

# RF Exposure Report

Report No.: AGC00210210513FH03

**APPLICATION PURPOSE Original Equipment** 

RAVPower 3 In 1 Wireless Charger **PRODUCT DESIGNATION** 

**BRAND NAME** : RAVPOWER

: RP-WC013 **MODEL NAME** 

Shenzhen NearbyExpress Technology Development **APPLICANT** 

Company Limited

**DATE OF ISSUE** : Jun. 09, 2021

KDB680106 D01 RF Exposure Wireless Charging Base STANDARD(S)

App v03

REPORT VERSION : V1.0

> Attestation of Globa ce (Shenzhen) Co., Ltd

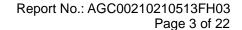




Page 2 of 22

## REPORT REVISE RECORD

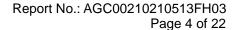
Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Jun. 09, 2021	Valid	Initial Release





#### **TABLE OF CONTENTS**

1. VERIFICATION OF CONFORMITY	4
2. GENERAL INFORMATION	5
2.1. PRODUCT DESCRIPTION	5
3. DESCRIPTION OF TEST MODES	6
4. SYSTEM TEST CONFIGURATION	6
5. TEST FACILITY	7
6. RADIO FREQUENCY(RF) EXPOSURETEST	
6.1. LIMITS	
6.2. TEST SETUP	8
APPENDIX A: PHOTOGRAPHS OF TEST SETUP	15





## 1. VERIFICATION OF CONFORMITY

Applicant	Shenzhen NearbyExpress Technology Development Company Limited			
Address	Room 701, 702, 703, 705, 706, 708, 709, Building E, Galaxy World Phase II, Minle Community, Minzhi Street, Longhua District, Shenzhen, Guangdong, China 518000			
Manufacturer	Shenzhen NearbyExpress Technology Development Company Limited			
Address	Room 701, 702, 703, 705, 706, 708, 709, Building E, Galaxy World Phase II, Minle Community, Minzhi Street, Longhua District, Shenzhen, Guangdong, China 518000			
Factory	Power7 Technology(DongGuan) Co., Ltd			
Address	No. 28 Binjiang St. Shishuikou Village, Qiaotou Town, Dongguan City, P,R. China			
Product Designation	RAVPower 3 In 1 Wireless Charger			
Sample No	210519107			
Brand Name	RAVPOWER			
Test Model:	RP-WC013			
Date of test	May 21, 2021 to Jun. 09, 2021			
Deviation	No any deviation from the test method			
Condition of Test Sample	Normal			
Report Template	AGCRT-US-BR/RF			

## We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in KDB680106 D01.

The results of testing in this report apply to the product/system which was tested only.

Prepared By	repared By Chang		
	Cool Cheng (Project Engineer)	Jun. 09, 2021	
Reviewed By	Max Zhang		
	Max Zhang (Reviewer)	Jun. 09, 2021	
Approved By	Towardie		
	Forrest Lei (Authorized Officer)	Jun. 09, 2021	



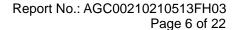
Page 5 of 22

#### 2. GENERAL INFORMATION

## 2.1. PRODUCT DESCRIPTION

A major technical description of EUT is described as following

Operation Frequency	115KHz-205KHz		
Test Frequency	125.5kHz/130.2kHz/136.8kHz		
Maximum field strength	53.94dBuV/m(PK)@3m		
Number of channels	1		
Antenna Designation	Coil Antenna (Met 15.203 Antenna requirement)		
Hardware Version	V2		
Software Version	V1.0		
Power Supply(Input)	DC 19V 1.47A,28W Max		
Wireless Charging Output power	3W / 7.5W /10.5W		





## 3. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION			
1	Wireless charging Mode(Full load) at 10.5W			
2	Wireless charging Mode(Half load) at 10.5W			
3	Wireless charging Mode(Null load) at 10.5W			
4	Wireless charging Mode(Full load) at 7.5W			
5	Wireless charging Mode(Half load) at 7.5W			
6	Wireless charging Mode(Null load) at 7.5W			
7	Wireless charging Mode(Full load) at 3W			
8	Wireless charging Mode(Half load) at 3W			
9	Wireless charging Mode(Null load) at 3W			

#### 4. SYSTEM TEST CONFIGURATION

Item	Equipment	Model No.	ID or Specification	Remark
1	RAVPower 3 In 1 Wireless Charger	RP-WC013	2AVUHRP-WC013	EUT
2	Adapter	VS042-1900147HU	Input:100-240V, 50/60Hz, 1.2A Output:19.0V, 1.47A	AE
3	Wireless Load 1	N/A	10W	AE
4	Wireless Load 2	N/A	5W	AE



