MCDL-376B-02

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Test Report

Report No.: MCDL-2026-772-H

Name of EUT:	Compact Weather Station
Client:	Handan Yunnong Intelligent Agricultural Technology Co., Ltd
Test Type:	Entrust Test
Issue Date:	2026.08.18

Measurement Control Device & System Lab
Instrumentation Technology & Economy Institute, P.R.China
Test Centre of Mechanical Industry Measure and Control Devices & Network Quality

Announce

1. This test report is valid only for the corresponding EUT provided by the client.

2. The test data and result in this test report only prove the conformance of test items of EUT.

3. The name, model, source and other information of EUT in this test report are all provided by the client. The test organization is not responsible for the authenticity.

4. This test report is subject to the paper document. This test report is only valid with signatures of writer, auditor, approver, the special seal of test and the official seal of test organization. The multipage test report should have seal on the perforation.

5. Partly copy of this test report or the copy of this test report without offical seal is invalid.

6. This test report is invalid if altered.

7. In case of dissidence to this report, please summit written application to the test organization within 15 days since this test report was received. The application will not be accepted if overdue or EUT was taken away.

8. Since all the test items of this test report have finished, the test organization would just reserve EUT 60 days (except liquor or easy-deteriorating EUT). The overdue dispose will be without prior notice.

9. If the functional test data or result of EUT in this test report is provided by the client, the test organization is not responsible for the authenticity.

Name: ITEI Measurement Control Device & System Lab (MCDL) /
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TEST REPORT

Mesasurement Control Device & System Lab of Instrumentation Technology & Economy Institute, P.R.China Test Centre of Mechanical Industry Measure and Control Devices & Network Quality

EUT Name	Compact Weather Station	Model Name	XF80X		Trade mark	—
Client name	Handan Yunnong Intelligent Agricultural Technology Co., Ltd	Company Address	4th Floor, Block A, Building 13, No. 19 Harmony Street, Economic Development Zone, Handan City, Hebei Province			
Test Type	Entrust Test	Sample mode	Deliver	Arrival date of sample	2026.07.21	
Test Location	397A, Guanganmenwai St., Xicheng District, Beijing, 100055, P.R.CHINA	Number of EUT	one piece	Deliverer	Sun Xu	
EUT Code/Serial Number	26-689					
Applied Standard	IEC 61000-4-2:2008《Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test》 IEC 61000-4-3:2020《Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test》 IEC 61000-4-4:2012《Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test》 IEC 61000-4-5:2014《Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test》 IEC 61000-4-8:2001《Electromagnetic compatibility(EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test》 IEC 61000-4-9:2001《Electromagnetic compatibility (EMC) - Part 4-9: Testing and measurement techniques - Impulse magnetic field immunity test》						
Test Date	2026.07.22~2026.08.13	Test Condition	Temperature ℃	25.1	Humidity %RH	42.6

Test Results	Measurement Control Device & System Lab of Instrumentation Technology & Economy Institute, P.R.China / Test Centre of Mechanical Industry Measure and Control Devices & Network Quality entrusted by Handan Yunnong Intelligent Agricultural Technology Co., Ltd performed 6 immunity tests separately for one piece of Compact Weather Station with model name XF80X according to standards listed in "Applied Standard". The immunity tests include: Electrostatic discharge immunity, Radiated, radio-frequency, electromagnetic field immunity, Electrical fast transient/burst immunity, Surge immunity, Power frequency magnetic field immunity, Pulse magnetic field immunity. Test results show that the EUT can conform the CLASS A immunity requirement specified by Electrostatic discharge immunity, Radiated, radio-frequency, electromagnetic field immunity, Electrical fast transient/burst immunity, Surge immunity, Power frequency magnetic field immunity, Pulse magnetic field immunity.

