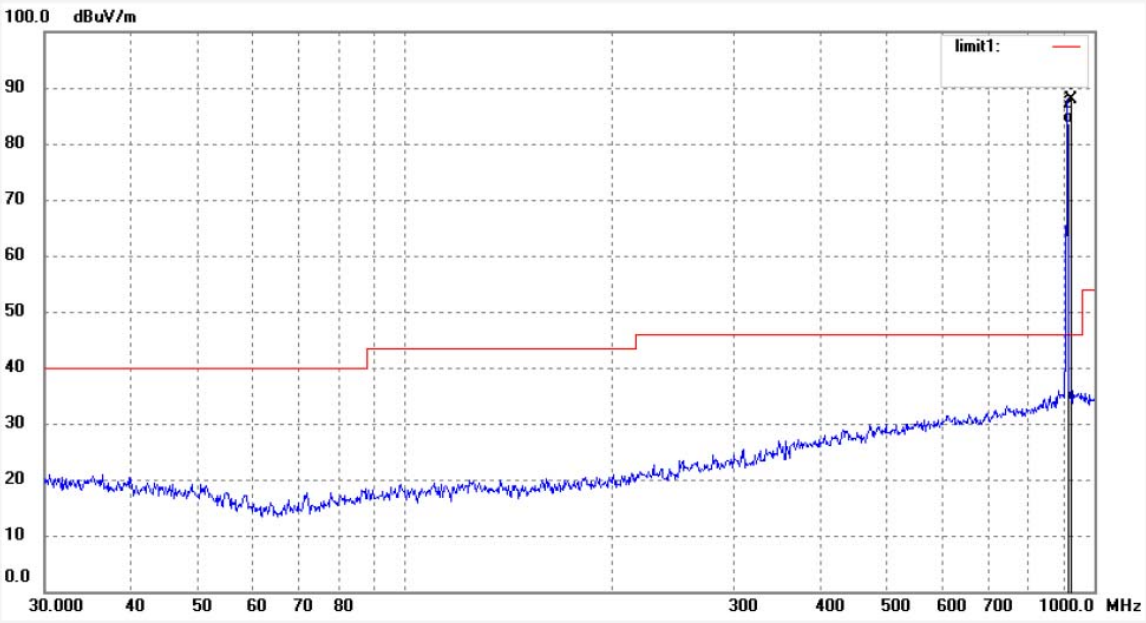


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	924.0080	61.24	29.12	90.36	114.00	-23.64	peak			
2	924.0080	56.93	29.12	86.05	94.00	-7.95	AVG			

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 #5710	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 2010/08/14
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 17:12:28
EUT: Wind Sensor	Engineer Signature: Joe
Mode: TX	Distance: 3m
Model: TX63U-IT	
Manufacturer: La Crosse Technology	

Note: Sample No.:101677 Report No.:ATE20101475



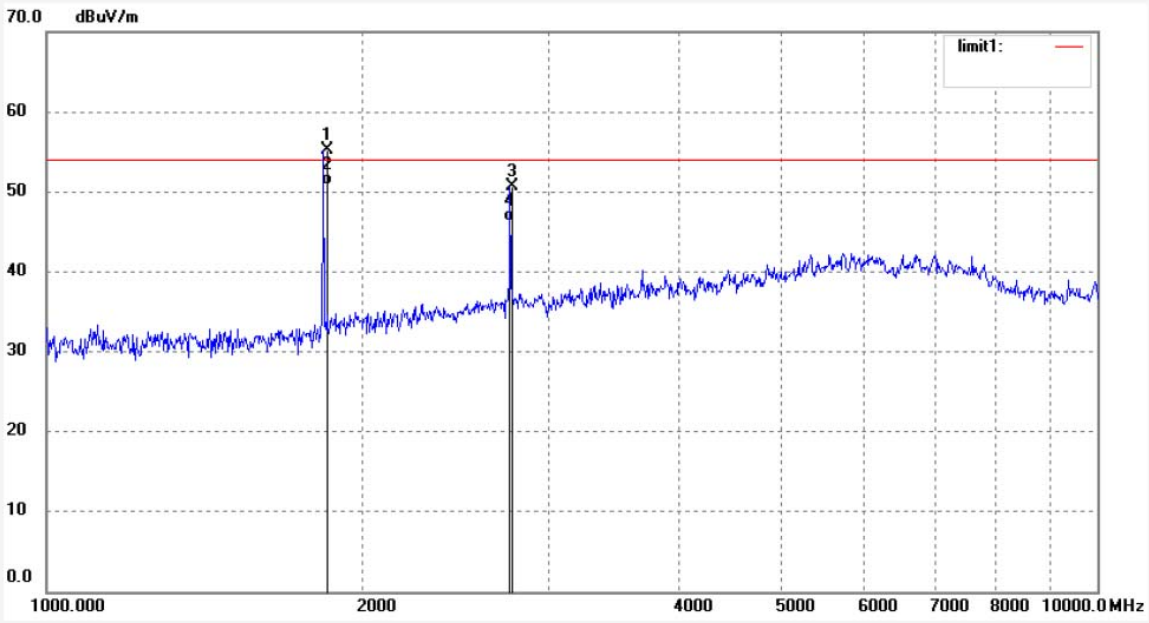
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	924.0080	58.79	29.12	87.91	114.00	-26.09	peak			
2	924.0080	54.46	29.12	83.58	94.00	-10.42	AVG			