Report No.: AGC00210210513FH03 Page 7 of 22

## 5. TEST FACILITY

TestSite	Attestation of Global Compliance(Shenzhen) Co., Ltd
Location	1-2/F,Building19,JunfengIndustrialPark,ChongqingRoad,HepingCommunity,FuhaiSt reet,Bao'anDistrict,Shenzhen,Guangdong,China
Designation Number	CN1259
FCC Test Firm Registration Number	975832
A2LA Cert. No.	5054.02
Description	Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA

#### **TEST EQUIPMENT LIST**

Description	Manufacturer	Model	S/N	Cal. Date	Cal. Due
Broadband Field Meter	WAVECONTROL	SMP2	J-0004	Jun.12, 2020	Jun.11, 2021
Probe FHP	WAVECONTROL	WP400	J-0015	Jun.12, 2020	Jun.11, 2021

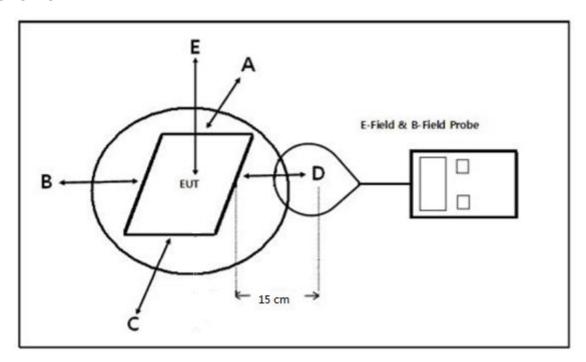


## 6. RADIO FREQUENCY(RF) EXPOSURETEST

#### 6.1. LIMITS

For devices designed for typical desktop applications, such a wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 15 cm. E and H field strength measurements or numerical modeling may be used to demonstrate compliance. Measurements should be made from all sides and the top of the primary/client pair, with the 15 cm measured from the center of the probe(s) to the edge of the device. Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m.

#### **6.2. TEST SETUP**



Note: Position A: Front of EUT; Position B: Left of EUT; Position C: back of EUT; Position D: Right of EUT; Position E: Top of EUT(20 cm measure distance);



Report No.: AGC00210210513FH03 Page 9 of 22

#### **6.3. TEST PROCEDURE**

The EUT was placed on a non-conductive table top and the ancillary equipment (e.g.mobile phone) was placed on the EUT for charging.

Maximum E-field and H-field measurements were tested 15cm from each side of the EUT. For top side the measure distance is 20cm.

Along the side of the EUT to center of E-field probe and H-field probe were positioned at the location to search maximum field strength.



Page 10 of 22

#### **6.4. TEST RESULT**

Test condition: Mode 1 E-field strength test result:

Frequency	Probe	Probe	Probe	Probe	Probe	Limit	50%
Range	Position A	Position B	Position C	Position D	Position E	(V/m)	Limit
	(V/m)	(V/m)	(V/m)	(V/m)	(V/m)		(V/m)
125.5kHz	1.26	1.18	1.17	1.21	1.70	614	307

## H-field strength test result:

Frequency	Probe	Probe	Probe	Probe	Probe	Limit	50%
Range	Position A	Position B	Position C	Position D	Position E	(A/m)	Limit
	(A/m)	(A/m)	(A/m)	(A/m)	(A/m)		(V/m)
125.5kHz	0.43	0.44	0.48	0.43	0.65	1.63	0.815

Test condition: Mode 2 E-field strength test result:

Frequency	Probe	Probe	Probe	Probe	Probe	Limit	50%
Range	Position A	Position B	Position C	Position D	Position E	(V/m)	Limit
	(V/m)	(V/m)	(V/m)	(V/m)	(V/m)		(V/m)
130.2kHz	0.99	0.96	0.97	0.93	1.08	614	307

#### H-field strength test result:

Frequency	Probe	Probe	Probe	Probe	Probe	Limit	50%
Range	Position A	Position B	Position C	Position D	Position E	(A/m)	Limit
	(A/m)	(A/m)	(A/m)	(A/m)	(A/m)		(V/m)
130.2kHz	0.35	0.39	0.30	0.34	0.51	1.63	0.815



Page 11 of 22

Test condition: Mode 3 E-field strength test result:

