Report No.: LCS190408064AE

|   | EMC TEST REPORT<br>For  |
|---|---|
|   | Mid Ocean Brands B.V.   |
| N   | weather station with photo frame  |
|   | Test Model: MO9695-40   |
|   |   |
| Prepared for<br>Address   | <ul> <li>Mid Ocean Brands B.V.</li> <li>7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan,<br/>Kowloon, Hong Kong</li> </ul>   |
| Prepared by<br>Address<br>Tel<br>Fax<br>Web<br>Mail   | <ul> <li>Shenzhen LCS Compliance Testing Laboratory Ltd.</li> <li>101, 601, Xingyuan Industrial Park, Gushu Community, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China</li> <li>(+86)755-82591330</li> <li>(+86)755-82591332</li> <li>www.LCS-cert.com</li> <li>webmaster@LCS-cert.com</li> </ul> |
| Date of receipt of test sample<br>Number of tested samples<br>Serial number<br>Date of Test<br>Date of Report | <ul> <li>April 10, 2019</li> <li>1</li> <li>Prototype</li> <li>April 10, 2019 ~ April 12, 2019</li> <li>April 17, 2019</li> </ul>   |

CE

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Report No.: LCS190408064AE

|   | EMC TEST REPORT  |   |  |  |  |  |
|---|--|---|--|--|--|--|
| I   | EN 61000-6-3: 2007+A1: 2011  |   |  |  |  |  |
| Emission standard for res   | Emission standard for residential, commercial and light-industrial environments  |   |  |  |  |  |
|   | EN 61000-6-1: 2007   |   |  |  |  |  |
| Immunity for residen  | tial, commercial and light-industrial  | environments  |  |  |  |  |
| Report Reference No:  | LCS190408064AE   |   |  |  |  |  |
| Date Of Issue:  | April 17, 2019   |   |  |  |  |  |
| Testing Laboratory Name:  | Shenzhen LCS Compliance Testi  | ng Laboratory Ltd.  |  |  |  |  |
| Address:<br>Testing Location/ Procedure:  | 101, 601, Xingyuan Industrial Park<br>Xixiang Street, Bao'an District, She<br>Full application of Harmonised star<br>Partial application of Harmonised s   | enzhen, Guangdong, China<br>ndards  |  |  |  |  |
|   | Other standard testing method $\Box$   |   |  |  |  |  |
| Applicant's Name:   | Mid Ocean Brands B.V.  |   |  |  |  |  |
| Address:  | 7/F., Kings Tower, 111 King Lam S<br>Kowloon, Hong Kong  | treet, Cheung Sha Wan,  |  |  |  |  |
| Test Specification:   |  |   |  |  |  |  |
| Standard:   | EN 61000-6-3: 2007+A1: 2011<br>EN 61000-6-1: 2007  |   |  |  |  |  |
| Test Report Form No:  | LCSEMC-1.0   |   |  |  |  |  |
| TRF Originator:   | Shenzhen LCS Compliance Testing Laboratory Ltd.  |   |  |  |  |  |
| Master TRF:   | : Dated 2011-03  |   |  |  |  |  |
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| Test Item Description:  | weather station with photo frame   |   |  |  |  |  |
| Trade Mark:   | N/A  |   |  |  |  |  |
| Test Model:   | MO9695-40  |   |  |  |  |  |
| Ratings:  | : DC 3V, 8-11uA  |   |  |  |  |  |
| Result:   | Positive   |   |  |  |  |  |
| Compiled by:  | Supervised by:   | Approved by:  |  |  |  |  |
| Skylly Shen   | Jeo Jee  | Aning Canon   |  |  |  |  |
| Skylly Shen/ File Administrators  | Leo Lee/ Technique principal   | Gavin Liang/ Manager  |  |  |  |  |
|   |  |   |  |  |  |  |

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Report No.: LCS190408064AE

# **EMC -- TEST REPORT**

# Test Report No. : LCS190408064AE

April 17, 2019 Date of issue

| Test Model   | : MO9695-40   |
|--------------|---|
| EUT          | : weather station with photo frame  |
| Applicant    |   |
| Address      | : 7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan,<br>Kowloon, Hong Kong |
| Telephone    | :/  |
| Fax          |   |
|              |   |
| Manufacturer | : 114628  |
| Address      | :/  |
| Telephone    | :/  |
| Fax          | :/  |
|              |   |
| Factory      | : 114628  |
| Address      |   |
| Telephone    |   |
| Fax          | :/  |
|              |   |

Test Result according to the standards on page 7: Positive

The test report merely corresponds to the test sample.

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#### SHENZHEN LCS COMPLIANCE TESTING LABORATORY LTD.

