

Test Report No. 70.300.16.10026.01



Dated 2017-01-11

ORIGINAL

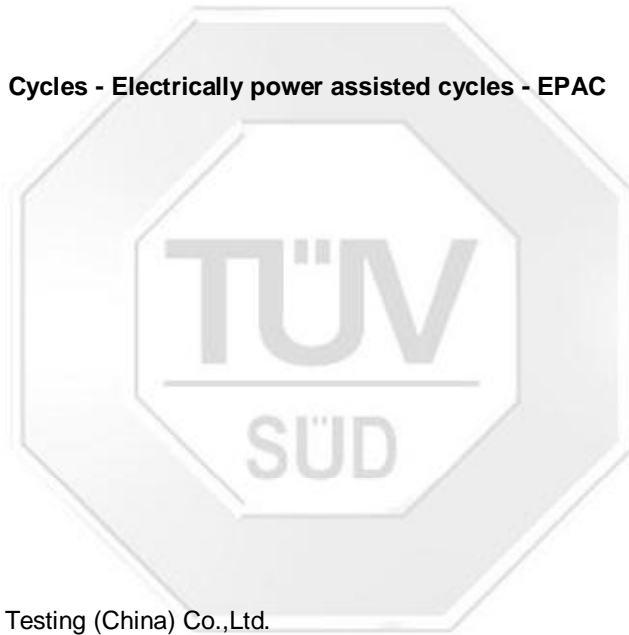
Applicant: AIGENI TECHNOLOGY CO., LTD
AREA A, DONGGANG INDUSTRIAL PARK, XISHAN DISTRICT, WUXI CITY
Product Name: PEDELEC
Style No.: AG2016
Item No.: AG2016
Manufacturer: AIGENI TECHNOLOGY CO., LTD
Receipt Date of Sample: 2016-11-04
Date of Testing: 2016-11-04 ~ 2017-01-11
Sample Submitted: The sample(s) was (were) submitted by applicant and identified.
Test Result: Refer to the data listed in following pages

Test Specification:


EN 15194: 2009 +A1: 2011 Cycles - Electrically power assisted cycles - EPAC Bicycles

Conclusion:


Pass



TÜV SÜD Certification and Testing (China) Co.,Ltd.
Shanghai Branch

Prepared by: 
Wu Jingqing
Technical Engineer



Checked by: 
Jerry An
Supervisor

Note: (1) General Terms & Conditions as mentioned overleaf.(2)The results relate only to the items tested.(3)The test report shall not be reproduced except in full without the written approval of the laboratory.

Laboratory:
TUV SUD Certification and Testing (China) Co.,Ltd.
Shanghai Branch Testing Center
Hardgoods Laboratory

Phone: +86 21 60376300
Fax: +86 21 60376350
www.tuv-sud.cn

Regd. Office:
TUV SUD Certification and Testing (China) Co.,Ltd.
Shanghai Branch
TUV SUD China
3-13F, No.151 Heng Tong Road Shanghai 200070
P.R. China



Test Report No. 70.300.16.10026.01



Dated 2017-01-11

ORIGINAL

Description of the test subject:

Sample list		Description	Photo
Sample Received on: 2016-11-04		Pedelec Maximum saddle height: 1005 mm Wheels: 20x1.75 wheels Speed: 7 - speed Brakes: V-type brake on front and rear. Reflectors: White light and reflector on front, red light and reflector on rear. Yellow pedals reflectors and wheels' reflectors.	
Complete bike	1 pc		
Frame & front fork	1 set		
Handlebar & stem	1 set		
Saddle and seat pillar	1 set		
Pedals	1 pair		
Bells	4 pcs		
Chain	4 pcs		
Battery	1 pc		
Charger	1 pc		
Controller	2 pcs		
Display	2 pcs		
Complete circuit	1 set		
Instruction	1 pc		
Sample Received on: 2016-12-30			
Crank & chainwheel	1 set		
Handlebar & stem	1 set		
Instruction	1 pc		

Abbreviation summary:

P = Pass; F = Fail; NA = Not applicable;

Test Report No. 70.300.16.10026.01



Dated 2017-01-11

ORIGINAL

Test Results

EN 15194: 2009+A1:2011 Cycles - Electrically power assisted cycles - EPAC Bicycles

