



Report No.: 244385154b 001

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Client:



Contact Information:



Identification/
Model No(s):

Control Box SHD30
Column SHA 310 -X1-X2; SHA 320 -X1-X2; SHA 210 -X1-X2; SHA 230 -X1-X2;
SHA 311 -X1-X2; SHA 321 -X1-X2; SHA 211 -X1-X2; SHA 231 -X1-X2
(X1=400-800 ; X2=300-700)

Condition at delivery:

Test item complete and undamaged.

Sample Receiving date:

2022-03-10, 2022-05-30

Testing Period:

2022-03-10 to 2022-03-21, 2022-05-30 to 06-06

Place of testing:

Chemical laboratory Shanghai

Test Specification:

Test result:

1. Screening Test by XRF Spectroscopy

PASS

According to RoHS (recast): Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, 2011/65/EU Annex II and its amendment.

For and on behalf of
TÜV Rheinland (Shanghai) Co., Ltd.

2022-06-07

Ryan Chen / Assistant Manager

Date

Name/Position

Sample information is provided by customer. Test result is drawn according to the kind and extent of tests performed.
This test report relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated report does not entitle to carry any safety mark on this or similar products.
"Decision Rule" document announced in our website (<https://www.tuv.com/landingpage/en/qm-gcn/>) describes the statement of conformity and its rule of test results are applicable throughout this test report.

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Material List:

Item: Control Box SHD30

Column SHA310-X1-X2; SHA320-X1-X2; SHA210-X1-X2; SHA230-X1-X2;
SHA311-X1-X2; SHA321-X1-X2; SHA211-X1-X2; SHA231-X1-X2
(X1=400-800; X2=300-700)

Material No.	Material	Color	Location
M001	Metal	white	refer to photo
M002	Metal	silver	refer to photo
M003	Metal	white	refer to photo
M004	Metal	silver	refer to photo
M005	Metal	silver	refer to photo
M006	Plastic	black	refer to photo
M007	Plastic	black	refer to photo
M008	Plastic	white	refer to photo
M009	Plastic	black	refer to photo
M010	Plastic	black	refer to photo
M011	Plastic	black	refer to photo
M012	Metal	silver	refer to photo
M013	Metal	golden	refer to photo
M014	Metal	copper	refer to photo
M015	Plastic	black	refer to photo
M016	Plastic	brown	refer to photo
M017	Plastic	blue	refer to photo
M018	Plastic	black	refer to photo
M019	Plastic	black	refer to photo
M020	Plastic	black	refer to photo
M021	Plastic	black	refer to photo
M022	Plastic	black	refer to photo
M023	Plastic	black	refer to photo
M024	Plastic	green	refer to photo
M025	Plastic	brown	refer to photo
M026	Plastic	red	refer to photo
M027	Plastic	white	refer to photo

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M028	Plastic	yellow	refer to photo
M029	Plastic	transparent	refer to photo
M030	Plastic	white	refer to photo
M031	Plastic	black	refer to photo
M032	Plastic	black	refer to photo
M033	Electronic components	-	refer to photo
M034	Electronic components	-	refer to photo
M035	Electronic components	-	refer to photo
M036	Electronic components	-	refer to photo
M037	Electronic components	-	refer to photo
M038	Electronic components	-	refer to photo
M039	Electronic components	-	refer to photo
M040	Electronic components	-	refer to photo
M041	Electronic components	-	refer to photo
M042	Metal	silver	refer to photo
M043	Electronic components	-	refer to photo
M044	Solder	silver	refer to photo
M045	PCB board	green	refer to photo
M046	PCB board	green	refer to photo
M047	Plastic	black	refer to photo
M048	Plastic	white	refer to photo
M049	Plastic	white	refer to photo
M050	Metal	silver	refer to photo
M051	Metal	silver	refer to photo
M052	Plastic	white	refer to photo
M053	Plastic	white	refer to photo
M054	Plastic	black	refer to photo
M055	Plastic	black	refer to photo
M056	Plastic	white	refer to photo
M057	Plastic	white	refer to photo
M058	Plastic	white	refer to photo
M059	Plastic	white	refer to photo

