

---

# RF Exposure Report

---

Report No.: AGC15042220901FH01A

**FCC ID** : 2A8R5QST008A

**APPLICATION PURPOSE** : Class II Permissive Change

**PRODUCT DESIGNATION** : Wireless Charging Pad

**BRAND NAME** : Lovesac

**MODEL NAME** : QST008A-SWH

**APPLICANT** : THE LOVESAC COMPANY

**DATE OF ISSUE** : Sep. 19, 2023

**STANDARD(S)** : KDB680106 D01 RF Exposure Wireless Charging Base App v03r01

**REPORT VERSION** : V1.0



Attestation of Global Compliance (Shenzhen) Co., Ltd

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc01@agccert.com.

Attestation of Global Compliance(Shenzhen)Co., Ltd  
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd  
Tel: +86-755 2523 4088 E-mail: agc@agccert.com Web: <http://www.agccert.com/>



### Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Sep. 19, 2023	Valid	Initial Release

Note: The original test report AGC15042220901FH01 (dated Nov. 18, 2022 and tested from Sep. 21, 2022 to Nov. 17, 2022) was modified on Sep. 19, 2023, including the following changes and additions:

- Remove the series model;
  - Change model name;
  - Change the name and address of the factory;
  - Change the appearance of EUT;
  - Change the Test Setup Photo;
  - Change from DC power supply to AC adapter power supply;
- For above described change(s), updated all test data(s).

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc01@agccert.com.

Attestation of Global Compliance(Shenzhen)Co., Ltd  
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd  
Tel: +86-755 2523 4088 E-mail: agc@agccert.com Web: <http://www.agccert.com/>

## Table of Contents

<b>1. General Information .....</b>	<b>4</b>
<b>2. Product Information .....</b>	<b>5</b>
2.1 Product Technical Description .....	5
2.2 Test Frequency List .....	5
<b>3. Test Environment .....</b>	<b>6</b>
3.1 Address of The Test Laboratory .....	6
3.2 Test Facility .....	6
3.3 Environmental Conditions .....	7
3.4 Measurement Uncertainty .....	7
3.5 List of Equipment Used .....	7
<b>4. Equipment Used in Tested System .....</b>	<b>8</b>
<b>5. Description of Test Modes .....</b>	<b>8</b>
<b>6. RF Exposure Measurement.....</b>	<b>8</b>
6.1 Refer Evaluation Method.....	9
6.2 Test Limits.....	9
6.3 Measurement Setup .....	10
6.4 Measurement Procedure.....	11
6.5 Measurement Results .....	11
<b>Appendix I: Photographs of Test Setup.....</b>	<b>12</b>

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the “Dedicated Testing/Inspection Stamp” is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc01@agccert.com.

## 1. General Information

Applicant	THE LOVESAC COMPANY
Address	TWO LANDMARK SQUARE SUITE 300 STAMFORD CT 06901
Manufacturer	jjPlus Corporation
Address	15F-7, No2, Jianba Rd, Zhonghe Dist., New Taipei City 235, Taiwan
Factory	New Wing Interconnect Technology (Bac Giang) Co., Ltd
Address	Van Trung Industrial Park, Van Trung Commune, Viet Yen District, Bac Giang Province, Vietnam
Product Designation	Wireless Charging Pad
Brand Name	Lovesac
Test Model	QST008A-SWH
Series Model(s)	N/A
Difference Description	N/A
Date of receipt of test item	Sep. 04, 2023
Date of Test	Sep. 04, 2023 - Sep. 18, 2023
Deviation from Standard	No any deviation from the test method
Condition of Test Sample	Normal
Test Result	Pass
Test Report Form No	AGCER-FCC-MPE-V1(WPT)

The test results of this report relate only to the tested sample identified in this report.

Prepared By



Cici Li  
(Project Engineer)

Sep. 19, 2023

Reviewed By



Calvin Liu  
(Reviewer)

Sep. 19, 2023

Approved By



Max Zhang  
Authorized Officer

Sep. 19, 2023

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc01@agccert.com.