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 #5711
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 50 %
EUT: Wind Sensor
Mode: TX
Model: TX63U-IT
Manufacturer: La Crosse Technology

Polarization: Horizontal
Power Source: DC 3V
Date: 2010/08/14
Time: 17:18:01
Engineer Signature: Joe
Distance: 3m

Note: Sample No.:101677 Report No.:ATE20101475

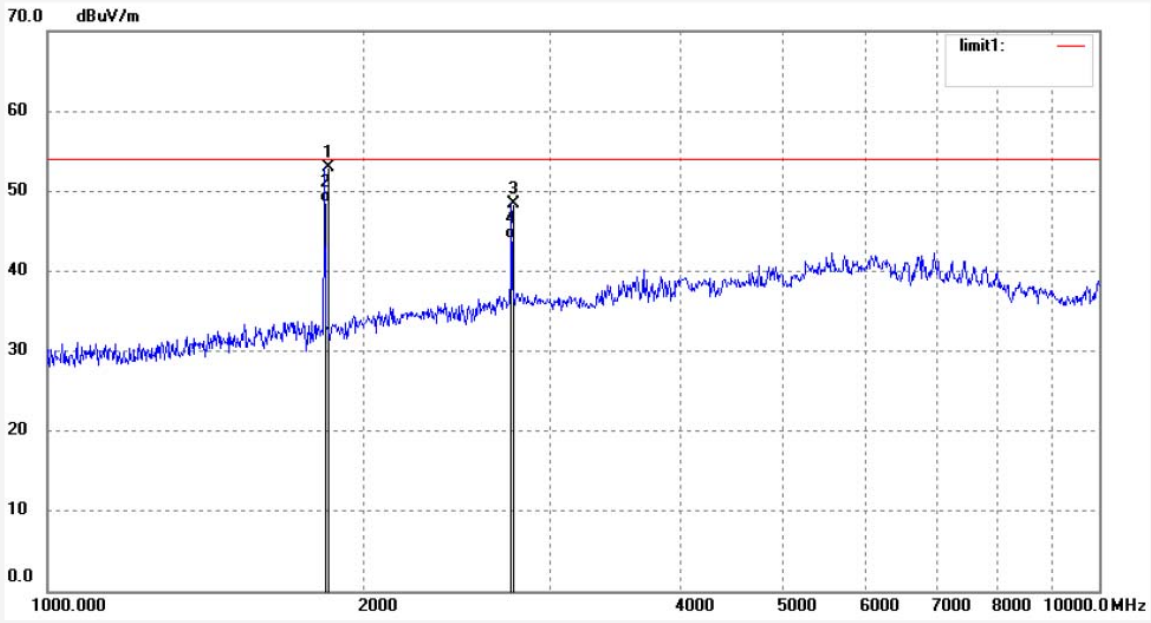


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1848.012	64.79	-9.55	55.24	74.00	-18.76	peak			
2	1848.012	60.42	-9.55	50.87	54.00	-3.13	AVG			
3	2772.018	56.70	-6.09	50.61	74.00	-23.39	peak			
4	2772.018	52.38	-6.09	46.29	54.00	-7.71	AVG			

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 #5712	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3V
Test item: Radiation Test	Date: 2010/08/14
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 17:22:41
EUT: Wind Sensor	Engineer Signature: Joe
Mode: TX	Distance: 3m
Model: TX63U-IT	
Manufacturer: La Crosse Technology	