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M060	Plastic	white	refer to photo
M061	Plastic	black	refer to photo
M062	Metal	silver	refer to photo
M063	Metal	silver	refer to photo
M064	Metal	silver	refer to photo
M065	Metal	silver	refer to photo
M066	Metal	silver	refer to photo
M067	Magnet	black	refer to photo
M068	Metal	silver	refer to photo
M069	Metal	silver	refer to photo
M070	Metal	silver	refer to photo
M071	Metal	silver	refer to photo
M072	Metal	silver	refer to photo
M073	Metal	copper	refer to photo
M074	Metal	copper	refer to photo
M075	Electronic components	-	refer to photo
M076	Plastic	black	refer to photo
M077	Plastic	black	refer to photo
M078	Metal	silver	refer to photo
M079	Plastic	red	refer to photo
M080	Plastic	black	refer to photo
M081	Plastic	black	refer to photo
M082	Plastic	white	refer to photo
M083	Plastic	blue	refer to photo
M084	Plastic	purple	refer to photo
M085	Plastic	black	refer to photo
M086	PCB board	green	refer to photo
M087	Metal	silver	refer to photo
M088	Plastic	white	refer to photo
M089	Plastic	black	refer to photo
M090	Plastic	black	refer to photo
M091	Plastic	transparent	refer to photo

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M092	Metal	black	refer to photo
M093	Metal	black	refer to photo
M094	Metal	silver	refer to photo
M095	Metal	silver	refer to photo
M096	Metal	silver	refer to photo
M097	Metal	silver	refer to photo
M098	Metal	silver	refer to photo
M099	Metal	silver	refer to photo

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1.Screening Test by XRF spectroscopy

Test Method: Cadmium, Lead, Mercury, Chromium, Bromine
-- With reference to IEC 62321-3-1:2013

Test Result:

Material No.	Cd	Cr	Pb	Hg	Br
M001	BL	BL	BL	BL	n.a.
M002	BL	BL	BL	BL	n.a.
M003	BL	BL	BL	BL	n.a.
M004	BL	BL	BL	BL	n.a.
M005	BL	BL	BL	BL	n.a.
M006	BL	BL	BL	BL	BL
M007	BL	BL	BL	BL	BL
M008	BL	BL	BL	BL	BL
M009	BL	BL	BL	BL	BL
M010	BL	BL	BL	BL	BL
M011	BL	BL	BL	BL	d*1
M012	BL	BL	d*1	BL	n.a.
M013	BL	BL	d*1	BL	n.a.
M014	BL	BL	BL	BL	n.a.
M015	BL	BL	BL	BL	BL
M016	BL	BL	BL	BL	BL
M017	BL	BL	BL	BL	BL
M018	BL	BL	BL	BL	d*1
M019	BL	BL	BL	BL	BL
M020	BL	BL	BL	BL	d*1
M021	BL	BL	BL	BL	BL
M022	BL	BL	BL	BL	BL
M023	BL	BL	BL	BL	BL
M024	BL	BL	BL	BL	BL
M025	BL	BL	BL	BL	BL
M026	BL	BL	BL	BL	BL
M027	BL	BL	BL	BL	BL
M028	BL	BL	BL	BL	BL
M029	BL	BL	BL	BL	BL
M030	BL	BL	BL	BL	BL
M031	BL	BL	BL	BL	d*1
M032	BL	BL	BL	BL	d*1
M033	BL	BL	BL	BL	BL
M034	BL	BL	BL	BL	BL
M035	BL	BL	BL	BL	BL
M036	BL	BL	BL	BL	BL
M037	BL	BL	BL	BL	BL