Attestation of Global Compliance(Shenzhen)Co., Ltd

Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd

Tel: +86-755 2523 4088 E-mail: agc@agccert.com Web: <http://www.agccert.com/>

## 2. Product Information

### 2.1 Product Technical Description

Equipment Specification	WPT
Frequency Band	150kHz-205kHz
Operation Frequency	183.3kHz
Hardware Version	TB06B_TX_V1.1
Software Version	V4.9.1
Modulation Type	FSK
Number of channels	1
Field Strength of Fundamental	71.33dBμV/m (Max)
Antenna Designation	Coil Antenna
Antenna Gain	0dBi
EUT Power Supply	N/A
EUT Input Rating	Input: DC 19V 0.94A
Wireless Charging Output Power	5W
TYPE-C Output Power	N/A
Adapter Information	N/A

### 2.2 Test Frequency List

Frequency Band	Channel Number	Test Frequency
150~205kHz	01	183.3kHz

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc01@agccert.com.

Attestation of Global Compliance(Shenzhen)Co., Ltd  
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd  
Tel: +86-755 2523 4088 E-mail: agc@agccert.com Web: <http://www.agccert.com/>

### 3. Test Environment

#### 3.1 Address of The Test Laboratory

Laboratory: Attestation of Global Compliance (Shenzhen) Co., Ltd.

Address: 1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

#### 3.2 Test Facility

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

##### **CNAS-Lab Code: L5488**

Attestation of Global Compliance (Shenzhen) Co., Ltd. has been assessed and proved to FOLLOW CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories.)

##### **A2LA-Lab Cert. No.: 5054.02**

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to follow ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

##### **FCC-Registration No.: 975832**

Attestation of Global Compliance (Shenzhen) 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 with Registration 975832.

##### **IC-Registration No.: 24842 (CAB identifier: CN0063)**

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the Certification and Engineering Bureau of Industry Canada. The acceptance letter from the IC is maintained in our files with Registration 24842.

### 3.3 Environmental Conditions

	Normal Conditions
Temperature range (°C)	15 - 35
Relative humidity range	20% - 75%
Pressure range (kPa)	86 - 106
Power supply	--
Note: The Extreme Temperature and Extreme Voltages declared by the manufacturer.	

### 3.4 Measurement Uncertainty

The reported uncertainty of measurement  $y \pm U$ , where expanded uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95%.

Item	Measurement Uncertainty
E-Field Strength(0.003-0.4MHz)	$\pm 1.5\text{dB}$
E-Field Strength(0.4-10MHz)	$\pm 1.3\text{dB}$
H-Field Strength(0.003-0.4MHz)	$\pm 1.3\text{dB}$
H-Field Strength(0.4-10MHz)	$\pm 1.2\text{dB}$

### 3.5 List of Equipment Used

Used	Equipment No.	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
<input checked="" type="checkbox"/>	AGC-RF-011	Broadband Field Meter	WAVECONTROL	SMP2	J-0004	2023-02-24	2025-02-23
<input checked="" type="checkbox"/>	AGC-RF-012	Probe FHP	WAVECONTROL	WP400	J-0015	2023-02-24	2025-02-23

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by [agc01@agccert.com](mailto:agc01@agccert.com).

Attestation of Global Compliance(Shenzhen)Co., Ltd  
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd  
Tel: +86-755 2523 4088 E-mail: [agc@agccert.com](mailto:agc@agccert.com) Web: <http://www.agccert.com/>

#### 4. Equipment Used in Tested System

The following peripheral devices and interface cables were connected during the measurement:

☒ Test Accessories Come From The Laboratory

No.	Equipment	Model No.	Manufacturer	Specification Information	Cable
1	wireless charging load	N/A	N/A	N/A	Accessories

☒ Test Accessories Come From The Manufacturer

No.	Equipment	Model No.	Manufacturer	Specification Information	Cable
1	Wireless Charging Pad	QST008A-SWH	N/A	2A8R5QST008A	EUT
2	Adapter	DYS618-190094W-1	N/A	Input: AC 100V-240V, 50/60Hz, 0.5A Output: DC 19V, 0.94A	Accessories

#### 5. Description of Test Modes

NO.	Test Mode Description	Exposure Conditions
1	AC/DC Adapter+DUT + Wireless load (Full load mode)	Mobile
2	AC/DC Adapter+DUT + Wireless load (Half load mode)	Mobile
3	AC/DC Adapter+DUT + Wireless load (Null load mode)	Mobile

Note:

- Only the result of the worst case was recorded in the report, if no other cases.



## 6. RF Exposure Measurement

### 6.1 Refer Evaluation Method

ANSI C95.1–1999: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

FCC KDB publication 680106 D01v03r01 RF Exposure Wireless Charging Apps v03: RF Exposure Considerations for Low Power Consumer Wireless Power Transfer Applications

FCC CFR 47 part1 1.1310: Radiofrequency radiation exposure limits.

