

FCC Test Report

Report No.: AGC01110230541FE02A

FCC ID	:	2A0KB-A3035
APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	Wireless Headphone
BRAND NAME	:	soundcore
MODEL NAME	:	A3035
APPLICANT	:	Anker Innovations Limited
DATE OF ISSUE	:	Apr. 07, 2024
STANDARD(S)	:	FCC Part 15 Subpart C §15.247
REPORT VERSION	:	V1.0







REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes	
V1.0	/	Apr. 07, 2024	Valid	Initial Release	

Note: The original test report AGC01110230541FE02 (dated Jun. 12, 2023 and tested from May 31, 2023 to Jun. 12, 2023) was modified on Apr. 07, 2024, including the following changes and additions for:

-Modified the battery (Replaced the battery models M652040, 3.72V, 580mAh with 672040PN3A-1, 3.72V, 580mAh);

For the above described change the following tests was considered to be necessary:

Clause	Testing
15.209	Radiated Emission



TABLE OF CONTENTS

2. GENERAL INFORMATION	4
2. GENERAL INFORMATION	5
2.1. PRODUCT DESCRIPTION	5
2.2. TABLE OF CARRIER FREQUENCYS	5
2.3. RELATED SUBMITTAL(S)/GRANT(S)	
2.4. TEST METHODOLOGY	
2.5. SPECIAL ACCESSORIES	6
2.6. EQUIPMENT MODIFICATIONS	6
2.7. ANTENNA REQUIREMENT	
3. MEASUREMENT UNCERTAINTY	7
4. DESCRIPTION OF TEST MODES	8
5. SYSTEM TEST CONFIGURATION	9
5.1. CONFIGURATION OF TESTED SYSTEM	9
5.2. EQUIPMENT USED IN TESTED SYSTEM	9
5.3. SUMMARY OF TEST RESULTS	
6. TEST FACILITY	
	11
7. RADIATED EMISSION	
	11
7. RADIATED EMISSION	
7.1. MEASUREMENT PROCEDURE 7.2. TEST SETUP 7.3. LIMITS AND MEASUREMENT RESULT	12 13
7.1. MEASUREMENT PROCEDURE 7.2. TEST SETUP 7.3. LIMITS AND MEASUREMENT RESULT 7.4. TEST RESULT	12 13 13
7.1. MEASUREMENT PROCEDURE 7.2. TEST SETUP 7.3. LIMITS AND MEASUREMENT RESULT	12 13 13



1. VERIFICATION OF COMPLIANCE

Applicant	Anker Innovations Limited					
Address	Room 1318-19, Hollywood Plaza, 610 Nathan Road, Mongkok, Kowloon, Hongkong					
Manufacturer	anufacturer Anker Innovations Limited					
Address	Room 1318-19, Hollywood Plaza, 610 Nathan Road, Mongkok, Kowloon, Hongkong					
Factory	N/A					
Address	N/A					
Product Designation	Wireless Headphone					
Brand Name	soundcore					
Test Model	A3035					
Series Model(s)	N/A					
Difference Description	N/A					
Date of receipt of test item	Mar. 18, 2024					
Date of test	Mar. 18, 2024 to Apr. 07, 2024					
Deviation	No any deviation from the test method					
Condition of Test Sample	Normal					
Test Result	Pass					
Report Template	AGCRT-US-BLE/RF					

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

Prepared By

Cool chem

Cool Cheng (Project Engineer)

Apr. 07, 2024

Reviewed By

Calvin Liu (Reviewer)

Apr. 07, 2024

Approved By

Zrang

Max Zhang (Authorized Officer)

Apr. 07, 2024



2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

The EUT is designed as a "Wireless Headphone". It is designed by way of utilizing the GFSK technology to achieve the system operation.

