



SGS-CSTC Standards Technical Services Ltd.

No.198 Kezhu Road, Science Town Economic& Technology
Development District Guangzhou, China 510663
Telephone: +86 (0) 20 82155555
Fax: +86 (0) 20 82075059
Email: sgs_internet_operations@sgs.com

FEDERAL COMMUNICATIONS COMMISSION
Registration number: 282399

Report No.: SZEMO080602526RFF
Page: 1 of 12
FCC ID: TIUIW001T

TEST REPORT

Application No. : SZEMO080502526RF
Applicant: NEXUS INDUSTRIAL DESIGN
Manufacture: Shen Zhen Xiao Feng Technology Co., Ltd.
FCC ID: TIUIW001T

Fundamental Frequency: Carrier 912MHz

Equipment Under Test (EUT):

Name: Internet Weather station
Model: IW001

Standards: FCC PART 15: 2007
Please refer to section 2 for further details.

Date of Receipt: 23 June 2008

Date of Test: 23 June to 01 July 2008

Date of Issue: 01 July 2008

Test Result :	PASS *
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* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Robinson Lo
Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

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2 Test Summary

Test	Test Requirement	Standard Paragraph	Result
Flie Strength of Fundamental	FCC PART 15:2007	Section 15.249 (a)	PASS
Radiated emission and radiated spurious emission	FCC PART 15:2007	Section 15.249 (a) Section 15.209	PASS
Occupied Bandwidth	FCC PART 15:2007	Section 15.215	PASS

Remark:

The equipment tests shall be performed using a new battery

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4 General Information

4.1 Client Information

Applicant: NEXUS INDUSTRIAL DESIGN
Address of Applicant: 15/ F., Tower 2 Tem Centre, 251 Queen' s Road Central, Hong Kong
Manufacture: Shen Zhen Xiao Feng Technology Co., Ltd.
Address of Manufacture: A' bao Technology Park, Da Fu Industrial Estate, Da Shui Keng, Guanlan, Bao'an District, Shenzhen, Guangdong, P. R. C.

4.2 General Description of E.U.T.

Product Name: Internet Weather station
Model: IW001
Power Supply: 3.0V DC (2 * "AAA" Size Batteries) for transmitter.
Power Cord: N/A-

4.3 Description of Support Units

The EUT was tested independently.

4.4 Standards Applicable for Testing

The customer requested FCC tests for a 912MHz Internet Weather station.
The standard used was FCC PART 15, SUBPART C (2007) section 15.249.

4.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory, No.198 Kezhu Road, Science Town Economic& Technology Development District Guangzhou, China 510663

Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.

4.6 Other Information Requested by the Customer

None.

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4.7 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **NVLAP – Lab Code: 200611-0**
SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is recognized under the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0. Effective through December 31, 2006.
- **ACA**
SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.
- **VCCI**
The 3m Semi-anechoic chamber and Shielded Room (11.5m x 4m x 4m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-1599 and C-1706 respectively.
Date of Registration: June 01, 2005. Valid until February 22, 2008
- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**
Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.
- **CNAL – LAB Code: L0141**
SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAL/AC01: 2002 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:1999 General Requirements) for the Competence of Testing Laboratories.
- **FCC – Registration No.: 282399**
SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 282399, May 31, 2002. With the above and NVLAP's accreditation, SGS-CSTC is an authorised test laboratory for the DoC process.
- **Industry Canada (IC)**
The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5169.

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5 Test Results

5.1 Test Instruments

Conducted Emission						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	Shielding Room	ZhongYu Electron	GB-88	SEL0042	N/A	N/A
2	LISN	ETS-LINDGREN	3816/2	SEL0021	18-06-2008	17-06-2009
3	ISN	Rohde & Schwarz	ENY 22 1109	EMC0114	18-06-2008	17-06-2009
4	ISN	Rohde & Schwarz	ENY 41 1110	EMC0115	18-06-2008	17-06-2009
5	EMI Test Receiver	Rohde & Schwarz	ESCI	SEL0022	18-06-2008	17-06-2009
6	Coaxial Cable	SGS	N/A	SEL0024	18-06-2008	17-06-2009

RE in Chamber						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	16-06-2007	15-06-2009
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEL0023	12-12-2007	11-12-2008
3	EMI Test software	AUDIX	E3	SEL0050	N/A	N/A
4	Coaxial cable	SGS	N/A	SEL0028	18-06-2008	17-06-2009
5	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0014	12-08-2007	11-08-2008
6	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEL0053	18-06-2008	17-06-2009
7	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEL0005	12-08-2007	11-08-2008
8	Pre-amplifier (1-18GHz)	Rohde & Schwarz	AFS42-00101 800-25-S-42	SEL0081	18-06-2008	17-06-2009
9	Band filter	Amindeon	82346	SEL0094	18-06-2008	17-06-2009
10	Active Loop Antenna	Beijing Daze	ZN30900A	SEL0097	15-06-2008	14-06-2009