FCC CFR 47 part2 2.1091: Radiofrequency radiation exposure evaluation: mobile devices.

FCC CFR 47 part 18.107: Industrial, Scientific, and Medical Equipment.

### 6.2 Test Limits

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f <sup>2</sup>	6
30-300	61.4	0.163	1.0	6
300-1,500	/	/	f/300	6
1,500-100,000	/	/	5	6

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f <sup>2</sup>	30
30-300	27.5	0.073	0.2	30
300-1,500	/	/	f/1500	30
1,500-100,000	/	/	1.0	30

F=frequency in MHz

\*=Plane-wave equivalent power density

According to FCC KDB 680106 D01v03r01 Section 3. RF Exposure Requirements clause 3 the Emission-Limits in the frequency range from 100 KHz to 300 KHz should be assessed versus the limits at 300 KHz in Table 1 of CFR 47 – Section1.310 as following (measured distance shall be 15cm from the center of the probe to the edge of the device):

	E-Field	*/*	B-Field
Frequency	V/m	A/m	uT
0.3 MHz – 3.0 MHz	614	1.613	2.0
3.0 MHz – 30 MHz	824/f (=27.5 <sub>30MHz</sub> )	2.19/f (=0.073 <sub>30MHz</sub> )	--

A KDB inquire was required to determine/confirm the applicable limits below 100 KHz.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the “Dedicated Testing/Inspection Stamp” is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc01@agccert.com.

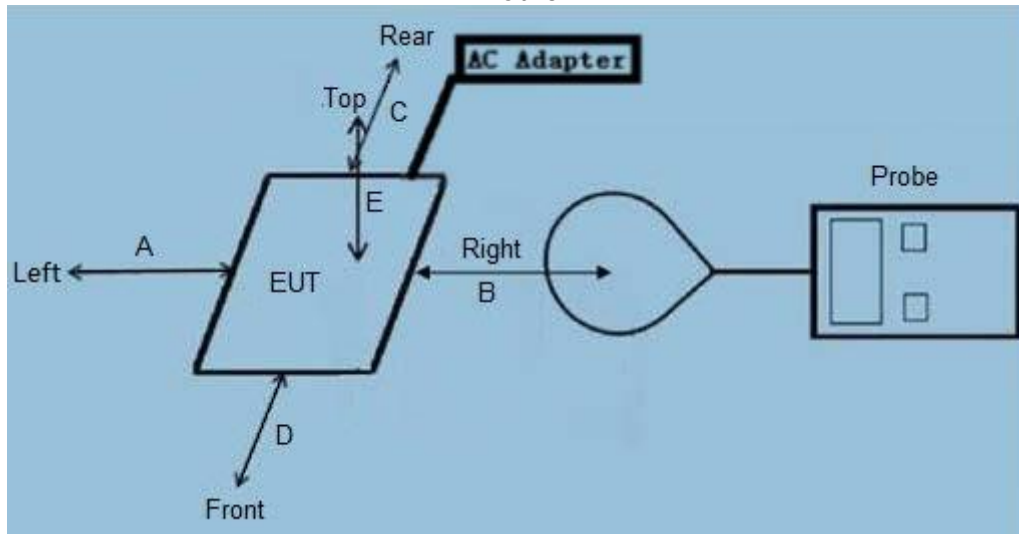
Attestation of Global Compliance(Shenzhen)Co., Ltd

Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd

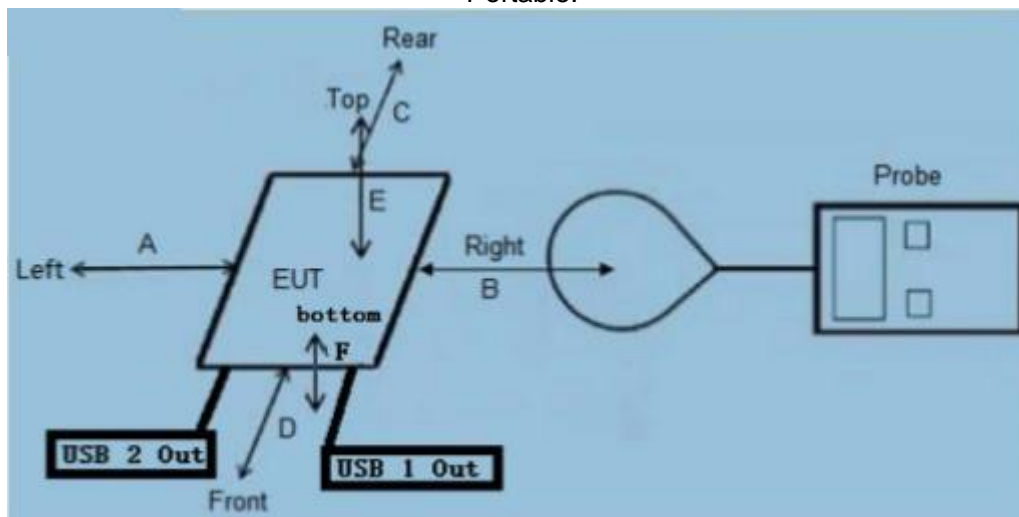
Tel: +86-755 2523 4088 E-mail: agc@agccert.com Web: http://www.agccert.com/