# **Revision History**

| Revision | Issue Date     | Revisions     | Revised By  |
|----------|----------------|---------------|-------------|
| 000      | April 17, 2019 | Initial Issue | Gavin Liang |
|          |                |               |             |
|          |                |               |             |

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# **1. SUMMARY OF STANDARDS AND RESULTS**

# 1.1.Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

| EMISS  | ION | I (EN 61000-6-3: 2007+A1: 2011) |                        |           |
|--|-----|---------------------------------|------------------------|-----------|
| Description of Test Item                             |     | Standard                        | Limits                 | Results   |
| Conducted disturbance<br>at mains terminals          |     | EN 55032: 2015                  | Class B                | N/A       |
| Conducted disturbance at<br>telecommunication port   |     | EN 55032: 2015                  | Class B                | N/A       |
| Radiated disturbance                                 |     | EN 55032: 2015                  | Class B                | PASS      |
| Harmonic current emissions                           |     | EN 61000-3-2: 2014              | Class A                | N/A       |
| Voltage fluctuations & flicker                       |     | EN 61000-3-3: 2013              |                        | N/A       |
| IN   | IΜL | JNITY (EN 61000-6-1: 2007)      |                        |           |
| Description of Test Item                             |     | Basic Standard                  | Performanc<br>Criteria | e Results |
| Electrostatic discharge (ESD)                        |     | EN 61000-4-2: 2009              | В                      | PASS      |
| Radio-frequency,<br>Continuous radiated disturbance  | e   | EN 61000-4-3: 2006+A2: 2010     | А                      | PASS      |
| Electrical fast transient (EFT)                      |     | EN 61000-4-4: 2012              | В                      | N/A       |
| Surge (Input a.c. power ports)                       |     | EN 61000-4-5: 2014+A1: 2017     | В                      | N/A       |
| Surge (Telecommunication ports)                      |     | EN 61000-4-5. 2014+A1. 2017     | В                      | N/A       |
| Radio-frequency,<br>Continuous conducted disturbance |     | EN 61000-4-6: 2014              | А                      | N/A       |
| Power frequency magnetic field                       |     | EN 61000-4-8: 2010              | А                      | PASS      |
| Voltage dips, >95% reduction                         |     |                                 | В                      | N/A       |
| Voltage dips, 30% reduction                          |     |                                 | _                      |           |
| Voltage dips, 30% reduction                          |     | EN 61000-4-11: 2004+A1: 2017    | В                      | N/A       |

N/A is an abbreviation for Not Applicable.

| Test mode: |         |        |  |
|------------|---------|--------|--|
| Mode 1     | Working | Record |  |

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# 1.2. Description of Performance Criteria

#### **General Performance Criteria**

Examples of functions defined by the manufacturer to be evaluated during testing include, but are not limited to, the following:

- essential operational modes and states;
- tests of all peripheral access (hard disks, floppy disks, printers, keyboard, mouse, etc.);
- quality of software execution;
- quality of data display and transmission;
- quality of speech transmission.

#### 1.2.1.Performance criterion A

The equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a performance level specified by the manufacture when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be deriver from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

#### 1.2.2.Performance criterion B

After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacture, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance.

During the test, degradation of performance is allowed. However, no change of operation state or stored data is allowed to persist after the test.

If the minimum performance level (or the permissible performance loss) is not specified by the manufacturer, then either of these may be deriver from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

# 1.2.3.Performance criterion C

Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacture's instructions.

Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be loss.

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# 2. GENERAL INFORMATION

2.1.Description of Device (EUT) EUT : weather station with photo frame

| Trade Mark          | : N/A           |
|---------------------|-----------------|
| Test Model          | : MO9695-40     |
| Power Supply        | : DC 3V, 8-11uA |
| EUT Clock Frequency | : ≤ 108MHz      |

# 2.2.Description of Test Facility

| Site Description |   |
|------------------|---|
| EMC Lab.         | : FCC Registration Number is 254912.            |
|                  | Industry Canada Registration Number is 9642A-1. |
|                  | ESMD Registration Number is ARCB0108.           |
|                  | UL Registration Number is 100571-492.           |
|                  | TUV SUD Registration Number is SCN1081.         |
|                  | TUV RH Registration Number is UA 50296516-001.  |
|                  | NVLAP Registration Code is 600167-0.            |
|                  |   |

# 2.3.Statement of the Measurement UnCertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

| Test Item   | Frequency Range   | Expanded<br>uncertainty (Ulab) | Expanded<br>uncertainty<br>(Ucispr) |
|---|---|--------------------------------|-------------------------------------|
| Conducted Emission                                    | Level accuracy<br>(9kHz to 150kHz)<br>(150kHz to 30MHz) | ± 2.63 dB<br>± 2.35 dB         | ± 3.8 dB<br>± 3.4 dB                |
| Power Disturbance                                     | Level accuracy<br>(30MHz to 300MHz)                     | ± 2.90dB                       | ± 4.5 dB                            |
| Electromagnetic<br>Radiated Emission<br>(3-loop)      | Level accuracy<br>(9kHz to 30MHz)                       | ± 3.60 dB                      | ± 3.3 dB                            |
| Radiated Emission                                     | Level accuracy<br>(9kHz to 30MHz)                       | ± 3.68 dB                      | N/A                                 |
| Radiated EmissionLevel accuracy<br>(30MHz to 1000MHz) |   | ± 3.48 dB                      | ± 5.3 dB                            |
| Radiated Emission                                     | Level accuracy<br>(above 1000MHz)                       | ± 3.90 dB                      | ± 5.2 dB                            |
| Mains Harmonic  | Voltage   | $\pm 0.510\%$                  | N/A                                 |
| Voltage Fluctuations<br>& Flicker                     | Voltage   | ± 0.510%                       | N/A                                 |
| EMF   |   | ± 21.59%                       | N/A                                 |

# 2.4. Measurement Uncertainty

(1) Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus.