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M038	BL	BL	BL	BL	n.a.
M039	BL	BL	BL	BL	BL
M040	BL	BL	BL	BL	BL
M041	BL	BL	BL	BL	BL
M042	BL	BL	BL	BL	n.a.
M043	BL	BL	BL	BL	d*1
M044	BL	BL	BL	BL	n.a.
M045	BL	BL	BL	BL	BL
M046	BL	BL	BL	BL	BL
M047	BL	BL	BL	BL	BL
M048	BL	BL	BL	BL	BL
M049	BL	BL	BL	BL	BL
M050	BL	BL	BL	BL	n.a.
M051	BL	BL	BL	BL	n.a.
M052	BL	BL	BL	BL	BL
M053	BL	BL	BL	BL	BL
M054	BL	BL	BL	BL	d*1
M055	BL	BL	BL	BL	BL
M056	BL	BL	BL	BL	BL
M057	BL	BL	BL	BL	BL
M058	BL	BL	BL	BL	BL
M059	BL	BL	BL	BL	BL
M060	BL	BL	BL	BL	BL
M061	BL	BL	BL	BL	BL
M062	BL	d*1	BL	BL	n.a.
M063	BL	BL	BL	BL	n.a.
M064	BL	BL	BL	BL	n.a.
M065	BL	d*1	BL	BL	n.a.
M066	BL	BL	BL	BL	n.a.
M067	BL	BL	BL	BL	n.a.
M068	BL	d*1	BL	BL	n.a.
M069	BL	d*1	BL	BL	n.a.
M070	BL	d*1	BL	BL	n.a.
M071	BL	d*1	BL	BL	n.a.
M072	BL	BL	BL	BL	n.a.
M073	BL	BL	BL	BL	n.a.
M074	BL	BL	BL	BL	n.a.
M075	BL	BL	BL	BL	BL
M076	BL	BL	BL	BL	BL
M077	BL	BL	BL	BL	BL
M078	BL	BL	BL	BL	n.a.
M079	BL	BL	BL	BL	BL
M080	BL	BL	BL	BL	BL

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M081	BL	BL	BL	BL	BL
M082	BL	BL	BL	BL	BL
M083	BL	BL	BL	BL	BL
M084	BL	BL	BL	BL	BL
M085	BL	BL	BL	BL	BL
M086	BL	BL	BL	BL	d*1
M087	BL	BL	BL	BL	n.a.
M088	BL	BL	BL	BL	BL
M089	BL	BL	BL	BL	BL
M090	BL	BL	BL	BL	BL
M091	BL	BL	BL	BL	BL
M092	BL	BL	BL	BL	n.a.
M093	BL	BL	BL	BL	n.a.
M094	BL	BL	BL	BL	n.a.
M095	BL	d*1	BL	BL	n.a.
M096	BL	BL	BL	BL	n.a.
M097	BL	d*1	BL	BL	n.a.
M098	BL	d*1	BL	BL	n.a.
M099	BL	BL	BL	BL	n.a.

Abbreviation:

Pb	=	Lead
Cd	=	Cadmium
Hg	=	Mercury
Cr	=	Chromium
Br	=	Bromine
n.a.	=	Not appliable
BL	=	Below limit
OL	=	Over limit
d.	=	Detected

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Remark:

- (*1) The screening result was detected in the inconclusive region or over limits, thus the further wet chemistry tests are suggested.
- (*2) Component(s)/ materials(s) with an area of less than 2 mm x 2 mm will not be selected for testing according to RoHS Directive 2011/65/EU due to technical reason.
For the test sample does not have detail materials information provided by client, visually identical materials (e.g. wire insulation, solder points, etc.) will be considered as the same material.
Solder points on a printing circuit board will be examined several times based on optical anomalies or discoloration of the solder point(s) unless the solder point(s) is obviously generated automatically during production.
All other materials will be sampled and tested at one test point representatively.