The test has been done by Liu Kechong Date: 2026.08.14	(Stamp)
This test report is audited by Shi Weiwei Date: 2026.08.17	
This test report is issued under the authority of: Date: 2026.08.17	

Additional Explanation	NONE
Note	NONE

Description of EUT

1. Description of EUT

Installation Mode: Fixed installation Grounding Mode: —

General illusmation of EUT: Compact Weather Station

Power Supply: DC Voltage: 12V

Frequency: — Current: —

Power Line: two line I/O: —

Signal Line: 485 cable

2. Operation Status and Configuration of EUT

During the immunity tests, notebook computer connected to the EUT, by observing whether the data refreshing through the monitoring software on notebook computer to determine whether the EUT is working properly.

3. Description of assistant equipment

Assistant Equipment Name: notebook computer Model Name: —

Manufacture: — Connection Mode: cable

Operation Status: continuously work

4.Performance criteria

Criterion A: The apparatus shall continue to operate as intend during and after the test.
Criterion B: The apparatus shall continue to operate as intend after the test.
Criterion C: Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls.

5. External connection cable list

Cable name	Length (m)	type	Connecting devices
power cable	1	unshielded	external power to EUT
485 cable	3	unshielded	notebook computer to EUT

Test configuration picture



Figure 1 Electrostatic discharge immunity test

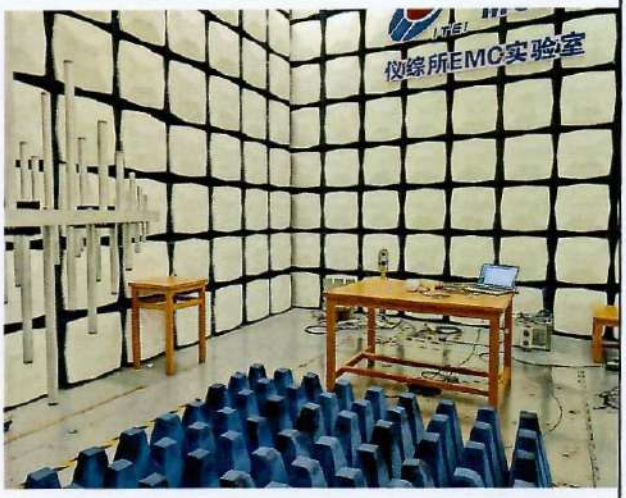