Clause	Requirement	Result	Verdict
4	Requirements		
4.1	Electrically power-assisted bicycles shall comply with Clause 4, 5 and 6 of the European Standard EN 14764:2005 in addition to the specific requirements in Clause 4.2 of this standard.	Complied	P
4.2	EPAC specific additional requirements		
4.2.1	Electric circuit		
	The electrical control system shall be designed so that, should it malfunction in a hazardous manner, it shall switch off power to the electric motor.	Complied	P
	If a symbol shows a function that is described by a symbol included in ISO 2575, the symbol shall be in accordance with that standard.	Complied	P
4.2.2	Batteries		
4.2.2.1	EPAC and pack of batteries shall be designed in order to avoid risk of fire, mechanical deterioration resulting from abnormal use. Compliance is checked by the test described in 4.2.2.2.	Complied	P
	During the test the EPAC and the batteries shall not emit flames, molten metal or poisonous ignitable gas in hazardous amounts and any enclosure shall show no damage that could impair compliance with this European Standard.	Complied	P
	Safety and compatibility of the combination battery/charger combination shall be ensured, according to the manufacturer's specifications.	Complied	P
	The battery terminals shall be protected against creating an accidental short circuit. Care shall be taken to ensure that the batteries are protected against overcharging. An appropriate overheating and short circuit protection device shall be fitted.	Complied	P
	Batteries and the charger unit shall be labelled in order to be able to check their compatibility.	Complied	P
4.2.2.2	Tests		

Laboratory:
TUV SUD Certification and Testing (China) Co.,Ltd.
Shanghai Branch Testing Center
Hardgoods Laboratory

Phone: +86 21 60376300
Fax: +86 21 60376350
www.tuv-sud.cn

Regd. Office:
TUV SUD Certification and Testing (China) Co.,Ltd.
Shanghai Branch
TUV SUD China
3-13F, No.151 Heng Tong Road Shanghai 200070
P.R. China



Clause	Requirement	Result	Verdict
	1) Battery terminals are short-circuited with the batteries in a fully charged condition.	Protection operated, no hazard	P
	2) Motor terminals are short-circuited; all commands are in ON position, whilst the batteries are fully charged.	Protection operated, no hazard	P
	3) The EPAC is operated with the electric motor or drive system locked up so as to fully discharge the battery or until the system stops.	Protection operated, no hazard	P
	4) The battery is charged for double the recommended charging period or for 24 hours depending upon which is the longest period.	Test for 24 h, No hazard	P
4.2.3	Electric cables and connections		
4.2.3.1	Cable and plug temperature shall be lower than that specified by the manufacturer of the cables and plugs. There shall be no corrosion on plug pins and no damage to cable and plug insulation.	Complied	P
4.2.3.2	Discharge the fully charged EPAC battery to the discharging limit specified by the EPAC or ESA manufacturer at the maximum current allowable by the system and records it, giving consideration to the electric motor and/or the controller and/or the battery controller. Measure the cable and plug temperatures and ensure, by examination, that there is no deterioration of the insulation on either assembly.	Complied	P
4.2.3.3	a) Wire ways shall be smooth and free from sharp edges.	Complied	P
	b) Wires shall be protected so that they do not come into contact with burrs, cooling fins or similar sharp edges that may cause damage to their insulation. Holes in metal through which insulated wires pass shall have smooth well-rounded surfaces or be provided with bushings.	Complied	P
	c) Wiring shall be effectively prevented from coming into contact with moving parts.	Complied	P



Clause	Requirement	Result	Verdict
4.2.3.3	Separate parts of the EPAC that can move in normal use or during user maintenance relative to each other, shall not cause undue stress to electrical connections and internal conductors, including those providing earthing continuity.	Complied	P
	d) If an open coil spring is used, it shall be correctly installed and insulated. Flexible metallic tubes shall not cause damage to the insulation of the conductors contained within them.	-	NA
	Compliance with d) shall be checked by inspection and by the following test method. If flexing occurs in normal use, the appliance is placed in its normal operational position and is supplied at rated voltage under normal operation.	-	NA
	e) The movable part is moved backwards and forwards, so that the conductor is flexed through the largest angle permitted by its construction.	Complied	P
	For conductors that are flexed in normal use, flex movable part for 10 000 cycles at a test frequency of 0,5 Hz. For conductors that are flexed during user maintenance, flex the movable part for 100 cycles at the same frequency at (20 ± 5) °C.	Complied	P
	The wiring and its connections shall withstand the electrical strength test. The test voltage expressed in V shall be equal to (500+ 2Vr) for 2 min and applied between live parts and other metal parts only.	572 V	P
	f) The insulation of internal wiring shall withstand the electrical stress likely to occur in normal use.	Complied	P
	g) In case of integrated battery charger, electric safety of battery charger applies.	-	NA
4.2.3.4	Conduit entries, cable entries and knock-outs shall be constructed or located so that the introduction of the conduit or cable does not reduce the protection measures adopted by the manufacturer.	Complied	P
4.2.3.5	Electrical connection shall comply with IEC 60364-5-52:2001, Clauses 526.1 and 526.2.	Complied	P