XRF Screening limits for different matrices :

Material	Concentration (%)				
	Cd	Cr	Pb	Hg	Br
Polymeric	BL≤0.006<X<0.014≤ OL	BL≤0.064<X	BL≤0.067<X<0.133≤ OL	BL≤0.066<X< 0.134≤OL	BL≤0.029<X
Metallic	BL≤0.006<X<0.014≤ OL	BL≤0.064<X	BL≤0.067<X<0.133≤ OL	BL≤0.066<X< 0.134≤OL	n.a.
Composite materials	BL≤0.004<X<0.016≤ OL	BL≤0.044<X	BL≤0.047<X<0.153≤ OL	BL≤0.046<X< 0.154≤OL	BL≤0.024<X

Remark: The symbol "X" marks the region where further investigation is necessary.

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Cadmium, Lead, Chromium (VI), Mercury, Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE)

Test Method: Total Cadmium, Lead, Mercury, Chromium
- Ref. to IEC 62321-4:2013+AMD1:2017 and IEC 62321-5:2013

Chromium (VI)
- For Metal material - Ref. to IEC 62321-7-1:2015
- For Plastic or Electronic material - Ref. to IEC 62321-7-2:2017
- For Leather material - Ref. to EN ISO 17075-1:2017

PBBs, PBDEs - Ref. to IEC 62321-6:2015

Test Result:

	Cd	Cr(VI)	Pb	Hg	PBBs (*)	PBDEs (*)
Maximum Permissible Limit (%)	0.01	0.1	0.1	0.1	0.1	0.1

Material No.	(%)					
	Cd	Cr[^]	Pb	Hg	PBBs (*)	PBDEs (*)
	RL (%)					
	0.001	0.001	0.001	0.001	0.01	0.01
M011	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M012	n.a.	n.a.	3.04 6(c)	n.a.	n.a.	n.a.
M013	n.a.	n.a.	0.0853	n.a.	n.a.	n.a.
M018	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M020	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M031	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M032	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M043	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M054	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M086	n.a.	n.a.	n.a.	n.a.	< RL	< RL

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Material No.	Hexavalent Chromium Content ($\mu\text{g}/\text{cm}^2$) (*1) RL: 0.10 $\mu\text{g}/\text{cm}^2$
M062	Negative
M065	Negative
M068	Negative
M069	Negative
M070	Negative
M071	Negative
M095	Negative
M097	Negative
M098	Negative

Abbreviation:

Pb	= Lead
Cd	= Cadmium
Hg	= Mercury
Cr	= Chromium
Cr (VI)	= Chromium (VI)
PBBs	= Total Polybrominated Biphenyls
PBDEs	= Total Polybrominated Diphenyl Ethers
<	= Less than
RL	= Reporting Limit
n.a.	= Not Applicable
^	= The total Chromium have been determined
%	= Percentage

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Remark:

(*) The reporting limit for each individual PBBs and individual PBDEs are :

Reporting Limit (%)		
PBBs	Bromobiphenyl	0.01
	Dibromobiphenyl	0.01
	Tribromobiphenyl	0.01
	Tetrabromobiphenyl	0.01
	Pentabromobiphenyl	0.01
	Hexabromobiphenyl	0.01
	Heptabromobiphenyl	0.01
	Octabromobiphenyl	0.01
	Nonabromobiphenyl	0.01
	Decabromobiphenyl	0.01
PBDEs	Bromodiphenylether	0.01
	Dibromodiphenyl ether	0.01
	Tribromodiphenyl ether	0.01
	Tetrabromodiphenyl ether	0.01
	Pentabromodiphenyl ether	0.01
	Hexabromodiphenyl ether	0.01
	Heptabromodiphenyl ether	0.01
	Octabromodiphenyl ether	0.01
	Nonabromodiphenyl ether	0.01
	Decabromodiphenyl ether	0.01

(*1) The total chromium content in Metal sample was found to be exceeded the maximum permissible limit (0.1%). Thus, the Chromium (VI) content in surface layer have been confirmed with reference to IEC 62321-7-1:2015 Annex.