Frequency	Probe	Probe	Probe	Probe	Probe	Limit	50%
Range	Position A	Position B	Position C	Position D	Position E	(V/m)	Limit
	(V/m)	(V/m)	(V/m)	(V/m)	(V/m)		(V/m)
136.8kHz	0.66	0.69	0.68	0.64	0.79	614	307

## H-field strength test result:

Frequency	Probe	Probe	Probe	Probe	Probe	Limit	50%
Range	Position A	Position B	Position C	Position D	Position E	(A/m)	Limit
	(A/m)	(A/m)	(A/m)	(A/m)	(A/m)		(V/m)
136.8kHz	0.15	0.19	0.14	0.17	0.23	1.63	0.815

Test condition: Mode 4
E-field strength test result:

Frequency	Probe	Probe	Probe	Probe	Probe	Limit	50%
Range	Position A	Position B	Position C	Position D	Position E	(V/m)	Limit
	(V/m)	(V/m)	(V/m)	(V/m)	(V/m)		(V/m)
125.5kHz	1.27	1.19	1.18	1.20	1.72	614	307

## H-field strength test result:

Frequency	Probe	Probe	Probe	Probe	Probe	Limit	50%
Range	Position A	Position B	Position C	Position D	Position E	(A/m)	Limit
	(A/m)	(A/m)	(A/m)	(A/m)	(A/m)		(V/m)
125.5kHz	0.44	0.45	0.47	0.46	0.67	1.63	0.815



Page 12 of 22

## Test condition: Mode 5 E-field strength test result:

Frequency	Probe	Probe	Probe	Probe	Probe	Limit	50%
Range	Position A	Position B	Position C	Position D	Position E	(V/m)	Limit
	(V/m)	(V/m)	(V/m)	(V/m)	(V/m)		(V/m)
130.2kHz	0.98	0.97	0.99	0.95	1.09	614	307

## H-field strength test result:

Frequency	Probe	Probe	Probe	Probe	Probe	Limit	50%
Range	Position A	Position B	Position C	Position D	Position E	(A/m)	Limit
	(A/m)	(A/m)	(A/m)	(A/m)	(A/m)		(V/m)
130.2kHz	0.36	0.40	0.32	0.33	0.53	1.63	0.815

Test condition: Mode 6
E-field strength test result:

Frequency	Probe	Probe	Probe	Probe	Probe	Limit	50%
Range	Position A	Position B	Position C	Position D	Position E	(V/m)	Limit
	(V/m)	(V/m)	(V/m)	(V/m)	(V/m)		(V/m)
136.8kHz	0.68	0.70	0.71	0.66	0.82	614	307

## H-field strength test result:

Frequency	Probe	Probe	Probe	Probe	Probe	Limit	50%
Range	Position A	Position B	Position C	Position D	Position E	(A/m)	Limit
	(A/m)	(A/m)	(A/m)	(A/m)	(A/m)		(V/m)
136.8kHz	0.16	0.18	0.17	0.19	0.24	1.63	0.815



Page 13 of 22

# Test condition: Mode 7 E-field strength test result:

Frequency	Probe	Probe	Probe	Probe	Probe	Limit	50%
Range	Position A	Position B	Position C	Position D	Position E	(V/m)	Limit
	(V/m)	(V/m)	(V/m)	(V/m)	(V/m)		(V/m)
125.5kHz	1.25	1.20	1.18	1.22	1.73	614	307

## H-field strength test result:

Frequency	Probe	Probe	Probe	Probe	Probe	Limit	50%
Range	Position A	Position B	Position C	Position D	Position E	(A/m)	Limit
	(A/m)	(A/m)	(A/m)	(A/m)	(A/m)		(V/m)
125.5kHz	0.43	0.46	0.49	0.42	0.68	1.63	0.815

Test condition: Mode 8
E-field strength test result:

Frequency	Probe	Probe	Probe	Probe	Probe	Limit	50%
Range	Position A	Position B	Position C	Position D	Position E	(V/m)	Limit
	(V/m)	(V/m)	(V/m)	(V/m)	(V/m)		(V/m)
130.2kHz	1.02	0.98	0.96	0.97	1.11	614	307

## H-field strength test result:

Frequency	Probe	Probe	Probe	Probe	Probe	Limit	50%
Range	Position A	Position B	Position C	Position D	Position E	(A/m)	Limit
	(A/m)	(A/m)	(A/m)	(A/m)	(A/m)		(V/m)
130.2kHz	0.37	0.41	0.35	0.36	0.55	1.63	0.815