Clause	Requirement	Result	Verdict
4.2.3.6	The EPAC are subjected to the test of IEC 60529 as follows: IPX4 appliances as described in Clause 14.2.4.a.	Complied	P
4.2.3.7	EPAC shall have adequate mechanical strength and be constructed to withstand such rough handling that may be expected in normal use. Compliance is checked by:	Complied	P
	Applying impacts to the battery pack mounted on the EPAC by means of the spring hammer as specified in IEC 60068-2-75. The battery pack is rigidly supported and three impacts are applied to every point of the enclosure that is likely to be weak with an impact energy of (0,7 ± 0,05) J. After the test the battery pack shall show no damage that could impair compliance with this European Standard;	Complied	P
	Detachable battery packs are submitted to free fall at a height of 0,90 meter in three different positions.	Complied	P
	After the test the battery pack shall show no damage that could lead to emission of dangerous substances (gas or liquid) ignition, fire or overheating.	Complied	P
4.2.4	Power management		
4.2.4.1	requirements		
	a) Assistance shall be provided only when the cyclist pedals forward.	Complied	P
	b) Assistance shall be cut off when the cyclist stops pedalling forward such that the cut off distance does not exceed 5 m with the use of brake lever cut off switch or 2 m without the use of brake lever cut off switch.	Complied	P
	c) The output or assistance shall be progressively reduced (see Annex B) and finally cut off as the vehicle reaches the maximum assistance speed as designed.	Complied	P
	d) The assistance shall be progressively and smoothly managed.	Complied	P
4.2.4.3	Start up assistance mode		
	EPAC can be equipped with a start up assistance mode up to 6 km/h designed speed or lower values as specified by the manufacturer. Unauthorized use shall be prevented.	-	NA



Clause	Requirement	Result	Verdict
	This mode shall be activated by the voluntary and maintained action of the user either when riding without pedaling or when the user is pushing the cycle.	-	NA
4.2.5	Elector Magnetic Compatibility		
4.2.5.1	Emission: EPAC & ESA conform to Annex C	Please refer to attached test report No. 4830016279700	P
4.2.5.2	Immunity: EPAC & ESA conform to Annex C	Please refer to attached test report No. 4830016279700	P
4.2.5.3	As an EPAC is not intended to be used while charging, for integrated charger the whole EPAC plus integrated The following European standards apply for battery charger: EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3.	Complied	P
4.2.6	Maximum speed for which the electric motor gives assistance		
	The maximum speed for which the electric motor gives assistance may differ by $\pm 5\%$ of the speed indicated on the label described within Clause 5 when determined according to the test method described in 4.2.6.2, from 25 km/h or lower values as specified by the manufacturer.	25.6 km/h	P
	During a production conformity check, the maximum speed may differ by $\pm 10\%$ from the above-mentioned determined value.	-	NA
4.2.7	Maximum power measurement		
4.2.7.1	Measurement at the engine shaft		
	The maximum continuous rated power shall be measured according to EN 60034-1 when the motor reaches its thermal equilibrium as specified by the manufacturer. NOTE Thermal equilibrium: temperatures of motor parts do not vary more than 2K per hour.	250 W	P
	In circumstance where the power is measured directly at the shaft of the electronic motor, the result of the measurement shall be decreased by 1,10 to consider the measurement uncertainty and then by 1,05 to include for example the transmission losses, unless the real values of these losses are determined.	239 W	P