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5.2 E.U.T. Operation

Input voltage:	3.0V DC (2 * "AAA" Size Batteries) for transmitter.
Operating Environment:	
Temperature:	24.0 °C
Humidity:	52 % RH
Atmospheric Pressure:	1012 mbar
EUT Operation:	Test in transmitting mode:

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5.3 Test Procedure & Measurement Data

5.3.1 Radiated Emissions

5.3.1.1 Test in transmitting mode

Test Requirement: FCC Part15 C
Test Method: Based on FCC Part15 C Section 15.249
Test Date: 18 June 2008
Measurement Distance: 3m (Semi-Anechoic Chamber)
Frequency range: 30 MHz – 10GHz for transmitting mode.
Test instrumentation resolution bandwidth
120 kHz (30 MHz - 1000 MHz),
Peak:RBW=1 MHz VBW=1MHz (1000 MHz – 25GHz)
Average:RBW=1MHz VBW=10Hz (1000MHz- 25GHz)
Operation: Receive antenna scan height 1 - 4 m, polarization Vertical/
Horizontal

Requirements:

Fundamental Frequency (MHz)	Field Strength of Fundamental (dBuV/m @ 3m)	Field Strength of Harmonics and Spurious Emissions (dBuV/m @ 3m)
902 to 928	94.0	54.0
2400 to 2483.5	94.0	54.0
5725 to 5875	94.0	54.0
24000 to 24250	108.0	68.0

The fundamental frequency of the EUT is 912MHz

The limit for average field strength dBuV/m for the fundamental frequency = 94.0 dBuV/m.

No fundamental is allowed in the restricted bands.

The limit for average field strength dBuV/m for the harmonics and spurious frequencies = 54.0 dBuV/m. Spurious in the restricted bands must be less than 54.0 dBuV/m or 15.209.

Test Procedure:

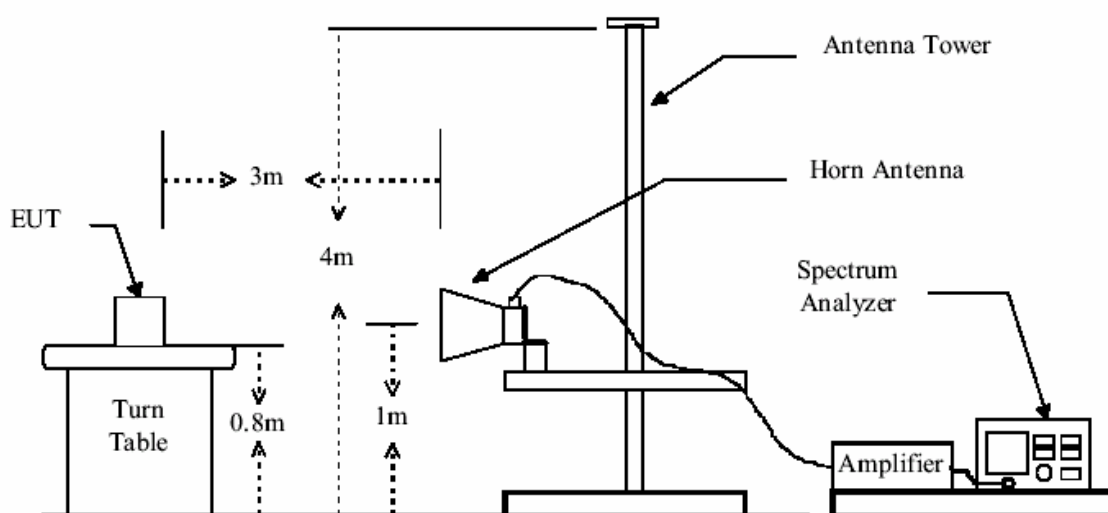
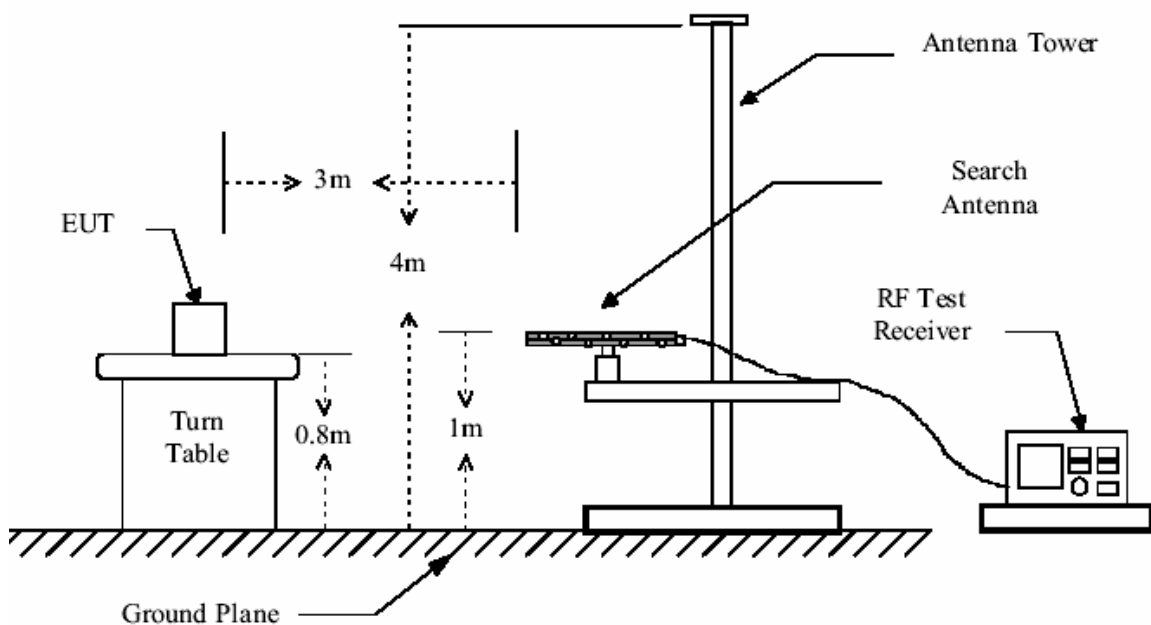
1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from t
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
- 7 The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.he receiving antenna, which is varied from 1m to 4m to find out