Figure 2 Radiated, radio-frequency, electromagnetic field immunity test

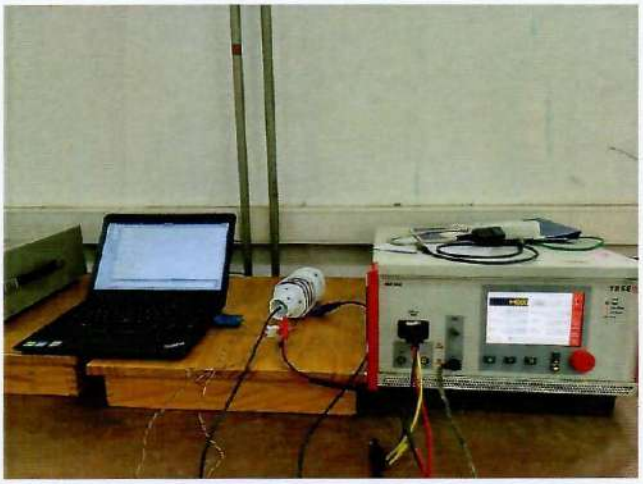


Figure 3 Electrical fast transient/burst immunity test

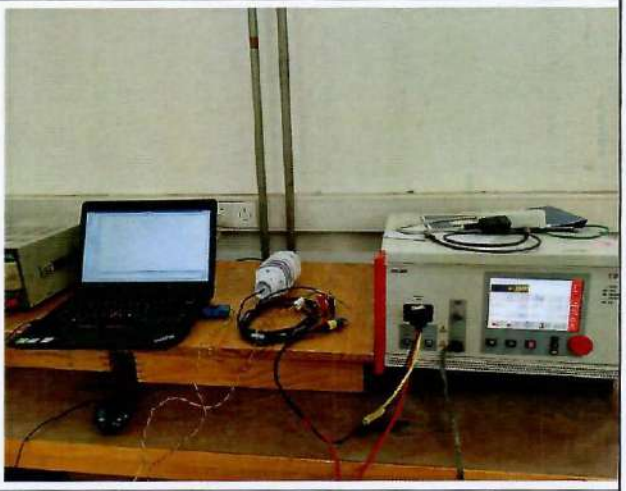


Figure 4 Surge immunity test



Figure 5 Power frequency magnetic field immunity test



Figure 6 Pulse magnetic field immunity test



Figure 7 EUT picture

Table 1 Test Device List

No.	Name	Model Name	Device Code	Valid Date of Calibration to
1、	Electrostatic Discharge Simulator	NSG 438	MCDL-06-13-A	2027.03.09
2、	Signal Generator	SMB100A	MCDL-06-70-A	2028.03.11
3、	Power Meter	NRP6A	MCDL-06-71-A	2027.09.21
4、	Power Amplifier	S61-200	MCDL-06-72-A	2027.02.27
5、	Power Amplifier	CBA1G-1200B	MCDL-06-73-A	2027.02.27
6、	Surge Tester	NSG3040	MCDL-06-57-A	2026.09.23
7、	Program-controlled power	NSG1007	MCDL-06-51-A	2027.02.27
8、	Magnetic Field Coil	INA 2171	MCDL-06-16-A	2027.02.27
9、	3 meters semi-anechoic chamber	SAC-3m	MCDL-06-63-A	2027.04.14
10、	Tonscend software	TS+ V4.0	MCDL-S0609	—

Table 2 List of test support equipment

No.	Name	Model Name	Device Code	Valid Date of Calibration to
11、	470KΩ Resistor	—	—	—
12、	HCP	—	—	—
13、	VCP	—	—	—
14、	turntable	—	—	—
15、	Grounding Reference Board	—	—	—

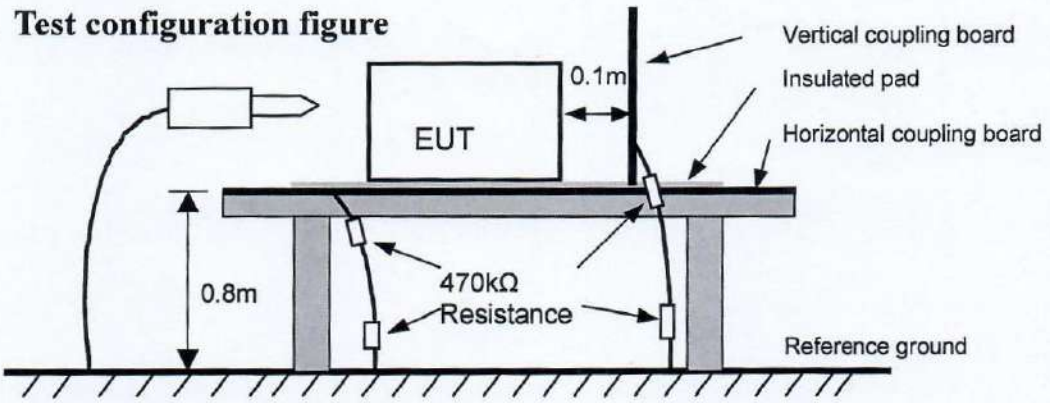
1 Electrostatic discharge immunity test

1.1 Equipments used for the test

Electrostatic Discharge Simulator NSG 438.

1.2 Test configuration

1.2.1 Test configuration figure



1.2.2 Test configuration picture

See Figure 1 of page 4.