(2) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

# **3. MEASURING DEVICE AND TEST EQUIPMENT**

# 3.1.Radiated Disturbance (Electric Field)

| Item | Test Equipment           | Manufacturer   | Model No.       | Serial No.  | Last Cal.  |
|------|--------------------------|----------------|-----------------|-------------|------------|
| 1    | EMI Test Software        | AUDIX          | E3              | /           | 2018-06-16 |
| 2    | 3m Semi Anechoic Chamber | SIDT FRANKONIA | SAC-3M          | 03CH03-HY   | 2018-06-16 |
| 3    | Positioning Controller   | MF             | MF-7082         | /           | 2018-06-16 |
| 4    | By-log Antenna           | SCHWARZBECK    | VULB9163        | 9163-470    | 2018-07-26 |
| 5    | Horn Antenna             | SCHWARZBECK    | BBHA 9120D      | 9120D-1925  | 2018-07-02 |
| 6    | EMI Test Receiver        | R&S            | ESR 7           | 101181      | 2018-06-16 |
| 7    | RS SPECTRUM ANALYZER     | R&S            | FSP40           | 100503      | 2018-11-15 |
| 8    | AMPLIFIER                | QuieTek        | QTK             | CHM/0809065 | 2018-11-15 |
| 9    | RF Cable-R03m            | Jye Bao        | RG142           | CB021       | 2018-06-16 |
| 10   | RF Cable-HIGH            | SUHNER         | SUCOFLEX<br>106 | 03CH03-HY   | 2018-06-16 |

# 3.2.Electrostatic Discharge

| Item | Test Equipment | Manufacturer | Model No. | Serial No. | Last Cal.  |
|------|----------------|--------------|-----------|------------|------------|
| 1    | ESD Simulator  | SCHLODER     | SESD 230  | 604035     | 2018-07-02 |

# 3.3.RF Field Strength Susceptibility

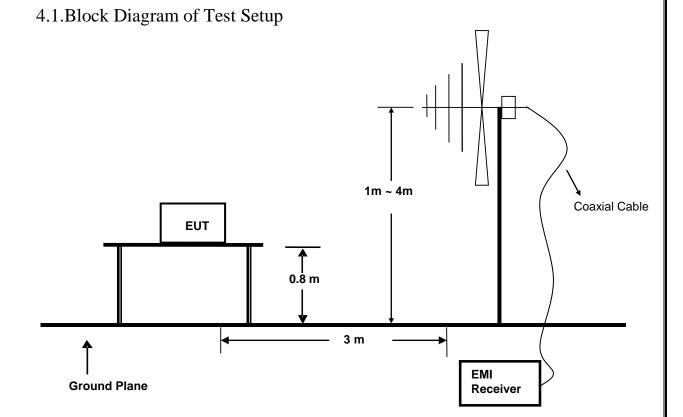
| Item  | Test Equipment                             | Manufacturer                                | Model No. | Serial No. | Last Cal.  |  |
|-------|--|---|-----------|------------|------------|--|
| 1     | RS Test Software                           | Tonscend                                    | /         | /          | 2018-06-16 |  |
| 2     | ESG Vector Signal Generator                | Agilent                                     | E4438C    | MY42081396 | 2018-11-15 |  |
| 3     | 3m Semi Anechoic Chamber                   | SIDT FRANKONIA                              | SAC-3M    | 03CH03-HY  | 2018-06-16 |  |
| 4     | RF POWER AMPLIFIER                         | OPHIR                                       | 5225R     | 1052       | NCR        |  |
| 5     | RF POWER AMPLIFIER                         | OPHIR                                       | 5273F     | 1019       | NCR        |  |
| 6     | Stacked Broadband Log Periodic<br>Antenna  | SCHWARZBECK                                 | STLP 9128 | 9128ES-145 | NCR        |  |
| 7     | Stacked Mikrowellen LogPer<br>Antenna      | ogPer SCHWARZBECK STLP 9149 9149-484        |           | NCR        |            |  |
| 8     | Electric field probe                       | Narda S.TS./PMM EP601 611WX80208 2019-03-25 |           |            |            |  |
| Note: | Note: NCR means no calibration requirement |   |           |            |            |  |

# 3.4. Power Frequency Magnetic Field Susceptibility

| Item | Test Equipment                             | Manufacturer | Model No.   | Serial No. | Last Cal.  |
|------|--|--------------|-------------|------------|------------|
| 1    | Power frequency mag-field generator System | EVERFINE     | EMS61000-8K | 906003     | 2018-06-16 |

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# 4. RADIATED EMISSION MEASUREMENT



4.2.Measuring Standard

EN 61000-6-3: 2007+A1: 2011(EN 55032: 2015)

# 4.3.Radiated Emission Limits

EN 55032 Limits:

All emanations from a class B device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

| FREQUENCY  | DISTANCE | FIELD STRENGTHS LIMIT |
|------------|----------|-----------------------|
| (MHz)      | (Meters) | (dBµV/m)              |
| 30 ~ 230   | 3        | 40                    |
| 230 ~ 1000 | 3        | 47                    |

Note: (1) The smaller limit shall apply at the combination point between two frequency bands.