Test Report No. 70.300.16.10026.01



Dated 2017-01-11

ORIGINAL

Clause	Requirement	Result	Verdict
4.2.7.2	When the power is measured at the wheel, the result of the measurement is the reading value. Annex D gives guidance on how to measure the power at the wheel.	See clause 4.2.7.1	NA
5	Marking, labelling		
	In addition to the requirements of EN 14764, the EPAC shall be visibly and durably marked according to EN 15194 as follows:	Complied	P
	- EPAC According to EN 15194:	Complied	P
	- XX km/h	Complied	P
	- XX W	Complied	P
6	Instruction for use		
	In addition to the instructions required by the bicycles standard EN 14764, each EPAC shall be provided with a set of instructions containing information on:	Complied	P
	1) concept and description of electric assistance;	Complied	P
	2) recommendation for washing;	Complied	P
	3) control and tell tales;	Complied	P
	4) specific EPAC recommendations for use;	Complied	P
	5) specific EPAC warnings;	Complied	P
	6) Recommendations about battery charging and charger use as well as the importance of following the instruction contained on the label of the battery charger.	Complied	P

Test Report No. 70.300.16.10026.01



Dated 2017-01-11

ORIGINAL

TABLE: list of critical parts/components			
Component Name	Manufacturer	Model	Main Technical Parameter
Battery	DLG Power Battery (Shanghai) Co., Ltd.	S1003	36V 7.8AH
Charger	Wuxi Sans Electronic Co., Ltd.	SSLC084V42	42V2A
Controller	Nanjing Lishui Electronics Research Institute Co., Ltd.	LSW979-7-4	36V12A
brake lever	ARTEK Co., Ltd.	-	-
Motor	Suzhou Shengyi Motor Co., Ltd	DGW07A-FA	36V250W
Sensor	-	V7-50+	5V
Display	Tianjin Key-Disp Technology Co., Ltd.	KD26E	Led, from 0 to 25km/h
Front light	Büchel GmbH & Co.	XC-153	6V 0.4W LED
Rear light	Nanjing Lingxu Industry Trade Co., Ltd.	51225636	-

-End of Test Report-





1. General Information and Definitions

- (1.1) In the event that an order for any services is placed, the Client shall accept the General Terms and Conditions. The General Terms and Conditions shall be applicable to all orders resulting contracts and other arrangements, including all offers made or services provided by the Company or any of its affiliated companies. They are not applicable if and as far as they are in conflict with the regulations on services performed on behalf of governments, government bodies or any other public entity, or they are in conflict with mandatory provisions of local law. The Client's placement of orders as well as the conclusion of contracts with the Company shall be regarded as awareness and acceptance of these General Terms and Conditions.
- (1.2) The Company strongly recommends any Client or potential Client to read the full text of these General Terms and Conditions prior to placement of any order to or conclusion of any contract with the Company. Ancillary agreements, promises and other statements made on the part of the Company staff or the experts called upon by them shall be binding only if they are expressly confirmed by the Company in writing. This shall also apply to any modifications of this clause.