Note: Sample No.:101677 Report No.:ATE20101475

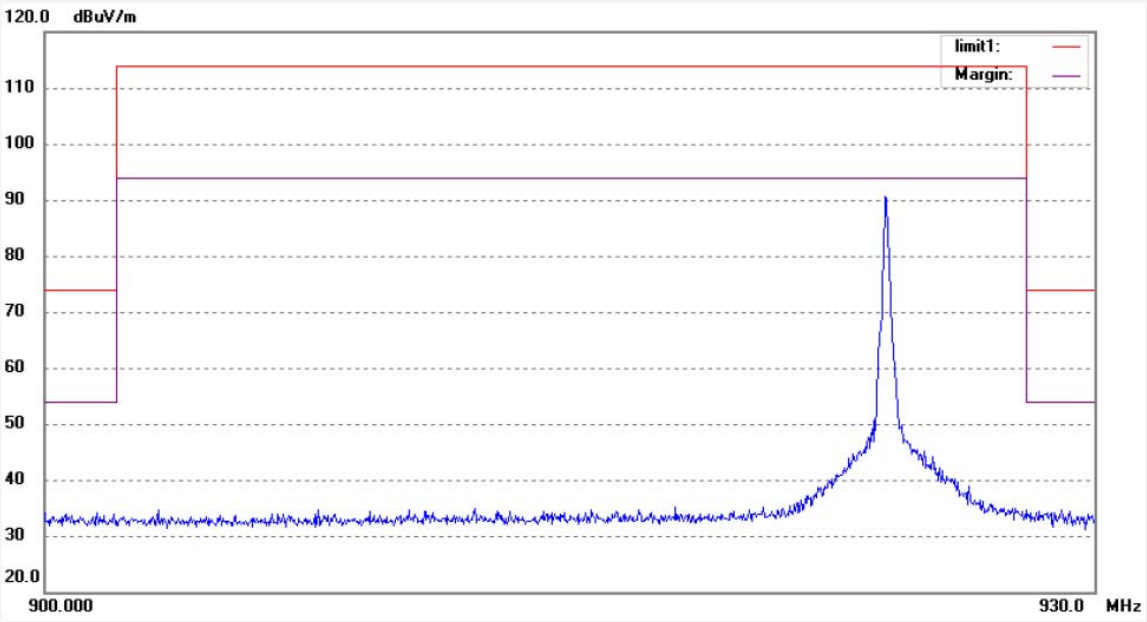


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	1848.012	62.54	-9.55	52.99	74.00	-21.01	peak			
2	1848.012	58.20	-9.55	48.65	54.00	-5.35	AVG			
3	2772.018	54.52	-6.09	48.43	74.00	-25.57	peak			
4	2772.018	50.18	-6.09	44.09	54.00	-9.91	AVG			

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 #5745	Polarization: Horizontal
Standard: FCC Band Edge	Power Source: DC 3V
Test item: Radiation Test	Date: 2010/08/14
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 18:15:15
EUT: Wind Sensor	Engineer Signature: Joe
Mode: TX	Distance: 3m
Model: TX63U-IT	
Manufacturer: La Crosse Technology	

Note: Sample No.:101677 Report No.:ATE20101475

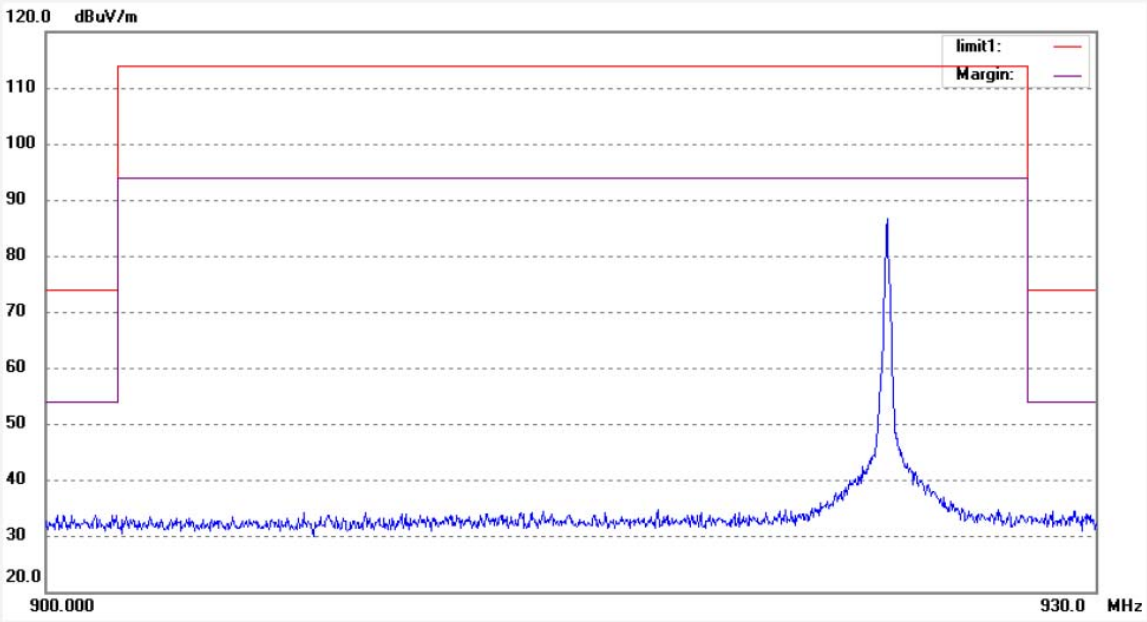


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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 #5746	Polarization: Vertical
Standard: FCC Band Edge	Power Source: DC 3V
Test item: Radiation Test	Date: 2010/08/14
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 18:19:26
EUT: Wind Sensor	Engineer Signature: Joe
Mode: TX	Distance: 3m
Model: TX63U-IT	
Manufacturer: La Crosse Technology	

Note: Sample No.:101677 Report No.:ATE20101475



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