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the highest emissions.

Test setup:



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1. Fundamental Field strength

On communicating mode:

Test Frequency (MHz)	Measuring Level (dBuV/m) RBW= VBW=1MHz	Limits (dBuV/m)	Margin (dB)	Detector
912	88.54	94	5.46	QP

1. Radiated emission

On communicating Mode (30MHz- 1000MHz)

Frequency (MHz)	Antenna Polarization	Emission level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
89.170	Vertical	30.09	43.50	13.41	QP
116.330	Vertical	26.96	43.50	16.54	QP
201.690	Vertical	22.41	43.50	21.09	QP
902.00	Vertical	28.09	46.00	17.91	QP
918.90	Vertical	35.41	46.00	10.59	QP
928.00	Vertical	30.14	46.00	15.86	QP
164.830	Horizontal	27.14	43.50	16.36	QP
258.920	Horizontal	27.40	46.00	18.60	QP
340.400	Horizontal	20.20	46.00	25.80	QP
902.00	Horizontal	30.43	46.00	15.57	QP
907.40	Horizontal	37.85	46.00	8.15	QP
928.00	Horizontal	29.47	46.00	16.53	QP

Above 1000MHz

Frequency (MHz)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Detector
1837.000	35.88	74.00	18.12	PK
1837.000	31.46	54.00	22.54	AV
2746.000	38.12	74.00	15.88	PK
2746.000	32.75	54.00	21.25	AV
3646.000	39.21	74.00	14.79	PK
3646.000	35.18	54.00	18.82	AV
4573.000	39.19	74.00	14.81	PK
4573.000	34.56	54.00	19.44	AV

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N/A: refer to remark 1).

Remark:

- 1). For this intentional radiator operates below 10 GHz, the spectrum shall be investigated to the tenth harmonic of the highest fundamental frequency. And above the fifth harmonic of this intentional radiator, the disturbance is very low. So the test result only displays to 4th harmonic.
- 2). According to 15.249 (e) As shown in Section 15.35(b), for frequencies above 1000 MHz, the above field strength limits are based on average limits. However, 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.

TEST RESULTS: The unit does meet the FCC requirements.

5.3.2 20dB Occupied Bandwidth

Test Requirement:	FCC Part 15 C
Test Method:	Based on FCC Part15 C Section 15.215 Operation within the band 902-928MHz
Test Date:	23 June 2008
Requirements:	the 20 dB bandwidth of the emission that intentional radiators operating must be specified in the specific rule section under which the equipment operates
Method of measurement:	A small sample of the transmitter output was fed into the Spectrum Analyzer and the attached plot was taken. The vertical is set to 10dB per division. The horizontal scale is set to 100KHz per division.

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