1.3 Environment condition

Temperature: 25.1℃ Humidity: 42.6%RH

1.4 Test results

Table 3 Test data of Electrostatic discharge immunity

ESD Position	Test Method	Test Level(kV)	Times	Criterion type	Results
Screw	CD	±8	10 per Pol.	A	P
GAP	AD	±15	10 per Pol.	A	P
HCP	IH	±8	10 per Pol.	A	P
VCP	IV	±8	10 per Pol.	A	P

Note 1: Method: AD-Air discharge, CD-Contact discharge, IH-Indirect discharge(HCP), IV-Indirect discharge(VCP);
Note 2: P-PASS, F-FAIL;

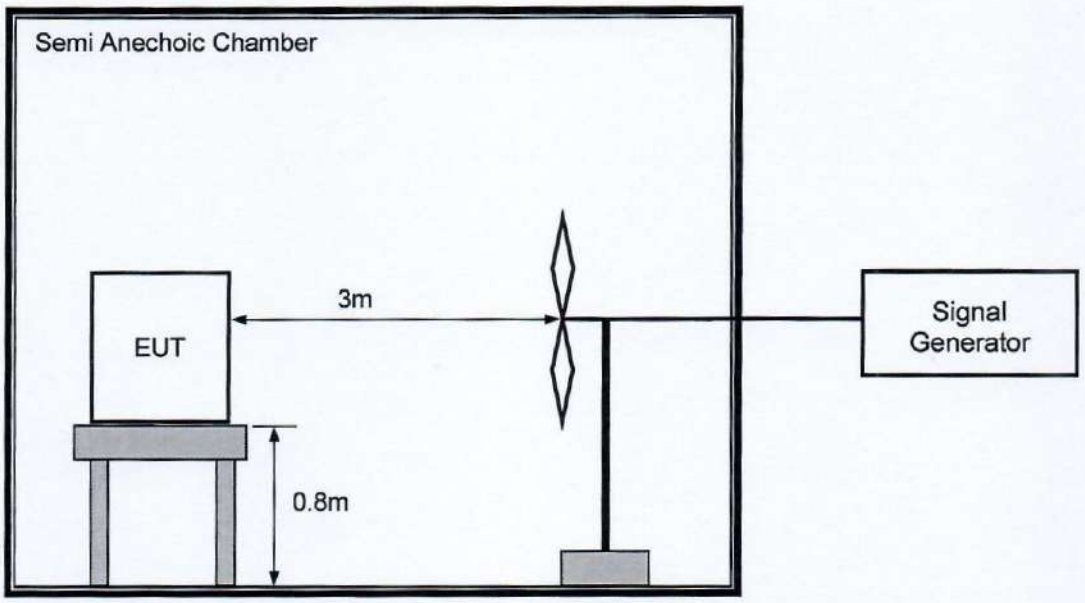
2 Radiated, radio-frequency, electromagnetic field immunity test

2.1 Equipments used for the test

Signal Generator SMB100A、Power Meter NRP6A、Power Amplifier S61-200、Power Amplifier CBA1G-1200B、antenna STLP 9128ES、antenna STLP 9149 、3 meters semi-anechoic chamber SAC-3m.

2.2 Test configuration

2.2.1 Test configuration figure



2.2.2 Test configuration picture

See Figure 2 of page 4.

2.3 Environment condition

Temperature: 25.1℃ Humidity: 42.6%RH

2.4 Test results

Table 4 Test data of Radiated, radio-frequency, electromagnetic field immunity

Positon of EUT	direction of polarization	Test level(V/m)	Frequency range(MHz)	Criterion type	Results
F	H	10	80～3000	A	P
F	V	10	80～3000	A	P
B	H	10	80～3000	A	P
B	V	10	80～3000	A	P
L	H	10	80～3000	A	P
L	V	10	80～3000	A	P
R	H	10	80～3000	A	P
R	V	10	80～3000	A	P

Note 1: Positon of EUT : F、B、L、R refer to Front side, Back side, Left side, Right side, H、V refer to horizontal polarization,vertical polarization;
Note 2: P-Pass, F-Failure.