(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT.

# 4.4.EUT Configuration on Test

The EN 55032 regulations test method must be used to find the maximum emission during radiated emission measurement.

# 4.5.Operating Condition of EUT

4.5.1 Turn on the power.

4.5.2 After that, let the EUT work in test mode (1) and measure it.

# 4.6.Test Procedure

The EUT is placed on a turntable, which is 0.8 meter high above the ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. By-log antenna is used as a receiving antenna. Both horizontal and vertical polarization of the antenna is set on test.

The bandwidth of the Receiver is set at 120kHz.

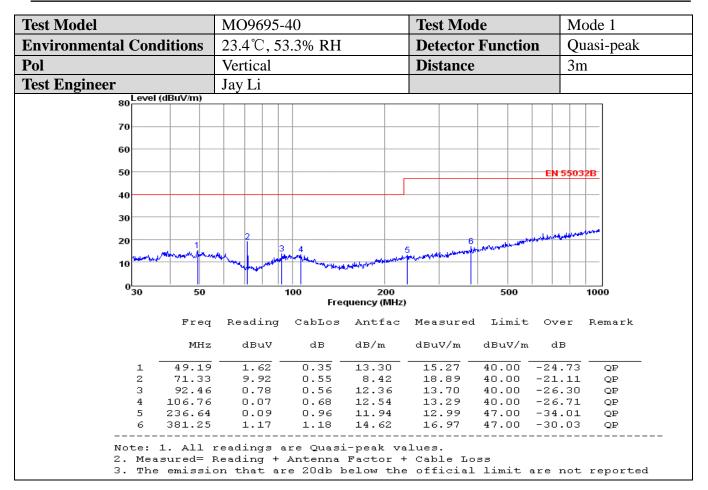
The frequency range from 30MHz to 1000MHz is investigated.

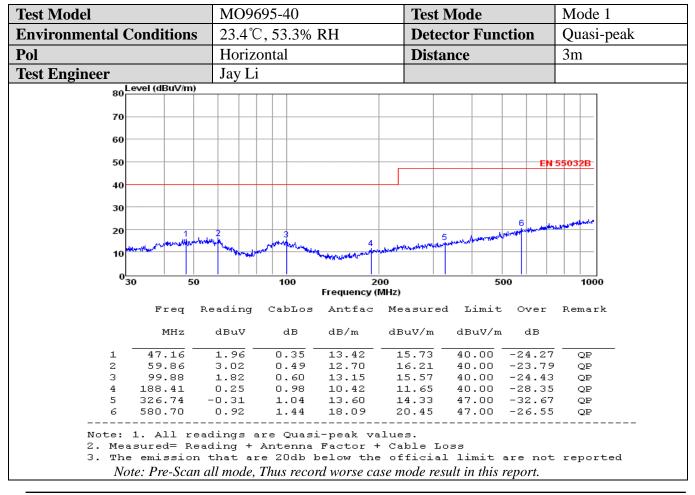
# 4.7.Test Results

# PASS.

The test result please refer to the next page.

Report No.: LCS190408064AE

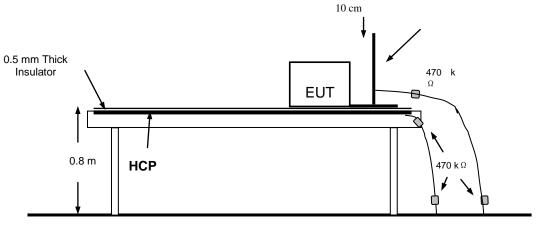




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# 5. ELECTROSTATIC DISCHARGE IMMUNITY TEST

# 5.1.Block Diagram of Test Setup



Ground

5.2.Test Standard

EN 61000-6-1: 2007 (EN 61000-4-2: 2009, Severity Level: 3 / Air Discharge: ±8KV, Level: 2 / Contact Discharge: ±4KV)

# 5.3. Severity Levels and Performance Criterion

| 5.       | 3.1 | l.Sev | veritv | level |
|----------|-----|-------|--------|-------|
| <i>.</i> |     |       | orreg  | 10,01 |

| Level | Test Voltage<br>Contact Discharge (KV) | Test Voltage<br>Air Discharge (KV) |
|-------|--|------------------------------------|
| 1.    | ±2                                     | ±2                                 |
| 2.    | $\pm 4$                                | $\pm 4$                            |
| 3.    | $\pm 6$                                | $\pm 8$                            |
| 4.    | $\pm 8$                                | ±15                                |
| X     | Special                                | Special                            |

5.3.2.Performance Criterion: **B** 

# 5.4.EUT Configuration on Test

The configuration of EUT is listed in Section 2.1.