Page 14 of 22

## Test condition: Mode 9 E-field strength test result:

Frequency	Probe	Probe	Probe	Probe	Probe	Limit	50%
Range	Position A	Position B	Position C	Position D	Position E	(V/m)	Limit
	(V/m)	(V/m)	(V/m)	(V/m)	(V/m)		(V/m)
136.8kHz	0.69	0.70	0.67	0.65	0.80	614	307

## H-field strength test result:

Frequency	Probe	Probe	Probe	Probe	Probe	Limit	50%
Range	Position A	Position B	Position C	Position D	Position E	(A/m)	Limit
	(A/m)	(A/m)	(A/m)	(A/m)	(A/m)		(V/m)
136.8kHz	0.16	0.20	0.18	0.17	0.25	1.63	0.815

Note: Unit conversion formula:1nT=796uA/m

#### 6.5 CONCLUSION.

The RF exposure assessment meets the requirements



## **APPENDIX A: PHOTOGRAPHS OF TEST SETUP**

## Wireless charging 1

Position E



Position A

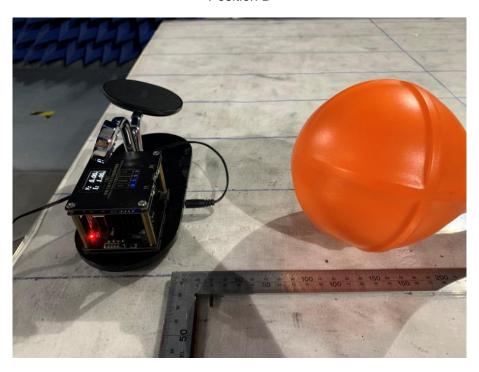


Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the 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.

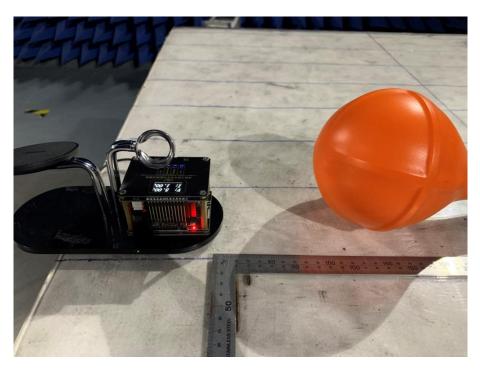
Tel: +86-755 2523 4088 E-mail: agc@agccert.com Web: http://www.agccert.com/



## Position B

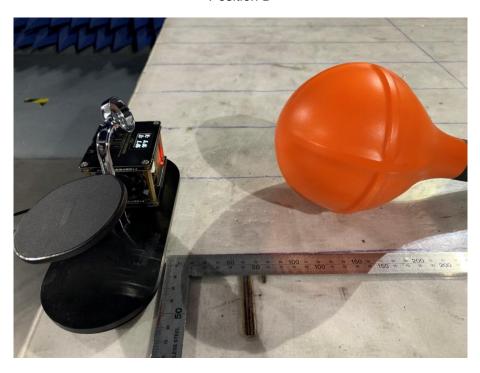


Position C

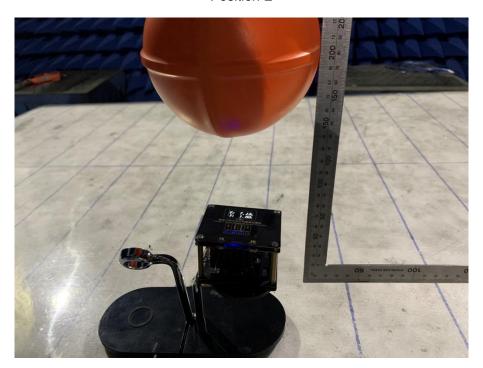




## Position D

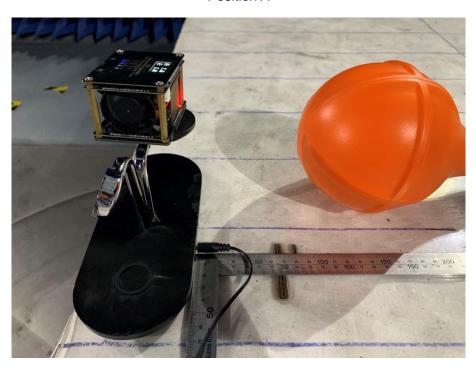


Wireless charging 2
Position E

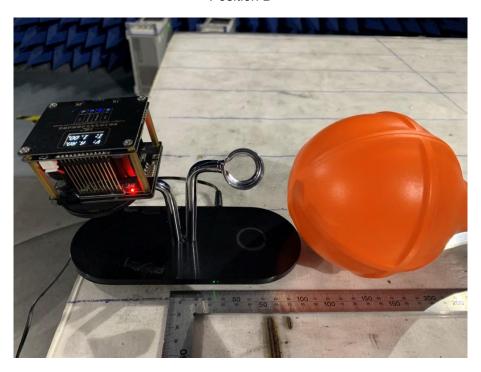




## Position A



Position 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.