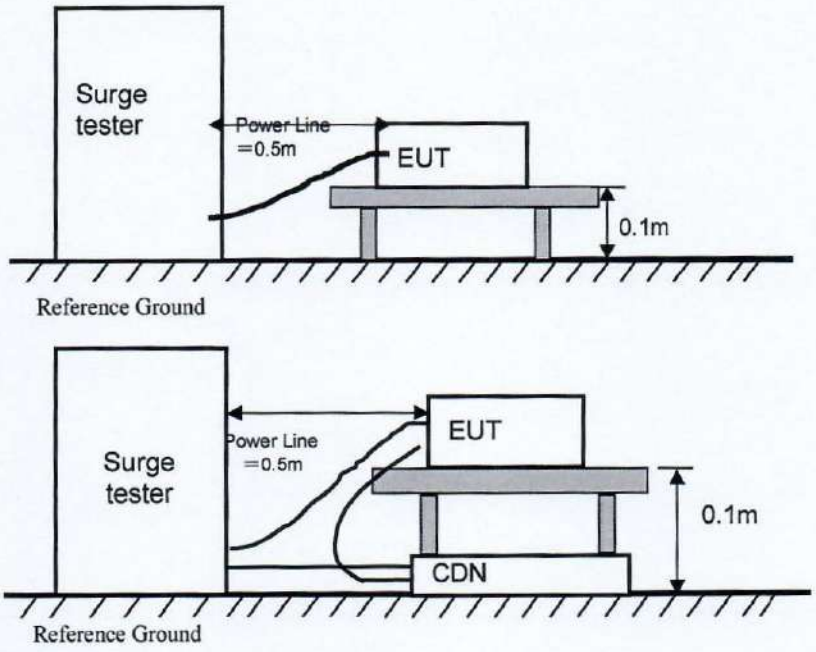
3 Electrical fast transient/burst immunity

3.1 Equipments used for the test

Surge tester NSG 3040,EFT CDN 3425

3.2 Test configuration

3.2.1 Test configuration Figure



3.2.2 Test configuration picture

See Figure 3 of page 4.

3.3 Environment Condition

Temperature: 25.1℃ Humidity: 42.6%RH

3.4 Test results

Table 5 Test data of Electrical fast transient/burst immunity

Test position	Test level(kV)	Repetition frequency (kHz)	Duration of Test (s)	Criterion type	Results
L	±4	5, 100	60 per Pol.	A	P
N	±4	5, 100	60 per Pol.	A	P
SL(485 cable)	±2	5, 100	60 per Pol.	A	P
Note 1: Test position: L(L1/L2/L3)-Positive polarity of power supply, N-Negative polarity of power supply, PE-ground, SL-Signal line; Note 2: P-PASS, F-FAIL.					

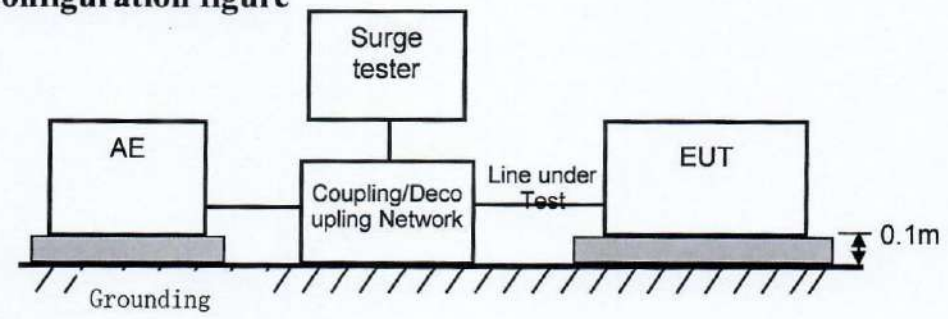
4 Surge immunity test

4.1 Equipments used for the test

Surge tester NSG 3040.

4.2 Test configuration

4.2.1 Test configuration figure



4.2.2 Test configuration picture

See Figure 4 of page 4.