# 5.5.Operating Condition of EUT

Same as conducted emission measurement, which is listed in Section 4.5. Except the test set up replaced by Section 5.1.

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# 5.6.Test Procedure

#### 5.6.1.Air Discharge

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed.

#### 5.6.2.Contact Discharge

All the procedure shall be same as Section 5.6.1. Except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

#### 5.6.3.Indirect Discharge For Horizontal Coupling Plane

At least 10 single discharges (in the most sensitive polarity) shall be applied at the front edge of each HCP opposite the center point of each unit (if applicable) of the EUT and 0.1m from the front of the EUT. The long axis of the discharge electrode shall be in the plane of the HCP and perpendicular to its front edge during the discharge.

#### 5.6.4. Indirect Discharge For Vertical Coupling Plane

At least 10 single discharge (in the most sensitive polarity) shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

# **5.7.Test Results**

PASS.

Please refer to the following pages

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SHE

| ENZHEN LCS COMPLIANCE TESTING LABORATORY LTD. |  |
|---|--|
| LIVENELUS COMI EMICE TESTINO ENDORMORI EID.   |  |

| Electrostatic Discharge Test Results |                                  |               |        |  |
|--------------------------------------|----------------------------------|---------------|--------|--|
| Standard                             | □ IEC 61000-4-2   ☑ EN 61000-4-2 |               |        |  |
| Applicant                            | Mid Ocean Brands B.V.            |               |        |  |
| EUT                                  | weather station with photo frame | Temperature   | 23.63℃ |  |
| M/N                                  | MO9695-40                        | Humidity      | 53.4%  |  |
| Criterion                            | B Pressure 1021mbar              |               |        |  |
| Test Mode                            | Mode 1                           | Test Engineer | Jay Li |  |

| Air Discharge |           |                    |             |           |         |   |  |
|---------------|-----------|--------------------|-------------|-----------|---------|---|--|
|               |           | <b>Test Levels</b> |             |           | Results |   |  |
| Test Points   | ± 2kV     | ± 4kV              | ± 8kV       | Passed    | Fail    | Performance<br>Criterion                |  |
| Front         | $\square$ | $\square$          | $\boxtimes$ | $\square$ |         | $\Box \mathbf{A}  \boxtimes \mathbf{B}$ |  |
| Back          | $\square$ | $\boxtimes$        | $\boxtimes$ | $\square$ |         | $\Box \mathbf{A}  \boxtimes \mathbf{B}$ |  |
| Left          | $\square$ | $\boxtimes$        | $\boxtimes$ | $\square$ |         | $\Box \mathbf{A}  \boxtimes \mathbf{B}$ |  |
| Right         | $\square$ | $\boxtimes$        | $\boxtimes$ | $\square$ |         | $\Box \mathbf{A}  \boxtimes \mathbf{B}$ |  |
| Тор           |           | $\boxtimes$        | $\square$   |           |         | $\Box \mathbf{A}  \boxtimes \mathbf{B}$ |  |
| Bottom        | $\square$ | $\square$          | $\square$   | $\square$ |         |   |  |

#### **Contact Discharge**

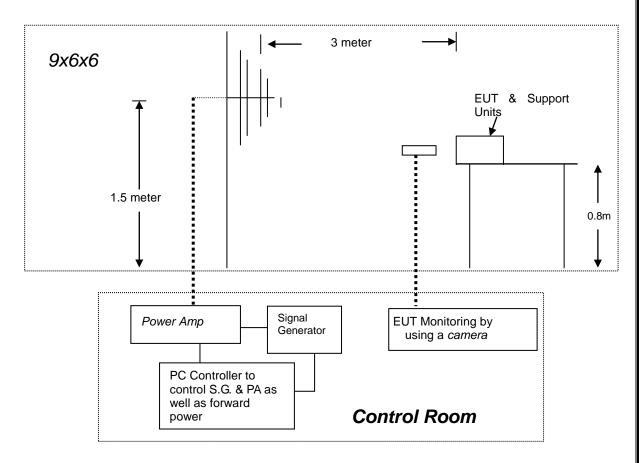
|             | Test Levels        |             | Results   |      |   |
|-------------|--------------------|-------------|-----------|------|---|
| Test Points | $\pm 2 \text{ kV}$ | ±4 kV       | Passed    | Fail | Performance<br>Criterion                |
| Front       | $\square$          | $\boxtimes$ | $\square$ |      | $\Box A \boxtimes B$                    |
| Back        | $\square$          | $\square$   | $\square$ |      | $\Box \mathbf{A}  \boxtimes \mathbf{B}$ |
| Left        | $\square$          | $\boxtimes$ | $\square$ |      | $\Box \mathbf{A}  \boxtimes \mathbf{B}$ |
| Right       | $\square$          | $\square$   | $\square$ |      | $\Box \mathbf{A}  \boxtimes \mathbf{B}$ |
| Тор         | $\square$          | $\square$   | $\square$ |      | $\Box \mathbf{A}  \boxtimes \mathbf{B}$ |
| Bottom      | $\square$          | $\square$   |           |      | $\Box \mathbf{A}  \boxtimes \mathbf{B}$ |