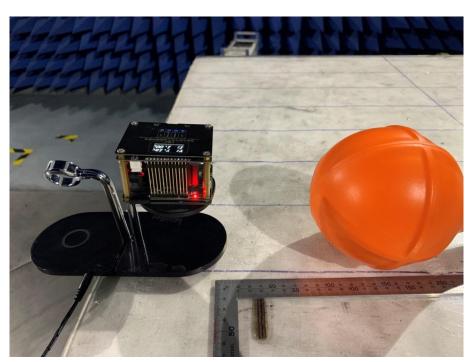
Tel: +86-755 2523 4088 E-mail: agc@agccert.com Web: http://www.agccert.com/



## Position C



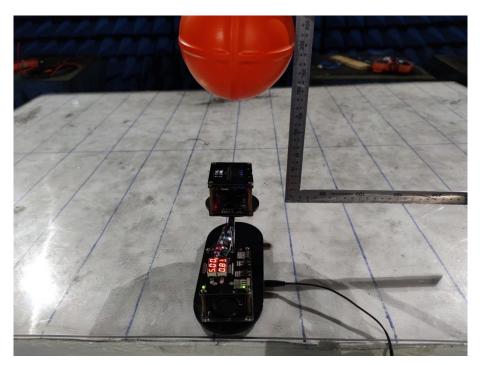
Position D



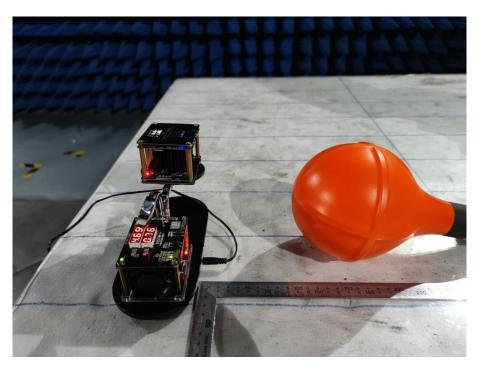


## Wireless charging 1+2

#### Position E



Position A

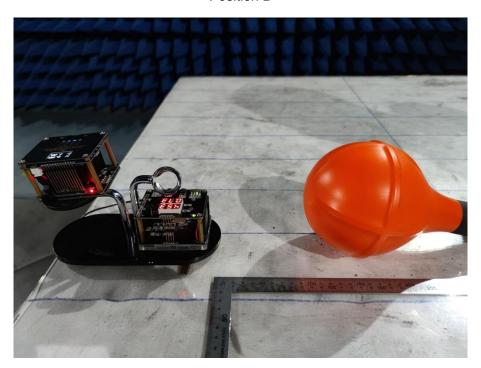


Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the 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.

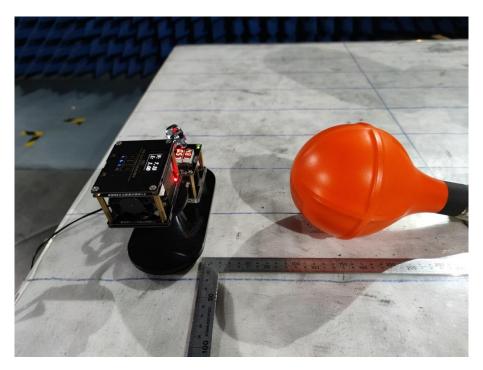
Tel: +86-755 2523 4088 E-mail: agc@agccert.com Web: http://www.agccert.com/



## Position B

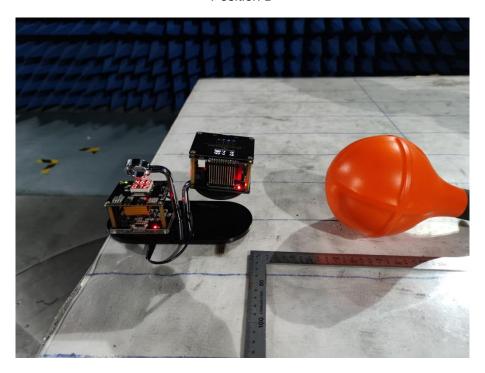


Position C





## Position D



----END OF REPORT----



## 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.