A major technical description of EUT is described as following

Operation Frequency	2.402 GHz to 2.480GHz
RF Output Power	6.159dBm (Max)
Bluetooth Version	V5.3
Modulation BR □GFSK, EDR □π /4-DQPSK, □8DPSK BLE ☑GFSK 1Mbps ☑GFSK 2Mbps	
Number of channels	40 Channels
Antenna Designation	PCB Antenna (Comply with requirements of the FCC part 15.203)
Antenna Gain	3.1dBi
Hardware Version	D
Software Version	V1.1.9
Power Supply	DC 3.72V by battery

2.2. TABLE OF CARRIER FREQUENCYS

Frequency Band	Channel Number	Frequency
	0	2402 MHz
	1	2404 MHz
2400~2483.5MHz	:	:
	38	2478 MHz
	39	2480 MHz



2.3. RELATED SUBMITTAL(S)/GRANT(S)

This submittal(s) (test report) is intended for FCC ID: 2AOKB-A3035 filing to comply with the FCC Part 15.247 requirements.

2.4. TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10 (2013). Radiated testing was performed at an antenna to EUT distance 3 meters.

2.5. SPECIAL ACCESSORIES

Refer to section 5.2.

2.6. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

2.7. ANTENNA REQUIREMENT

This intentional radiator is designed with a permanently attached antenna of an antenna to ensure that no antenna other than that furnished by the responsible party shall be used with the device. For more information of the antenna, please refer to the APPENDIX B: PHOTOGRAPHS OF EUT.



3. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y $\pm U$, where expended 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
Uncertainty of Conducted Emission for AC Port	$U_c = \pm 3.1 \text{ dB}$
Uncertainty of Radiated Emission below 1GHz	$U_c = \pm 4.0 \text{ dB}$
Uncertainty of Radiated Emission above 1GHz	$U_c = \pm 4.8 \text{ dB}$
Uncertainty of total RF power, conducted	$U_c = \pm 0.8 \text{ dB}$
Uncertainty of RF power density, conducted	$U_c = \pm 2.6 \text{ dB}$
Uncertainty of spurious emissions, conducted	$U_{c} = \pm 2.7 \%$
Uncertainty of Occupied Channel Bandwidth	$U_c = \pm 2 \%$



4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION
1	Low channel TX_2402MHz_GFSK_1Mbps
2	Middle channel TX_2440MHz_GFSK_1Mbps
3	High channel TX_2480MHz_GFSK_1Mbps
4	Low channel TX_2402MHz_GFSK_2Mbps
5	Middle channel TX_2440MHz_GFSK_2Mbps
6	High channel TX_2480MHz_GFSK_2Mbps

Note:

- 1. Only the result of the worst case was recorded in the report, if no other cases.
- 2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.
- 3. For Conducted Test method, a temporary antenna connector is provided by the manufacture.

Software Setting

🛯 Non Sig	naling Test Tool(202	20409)												-	
ile <u>D</u> evi	ce														
vices										TX TEST	BLE TX TEST	V2 BLE TX TE	ST V3 BLE TX T	EST V4 SI	TTING
ort ID COM50	Address 0xEEEEEEEEEE	Name DUT	Address Typ Private	State IDLE	Role UNDEFI	Authenticatic	Encryption	Version	Founc -	Trans	itter Test mit Frequency ad Pattern		2402 II Hz ▼ Payload Si ▼		
ces Local De	vice Traces							_	×		er Test ve Frequency	0 0x01:1M	2402IIHz ▼ Kodulation	Index sta	ndard 🔻
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/ Filter	Sco 🗌 Show raw d	ata						Cl	lear						



5. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF TESTED SYSTEM

Radiated Emission Configure:



5.2. EQUIPMENT USED IN TESTED SYSTEM

Item	Equipment	Model No.	ID or Specification	Remark
1	Wireless Headphone	A3035	2AOKB-A3035	EUT

5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT		
15.209	Radiated Emission	Compliant		

Note: The BT function cannot transmit when charging.



6. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, 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 OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
Test Receiver	R&S	ESCI	10096	Feb. 01, 2024	Jan. 31, 2025
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Jun. 01, 2023	May 31, 2024
2.4G Band Fliter	EM Electronics	2400-2500	N/A	Jun. 01, 2023	May 31, 2024
Attenuator	ZHINAN	E-002	N/A	Aug. 04, 2022	Aug. 03, 2024
Horn Antenna	SCHWARZBEC	BBHA 9170	#768	Sep. 24, 2023	Sep. 23, 2025
Active Loop Antenna (9K-30Mhz)	ZHINAN	ZN30900C	18051	Mar. 05, 2024	Mar. 04, 2026
HORN ANTENNA	ETS-LINDGREN	3117	00154520	Jun. 03, 2023	Jun. 02, 2024
Double-Ridged Waveguide Horn	ETS-LINDGREN	3117	00034609	Mar. 23, 2023	Mar. 22, 2025
AMPLIFIER	ETS-LINDGREN	3117PA	00225134	Sep. 02, 2022	Sep. 01, 2024
ANTENNA	SCHWARZBECK	VULB9168	494	Jan. 05, 2023	Jan. 04, 2025
Test software	FARA	EZ-EMC (Ver RA-03A)	N/A	N/A	N/A