4.3 Environment condition

Temperature: 25.1℃ Humidity: 42.6%RH

4.4 Test results

Table 6 Test data of surge immunity

Test position	Phase	Test level(kV)	Duration of Test (s)	Times	Criterion type	Results
L,N	—	±2	600	5 per Pol.	A	P

Note 1: Test position: L(L1/L2/L3)-Positive polarity of power supply, N-Negative polarity of power supply, PE-ground, SL-Signal line;
Note 2: P-PASS, F-FAIL;

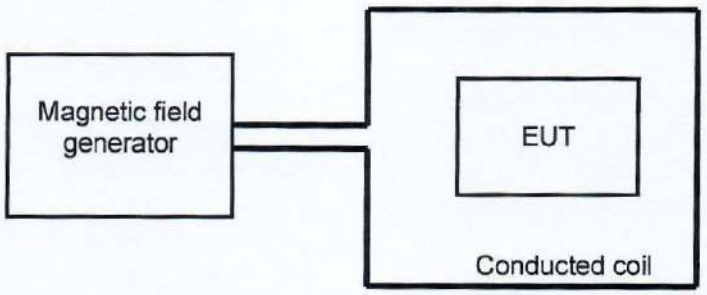
5 Power frequency magnetic field immunity test

5.1 Equipments used by the test

Magnetic coil INA 2171, Program-controlled power NSG 1007.

5.2 Test configuration

5.2.1 Test configuration figure



5.2.2 Test configuration picture

See Figure 5 of page 4.

5.3 Test condition

Temperature: 25.1℃ Humidity: 42.6%RH

5.4 Test results

Table 7 Test data of power frequency magnetic field immunity

Test position	Test level (A/m)	Duration of test (s)	Criterion type	Results
X	100	30	A	P
Y	100	30	A	P
Z	100	30	A	P
X	1000	3	A	P
Y	1000	3	A	P
Z	1000	3	A	P

Note 1: Test position: X, Y, Z axial direction;
Note 2: P-PASS, F-FAIL.

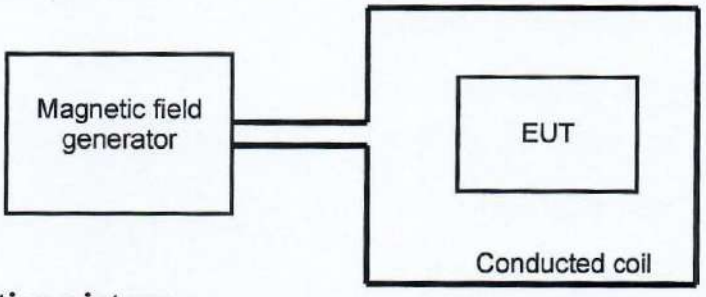
6 Pulse magnetic field immunity test

6.1 Equipments used by the test

Surge tester NSG 3040,Pulse Magnetic Coil INA701.

6.2 Test configuration

6.2.1 Test configuration figure



6.2.2 Test configuration picture

See Figure 6 of page 4.

6.3 Test condition

Temperature: 25.1℃ Humidity: 42.6%RH

6.4 Test results

Table 8Test data of pulse magnetic field immunity

Test position	Test level (A/m)	Waveform(μ s)	Times	Criterion type	Results
X	±1000	6.4/16	5 per Pol.	A	P
Y	±1000	6.4/16	5 per Pol.	A	P
Z	±1000	6.4/16	5 per Pol.	A	P
Note 1: Test position: X, Y, Z axial direction; Note 2: P-PASS, F-FAIL.					

7 Test conclusion

Table 9 Test conclusion

No.	Test items	Test results ("P" — Pass, "F" —Failure)
1.	Electrostatic discharge immunity test	P
2.	Radiated, radio-frequency, electromagnetic field immunity test	P
3.	Electrical fast transient/burst immunity test	P
4.	Surge immunity test	P
5.	Power frequency magnetic field test	P
6.	Pulse magnetic field immunity test	P

Conclusion:

Test results show that the EUT can conform the immunity CLASS A requirement specified by IEC 61000-4-2:2008《Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test》、IEC 61000-4-3:2020《Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test》、IEC 61000-4-4:2012《Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test》、IEC 61000-4-5:2014《Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test》、IEC 61000-4-8:2001《Electromagnetic compatibility(EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test》、IEC 61000-4-9:2001《Electromagnetic compatibility (EMC) - Part 4-9: Testing and measurement techniques - Impulse magnetic field immunity test》.

Announce

This report is valid only for corresponding EUT

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