### 6.3 Measurement Setup

Mobile:



Portable:



**Note:**

- RF exposure assessment tests are conducted in a shielded room.
- Refer to the following test method description for the test distance between the edge of the charger and the measuring probe.
- As shown in the above picture, the test layout is not for the real object, only the requirements of the test layout listed in the standard requirements are presented, for reference only.
- The actual test EUT distinguishes the test type according to the requirements as shown in the figure above.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc01@agccert.com.

## 6.4 Measurement Procedure

For mobile RF exposure:

- The RF exposure test was performed on 360 degree turn table in anechoic chamber.
- The measurement probe was placed at test distance (15cm) which is between the edge
- The charger and the geometric center of probe. And a test distance (20cm) which is between the Top of the charger and the geometric center of probe.
- The highest emission level was recorded and compared with limit as soon as measurement of each point (A, B, C, D, E) were completed.
- The EUT were measured according to the dictates of KDB 680106 D01v03r01.

For portable RF exposure:

- The RF exposure test was performed on 360 degree turn table in anechoic chamber.
- The measurement probe was placed at test distance (from 0 cm to 20 cm, in 2 cm maximum increment) which is between the edge of the charger and the geometric center of probe.
- The highest emission level was recorded and compared with limit as soon as measurement of each point (A, B, C, D, E, F,) were completed.
- The EUT were measured according to the dictates of KDB 680106 D01v03r01

Remark: The diameter size of the probe is 11.5cm.

## 6.5 Measurement Results

Mobile devices are evaluated as follows:

Operate Mode	Field Strength	Measured H-Field Strength Values (A/m) Measured E-Field Strength Values (V/m)					FCC Limit	50%_FCC limit
		Test Position A	Test Position B	Test Position C	Test Position D	Test Position E		
Mode 1	nT	820.35	929.65	796.48	923.37	899.50	--	--
Mode 1	A/m	0.653	0.740	0.634	0.735	0.716	1.63	0.815
Mode 1	V/m	0.517	0.533	0.617	0.711	0.702	614	307

Note: Unit conversion formula: 1A/m=1.25UT

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc01@agccert.com.

Attestation of Global Compliance(Shenzhen)Co., Ltd  
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd  
Tel: +86-755 2523 4088 E-mail: agc@agccert.com Web: http://www.agccert.com/

## **Appendix I: Photographs of Test Setup**

Refer to the Report No.: AGC15042220901AP01A

**-----End of Report-----**

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the “Dedicated Testing/Inspection Stamp” is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by [agc01@agccert.com](mailto:agc01@agccert.com).

Attestation of Global Compliance(Shenzhen)Co., Ltd  
Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd  
Tel: +86-755 2523 4088 E-mail: [agc@agccert.com](mailto:agc@agccert.com) Web: <http://www.agccert.com/>



## Conditions of Issuance of Test Reports

1. All samples and goods are accepted by the Attestation of Global Compliance (Shenzhen) Co., Ltd (the “Company”) solely for testing and reporting in accordance with the following terms and conditions. The company provides its services on the basis that such terms and conditions constitute express agreement between the company and any person, firm or company requesting its services (the “Clients”).
2. Any report issued by Company as a result of this application for testing services (the “Report”) shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.
3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
4. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
5. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
6. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.
7. Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.
9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the “Dedicated Testing/Inspection Stamp” is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15 days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by [agc01@agccert.com](mailto:agc01@agccert.com).

Attestation of Global Compliance(Shenzhen)Co., Ltd

Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd

Tel: +86-755 2523 4088 E-mail: [agc@agccert.com](mailto:agc@agccert.com) Web: <http://www.agccert.com/>