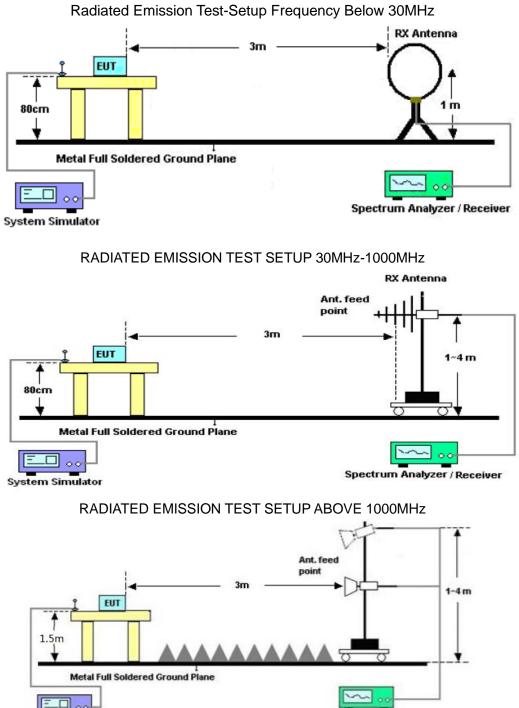
7. RADIATED EMISSION

7.1. MEASUREMENT PROCEDURE

- 1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
- 2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- 3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
- 4. For each suspected emission, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
- 5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
- 6. For emissions above 1GHz, use 1MHz RBW and 3MHz VBW for peak reading. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- 7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
- 8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
- 9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- 10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High Low scan is not required in this case.



7.2. TEST SETUP



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.

Spectrum Analyzer / Receiver

System Simulator



7.3. LIMITS AND MEASUREMENT RESULT

15.209 Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Note: All modes were tested for restricted band radiated emission, the test records reported below are the worst result compared to other modes.

7.4. TEST RESULT

Radiated emission below 30MHz

The amplitude of spurious emissions from 9kHz to 30MHz which are attenuated more than 20 dB below the permissible value need not be reported.



EUT	Wireless Headphone		Model Name	A3035
Temperature	25° C		Relative Humidity	55.4%
Pressure	960hPa		Test Voltage	Normal Voltage
Test Mode	Mode 6		Antenna	Horizontal
72.0 dBu∀/m				
				Limit: — Margin: —
32				
-8	io io 70 80		300 400 500	<u></u>
30.000 40 50	50 60 70 80	(MHz)	300 400 500	600 700 1000.000
	Reading Freq. Level MHz dBuV	Factor	leasure- ment Limit (IBuV/m dBuV/m	Over dB Detector
	8596 6.32			19.91 peak

Radiated emission from 30MHz to 1000MHz

RESULT: PASS

2

3

4

5

*

131.7577

447.9822

618.5369

893.8567

6.82

7.44

7.31

6.56

15.69

24.82

25.19

31.03

22.51

32.26

32.50

37.59

43.50

46.00

46.00

46.00

-20.99

-13.74

-13.50

-8.41

peak

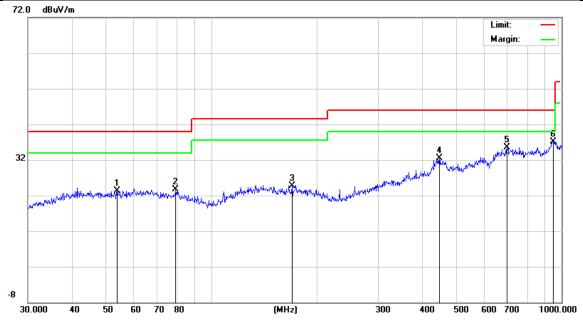
peak

peak

peak



EUT	Wireless Headphone	Model Name	A3035
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 6	Antenna	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		53.8818	6.27	17.04	23.31	40.00	-16.69	peak
2		79.2426	6.79	16.91	23.70	40.00	-16.30	peak
3		170.1948	6.43	18.35	24.78	43.50	-18.72	peak
4		447.9822	6.70	25.74	32.44	46.00	-13.56	peak
5		699.3046	7.50	28.09	35.59	46.00	-10.41	peak
6	*	948.7610	6.49	30.65	37.14	46.00	-8.86	peak