| Discharge To Horizontal Coupling Plane |             |             |             |      |   |
|--|-------------|-------------|-------------|------|---|
|  | Test Levels |             | Results     |      |   |
| Side of EUT                            | ± 2 kV      | ±4 kV       | Passed      | Fail | Performance                             |
|  |             | <u> </u>    | 1 asseu     | 1 an | Criterion                               |
| Front                                  | $\boxtimes$ | $\boxtimes$ | $\boxtimes$ |      | $\Box \mathbf{A}  \boxtimes \mathbf{B}$ |
| Back                                   | $\boxtimes$ | $\boxtimes$ | $\boxtimes$ |      | $\Box \mathbf{A}  \boxtimes \mathbf{B}$ |
| Left                                   | $\boxtimes$ | $\boxtimes$ | $\boxtimes$ |      | $\Box \mathbf{A}  \boxtimes \mathbf{B}$ |
| Right                                  | $\square$   | $\square$   | $\boxtimes$ |      | $\Box A \boxtimes B$                    |

| Discharge To Vertical Coupling Plane |           |             |             |      |   |
|--------------------------------------|-----------|-------------|-------------|------|---|
|                                      | Test I    | Levels      | Results     |      |   |
| Side of EUT                          | ± 2 kV    | ± 4 kV      | Passed      | Fail | Performance<br>Criterion                |
| Front                                | $\square$ | $\boxtimes$ | $\boxtimes$ |      | $\Box A \boxtimes B$                    |
| Back                                 | $\square$ | $\square$   | $\boxtimes$ |      | $\Box A \boxtimes B$                    |
| Left                                 | $\square$ | $\boxtimes$ | $\boxtimes$ |      | $\Box \mathbf{A}  \boxtimes \mathbf{B}$ |
| Right                                | $\square$ | $\square$   | $\boxtimes$ |      | $\Box \mathbf{A}  \boxtimes \mathbf{B}$ |

# 6. RF FIELD STRENGTH SUSCEPTIBILITY TEST

# 6.1.Block Diagram of Test



# 6.2.Test Standard

EN 61000-6-1: 2007 (EN 61000-4-3: 2006+A2: 2010)

# 6.3. Severity Levels and Performance Criterion

6.3.1.Severity Levels

| Level | Field Strength (V/m) |
|-------|----------------------|
| 1.    | 1                    |
| 2.    | 3                    |
| 3.    | 10                   |
| X.    | Special              |

6.3.2.Performance Criterion: A

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# 6.4.EUT Configuration on Test

The configuration of the EUT is same as Section 2.1.

#### 6.5. Operating Condition of EUT

Same as radiated emission measurement, which is listed in Section 4.5, except the test setup replaced as Section 6.1.

#### 6.6.Test Procedure

The EUT are placed on a table, which is 0.8 meter high above the ground. The EUT is set 3 meters away from the transmitting antenna, which is mounted on an antenna tower. Both horizontal and vertical polarization of the antenna is set on test. Each of the four sides of the EUT must be faced this transmitting antenna and measured individually. In order to judge the EUT performance, a CCD Recording is used to monitor its screen. All the scanning conditions are as following:

Remark

Condition of Test

| Condition of Test         | Remark                  |  |
|---------------------------|-------------------------|--|
| 1. Fielded Strength       | 3V/m (Severity Level 2) |  |
| 2. Radiated Signal        | UnmoDulated             |  |
| 3. Scanning Frequency     | 80-1GHz                 |  |
| 4. Sweep Time of Radiated | 0.0015 Decade/s         |  |
| 5. Dwell Time             | 3 Sec.                  |  |
| 6. Fielded Strength       | 3V/m (Severity Level 2) |  |
| 7. Radiated Signal        | UnmoDulated             |  |
| 8. Scanning Frequency     | 1.4GHz-2.0GHz           |  |
| 9. Sweep Time of Radiated | 0.0015 Decade/s         |  |
| 10. Dwell Time            | 3 Sec.                  |  |
| 11. Fielded Strength      | 1V/m (Severity Level 1) |  |
| 12. Radiated Signal       | UnmoDulated             |  |
| 13. Scanning Frequency    | 2.0GHz-2.7GHz           |  |
| 14. SweepTime of Radiated | 0.0015 Decade/s         |  |
| 15. Dwell Time            | 3 Sec.                  |  |
|                           |                         |  |

#### 6.7.Test Results

#### PASS.

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SHENZHEN LCS COMPLIANCE TESTING LABORATORY LTD.