2. Provision of Services

- (2.1) With due care and skill, the Company will provide services according to Client's specific instructions as made available by the Client. In the absence of Client's specific instructions, the following is deemed as instructions given to the Company:
- (a) The terms of any standard specification sheet or standard order form provided by the Company; and/or
- (b) Any relevant usage, practice or trade custom; and/or
- (c) Such methods the Company considers technically, operationally and/or on financial grounds appropriate.
- (2.2) No other party is entitled to give any instructions particularly on the scope and type of the services or the reports delivered, or on the resulting certificates (the "Reports of Findings"), unless the Company receives prior written instructions to the contrary from the Client. The Client hereby irrevocably authorizes the Company to deliver Reports of Findings to a third party where so instructed by the Client or, at the Company's discretion, where it implicitly follows from circumstances, trade custom, usage or practice.
- (2.3) The Information stated in the Report of Findings is derived from the results of inspection or testing procedures carried out in accordance with the instructions and/or Company's assessment of such results on the basis of any technical standards, trade custom or practice, or other circumstances which should in Company's professional experience be taken into account.
- (2.4) Reports of Findings issued after the testing of samples refer to the Company's opinion only on samples under testing and not to the lot from which the samples were drawn.
- (2.5) Client agrees that the Company's sole responsibility is to be present at the time of the third party's intervention and to forward the results, or confirm the occurrence of the intervention, in case Client requests the Company to witness any third party's intervention. Client agrees that the Company will use the test methods for analysis as requested in the request form, and if none is stated in the form, the Company will choose the appropriate test methods for analysis.
- (2.6) The Reports of Findings issued by the Company will reflect the facts as recorded by it at the time of its intervention only and within the limits of the instructions received or, in the absence of such instructions, within the limits of the alternative parameters applied as provided for in Clause 2.1. The Company is under no obligation to refer to, or report upon, any facts or circumstances, which are outside the specific instructions received or alternative parameters applied.
- (2.7) The performance of all or part of the services may be delegated to an agent or subcontractor by the Company. The Client authorizes the Company to disclose all information necessary for such performance to the agent or subcontractor.
- (2.8) Documents reflecting engagements contracted between the Client and third parties or third party documents, e.g. sales contract copies, letters of credit, bills of lading, etc. should be made available to the Company. These are considered to be for information only, and do not extend or restrict the scope of the services or the obligations accepted by the Company.
- (2.9) The Company agrees that, by providing the services to the Client, it neither takes the place of Client or any third party, nor otherwise assumes, abridges, abrogates or undertakes to discharge any duty of the Client to any third party or that of any third party to the Client. Also, it does not release the Client or any third party from any of their obligations.
- (2.10) Depending on the nature of each sample, all samples given to the Company shall be retained for a maximum of 3 months or for such other shorter time period as the nature of the sample permits, and then sent back to Client or otherwise disposed of at the Company's discretion. After that time the Company will not be responsible for the samples. Storage of samples for more than 3 months shall incur a storage fee payable by the Client. If samples are returned to the Client, the Client will be billed a handling and freight fees. Special disposal charges will be billed to the Client if incurred.

3. Client's Obligations

- The Client shall:
- (3.1) ensure that all required supporting documents, information and instructions as submitted are accurate, trueful and complete. These information are to be submitted in a timely not later than 2 working days from the date of which the services are requested by the Client
- (3.2) ensure to give all necessary access for the Company's representatives to the premises where the services are to be performed and to take all necessary steps to eliminate or remedy any obstacles to, or interruptions in the performance of the services;
- (3.3) make available any special equipment and personnel necessary for the performance of the services, if required;
- (3.4) ensure that for the safety and security of working conditions, sites and installations, all necessary measures are taken during the performance of services. In this respect, the Client will not rely on the Company's advice whether required or not;
- (3.5) inform the Company of any known hazards or dangers, actual or potential, associated with any order, samples, testing or any other service rendered by the Company well in advance. Those are, but are not limited to the presence or risk of radiation, environmental pollution or poisons- toxic or noxious or explosive elements or materials;
- (3.6) fully exercise all its rights and discharge all its liabilities under any relevant sales or other contract with a third party.

4. Fees and Payment

- (4.1) All Fees not agreed on between the Company and Client at the time the order is placed or a contract is concluded shall be determined by the Company's Schedule of Fees (which are subject to change). All applicable taxes shall be paid by Client, as far as mandatory laws do not provide otherwise.
- (4.2) Unless a specific period is established in the invoice, the Client shall pay upon receiving the invoice, but not later than 30 days from the relevant invoice date or within such other period as may be established by the Company in the invoice (the "Due Date").
- (4.3) The Client shall not be entitled to retain or defer due payment of any sums to the Company on account of any dispute, counter claim or set-off against the Company. The Company reserves the right to retain or defer any due payments if any dispute arises with or it raises any counterclaim against the Client. The Company is entitled to set off due payments against payments of the Client.

- (4.4) For the collection of unpaid fees, the Company may decide to bring action in any court with competent jurisdiction. The corresponding collection costs, including attorney's fees and related costs, shall be borne by the Client, as far as the mandatory local law does not provide otherwise.
- (4.5) In case of any unforeseen problems or expenses arise while carrying out the services, the Company informs the Client. In such cases, the Company shall be entitled to charge additional fees to cover extra time and to invoice extra costs necessarily incurred to complete the services
- (4.6) If the Company is unable to perform all or parts of the services for any cause whatsoever beyond the Company's control, including the failure by Client to comply with any of its obligations provided for in the foregoing Clause 3, the Company shall nevertheless be entitled to payments of:
- (1) The amount of all non-refundable expenses incurred by the Company; and
- (2) A proportion of the agreed fee equal to the proportion of the services actually carried out.