RESULT: PASS

Note:

1. Factor=Antenna Factor + Cable loss, Over=Measurement-Limit.

2. All test modes had been tested. The mode 6 is the worst case and recorded in the report.



Radiated emission above 1GHz

EUT	Wireless Headphone	Model Name	A3035
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 4	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
4804.000	45.59	0.08	45.67	74	-28.33	peak
4804.000	36.84	0.08	36.92	54	-17.08	AVG
7206.000	40.63	2.21	42.84	74	-31.16	peak
7206.000	31.75	2.21	33.96	54	-20.04	AVG
emark:						
actor = Anter	nna Factor + Cable	Loss – Pre-	amplifier.			

EUT	Wireless Headphone	Model Name	A3035
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 4	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
4804.000	44.54	0.08	44.62	74	-29.38	peak
4804.000	35.49	0.08	35.57	54	-18.43	AVG
7206.000	39.76	2.21	41.97	74	-32.03	peak
7206.000	31.26	2.21	33.47	54	-20.53	AVG
emark:						



EUT	Wireless Headphone	Model Name	A3035
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 5	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4880.000	46.53	0.14	46.67	74	-27.33	peak
4880.000	35.89	0.14	36.03	54	-17.97	AVG
7320.000	41.47	2.36	43.83	74	-30.17	peak
7320.000	32.52	2.36	34.88	54	-19.12	AVG
Remark:						
emark.						
actor = Anter	nna Factor + Cable	e Loss – Pre-	amplifier.			

EUT	Wireless Headphone	Model Name	A3035
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 5	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4880.000	46.36	0.14	46.5	74	-27.5	peak
4880.000	36.85	0.14	36.99	54	-17.01	AVG
7320.000	42.59	2.36	44.95	74	-29.05	peak
7320.000	31.82	2.36	34.18	54	-19.82	AVG
Remark:						
actor = Anter	nna Factor + Cabl	e Loss – Pre-	amplifier.			



EUT	Wireless Headphone	Model Name	A3035
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 6	Antenna	Horizontal

(dBµV)			Limits	Margin		
(uphv)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type	
46.69	0.22	46.91	74	-27.09	peak	
36.54	0.22	36.76	54	-17.24	AVG	
41.28	2.64	43.92	74	-30.08	peak	
32.41	2.64	35.05	54	-18.95	AVG	
	36.54 41.28 32.41	36.54 0.22 41.28 2.64 32.41 2.64	36.54 0.22 36.76 41.28 2.64 43.92	36.54 0.22 36.76 54 41.28 2.64 43.92 74 32.41 2.64 35.05 54	36.54 0.22 36.76 54 -17.24 41.28 2.64 43.92 74 -30.08 32.41 2.64 35.05 54 -18.95	

EUT	Wireless Headphone	Model Name	A3035
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 6	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
4960.000	45.36	0.22	45.58	74	-28.42	peak
4960.000	36.45	0.22	36.67	54	-17.33	AVG
7440.000	42.54	2.64	45.18	74	-28.82	peak
7440.000	32.61	2.64	35.25	54	-18.75	AVG
emark:						
actor = Anter	nna Factor + Cable	Loss - Pre-	amplifier.			

RESULT: PASS

Note:

The amplitude of other spurious emissions from 1G to 25 GHz which are attenuated more than 20 dB below the permissible value need not be reported.

Factor = Antenna Factor + Cable loss - Amplifier gain, Margin=Level-Limit.

The "Factor" value can be calculated automatically by software of measurement system.

All test modes had been tested. The 2Mbps is the worst case and recorded in the report.



APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Refer to the Report No.: AGC01110230541AP01A

APPENDIX B: PHOTOGRAPHS OF EUT

Refer to the Report No.: AGC01110230541AP02A

----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.