Report No.: LCS190408064AE

| RF Field Strength Susceptibility Test Results |   |               |        |
|---|---|---------------|--------|
| Standard                                      | □ IEC 61000-4-3 ☑ EN 61000-4-3                              |               |        |
| Applicant                                     | Mid Ocean Brands B.V.                                       |               |        |
| EUT   | weather station with photo frame                            | Temperature   | 24.2°C |
| M/N   | MO9695-40   | Humidity      | 53.4%  |
| Frequency Range                               | (3V/m)80-1GHz,<br>(3V/m)1.4GHz-2GHz,<br>(1V/m)2.0GHz-2.7GHz | Criterion     | А      |
| Test Mode                                     | Mode 1  | Test Engineer | Jay Li |
| Modulation                                    | □None □ Pulse   | ØAM 1KHz 80%  |        |
| Steps   | 1%  |               |        |

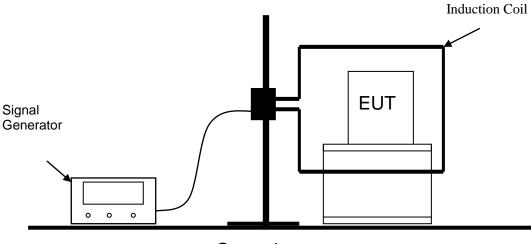
|            | Horizontal | Vertical |  |
|------------|------------|----------|--|
| Front      | PASS       | PASS     |  |
| Right PASS |            | PASS     |  |
| Rear PASS  |            | PASS     |  |
| Left       | PASS       | PASS     |  |

Note:

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# 7. MAGNETIC FIELD SUSCEPTIBILITY TEST

# 7.1.Block Diagram of Test Setup



Ground

7.2.Test Standard

EN 61000-6-1: 2007 (EN 61000-4-8: 2010, Severity Level: Level 2, 3A/ m)

# 7.3. Severity Levels and Performance Criterion

| Level | Field Strength (A/m) |
|-------|----------------------|
| 1     | 1                    |
| 2     | 3                    |
| 3     | 10                   |
| 4     | 30                   |
| 5     | 100                  |
| Х     | Special              |

7.3.1.Severity Levels

7.3.2.Performance Criterion: A

# 7.4.EUT Configuration on Test

The configuration of the EUT is same as Section 2.1.

# 7.5.Test Procedure

The EUT is placed in the middle of a induction coil (1\*1m), under which is a 1\*1\*0.1m (high) table, this small table is also placed on a larger table, 0.8 m above the ground. Both horizontal and vertical polarization of the induction coil is set on test, so that each side of the EUT is affected by the magnetic field. Also can reach the same aim by change the position of the EUT.

# 7.6.Test Results

PASS.

Please refer to the following page.

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Report No.: LCS190408064AE

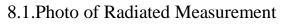
| Magnetic Field Immunity Test Result |                                  |             |        |
|-------------------------------------|----------------------------------|-------------|--------|
| Standard                            | □ IEC 61000-4-8   ☑ EN 61000-4-8 |             |        |
| Applicant                           | Mid Ocean Brands B.V.            |             |        |
| EUT                                 | weather station with photo frame | Temperature | 23.3°C |
| M/N                                 | MO9695-40                        | Humidity    | 53.1%  |
| Test Mode                           | Mode 1                           | Criterion   | А      |
| Test Engineer                       | Jay Li                           |             |        |

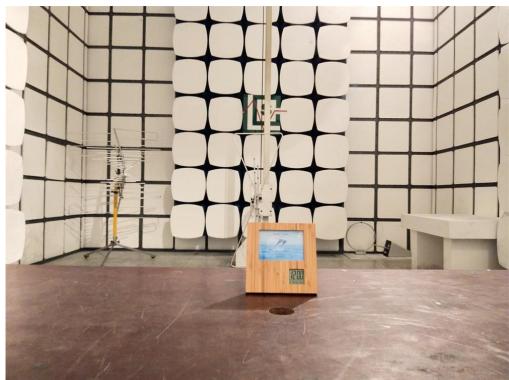
| Test Level<br>(A/M) | Testing<br>Duration | <b>Coil Orientation</b> | Criterion | Result |
|---------------------|---------------------|-------------------------|-----------|--------|
| 3                   | 5 mins              | Х                       | А         | PASS   |
| 3                   | 5 mins              | Y                       | А         | PASS   |
| 3                   | 5 mins              | Z                       | А         | PASS   |

Note:

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# 8. PHOTOGRAPH





# 8.2.Photo of Electrostatic Discharge Test



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8.3.Photo of Radio-frequency, Continuous Radiated Disturbance

8.4.Photo of Magnetic Field Immunity Test

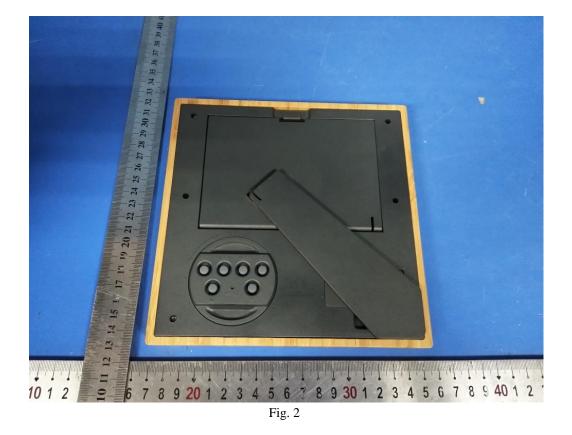


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# 9. EXTERNAL AND INTERNAL PHOTOS OF THE EUT