5. Suspension or Termination of Services

- In any case mentioned below, the Company shall be entitled to either suspend or terminate the provision of the services immediately and without any liability:
- (5.1) Failure by the Client to comply with any of its obligations under these General Terms and Conditions and such failure is not remedied within 10 days after a notice of such failure has been delivered to the Client; or
- (5.2) Any suspension of payment, arrangement with creditors, bankruptcy, insolvency, receivership or cessation of business by Client.

6. Liability and Indemnification

- (6.1) Limitation of Liability:
- (1) Clients seeking a guarantee against loss or damage should obtain appropriate insurance. The Company is neither an insurer nor a guarantor and disclaims all liability in such capacity.
- (2) Reports of Findings are issued on the basis of the information, documents and/or samples provided by, or on behalf of the Client and solely for the benefit of the Client who is obliged to act on the basis of such Reports of Findings. Neither the Company nor any of its staff, agents or subcontractors shall be liable to the Client nor to any third party for any actions taken or not taken on the basis of such Reports of Findings, or for any incorrect results arising from unclear, erroneous, incomplete, misleading or false information provided to the Company.
- (3) For any delayed, total or partial non-performance of the services arising directly or indirectly from any event beyond the Company's control, including failure by Client to comply with any of its obligations hereunder, the Company shall not be liable.
- (4) The liability of the Company in respect of any claim for loss, damage or expense of any nature and whatsoever arising shall in no circumstances exceed a total aggregate sum equal to 10 times the amount of the fee paid in respect of the specific service which gives rise to such claim, and shall in any case not exceed the equivalent of 25,000 EUR in CNY.
- (5) For any indirect or consequential loss (including loss of profits), the Company shall not have any liabilities.
- (6) In case of any claim, the Client must give written notice to the Company within 30 days of discovery of the facts with all necessary documents to justify such claim. In any case, the Company shall be discharged from all liability for all claims for loss, damage or expense unless a lawsuit is brought within two years from:
- (i) the performance date of the Company for its services which refers to the claim; or
- (ii) the date when the service should have been completed in the event of any alleged non-performance.
- (6.2) Indemnification: Against all claims (actual or threatened) by any third party for loss, damage or expenses of whatsoever nature including all legal expenses and related costs and whatsoever arising relating to the performance, purported performance or non-performance of any services, the Client shall guarantee, hold harmless and indemnify the Company and its officers, employees, agents or subcontractors.

7. Obligation of Confidentiality, Copyright, Data Privacy Protection

- (7.1) The Company shall be authorized to make file copies of written documents, which have been made available to it for review and which are important for processing the order.
- (7.2) Insofar as Reports of Findings are prepared in the course of processing the order and which are subject to the protection of copyright, then the Company shall grant the Client a simple, non-transferable right to use, insofar as this is necessary and in accordance with the contractually presupposed purpose. Other rights shall not be transferred; in particular, the customer shall not be entitled to modify and/or edit audit reports or to make use of such outside of his business premises.
- (7.3) The Company and its staff which may be called in shall not disclose or use trade and business matters about which they have gained knowledge during the performance of their work without proper authorization, or unless instructed by a court or authorized body (e.g. regulatory authority, accreditation body or certification scheme owner) or otherwise legally required.

8. Miscellaneous

- (8.1) The validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired, even if any one or more provisions of these General Conditions are found to be illegal or unenforceable in any respect.
- (8.2) Client shall not directly or indirectly entice, encourage or make any offer to Company's employees to leave their employment with the Company, during the course of providing the services and for a period of one year thereafter.
- (8.3) Use of the Company's corporate name or registered marks for advertising purposes is not permitted without the Company's prior written authorization.

9. Governing Law, Jurisdiction and Dispute Settlement

- (9.1) Unless specifically agreed otherwise, all disputes arising out or in connection with contractual relationship(s) hereunder shall be governed by the applicable laws and regulations of the People's Republic of China.
- (9.2) Place of performance for any obligation arising out of this contract shall be Shanghai, the Place of the TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch, unless otherwise expressly agreed by the parties.

10. Languages

- In the event of any discrepancy between the English and the Chinese version of these General Terms and Conditions, the English version shall prevail.