Fig. 1



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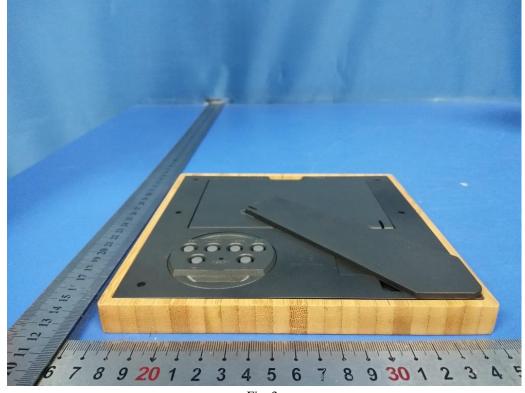


Fig. 3

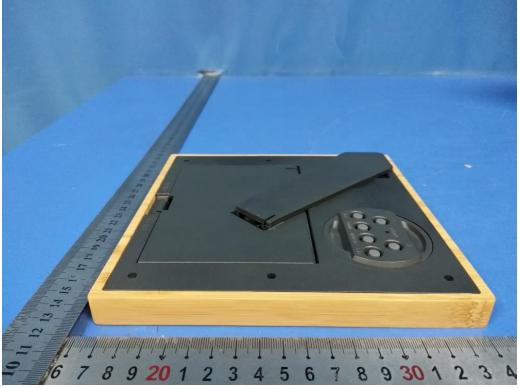


Fig. 4

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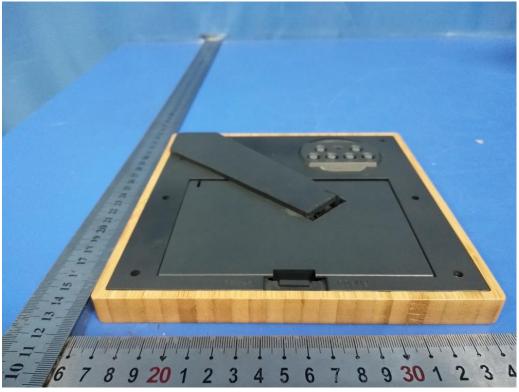
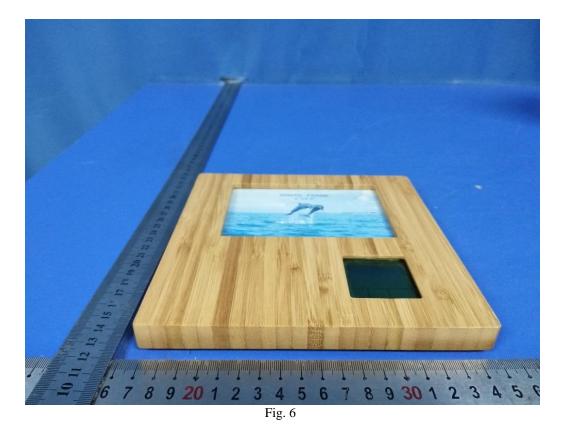


Fig. 5



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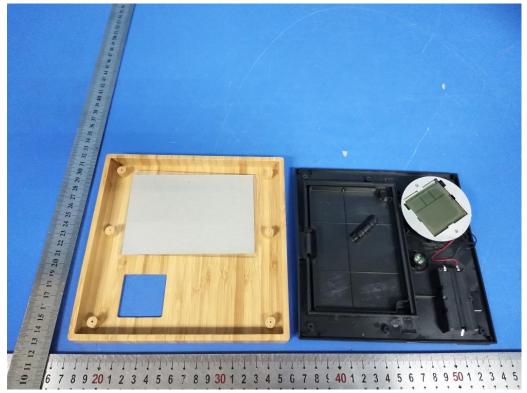
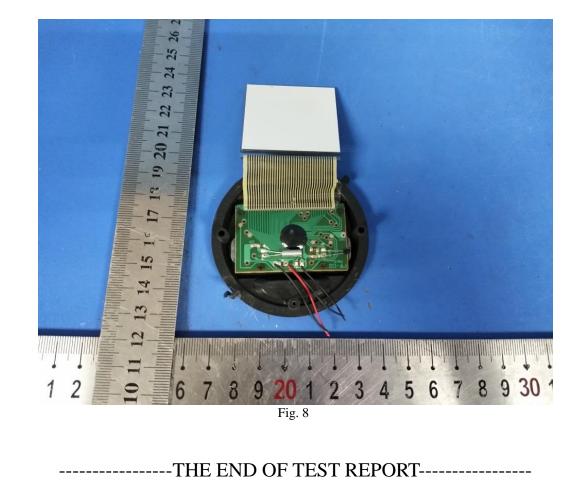


Fig. 7



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