	Chromium (VI) concentration	Qualitative result
Negative	<0.1µg/cm ²	The sample is negative (-ve) for Cr(VI). The Cr(VI) concentration is below the limit of quantification. The coating is considered a non-Cr(VI) based coating
Inconclusive	≥0.1µg/cm ² and ≤0.13 µg/cm ²	The result is considered to be inconclusive. Unavoidable coating variations may influence the determination. Recommendation: if additional samples are available, perform a total of 3 trials to increase sampling surface area. Use the averaged result of the 3 trails for the final determination.
Positive	>0.13 µg/cm ²	The sample is positive (+ve) for Cr(VI). Concentration is above the limit of quantification and the statistical margin of error. The sample coating is considered to contain Cr(VI).

6(c) Copper alloy containing up to 4 % lead by weight

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BBP, DBP, DEHP, DIBP content

Test Method: IEC 62321-8:2017

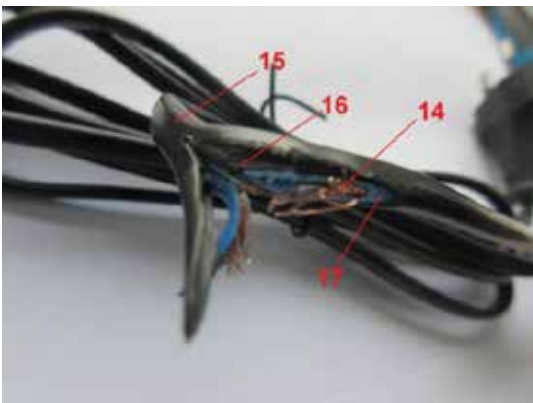
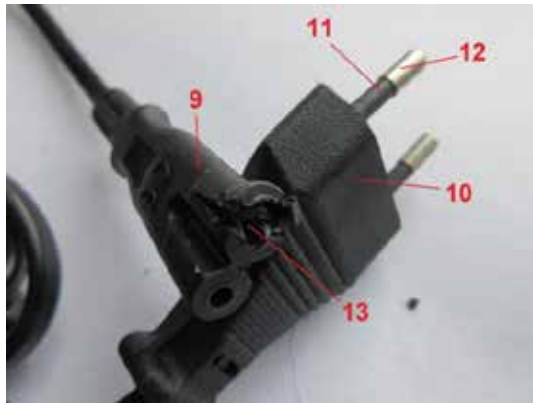
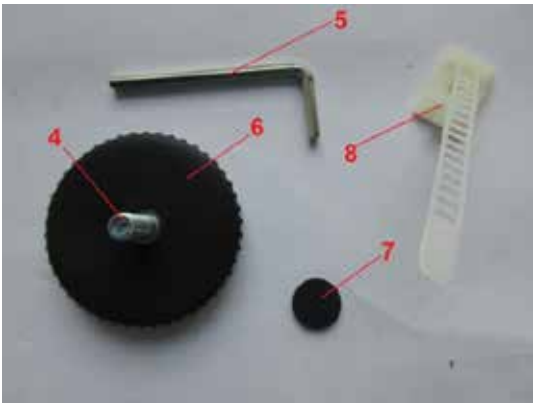
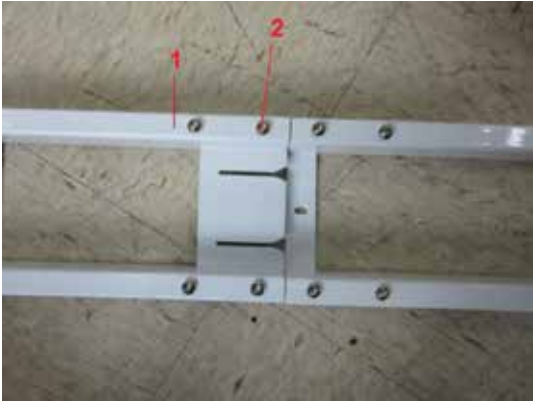
Test Result:

	BBP	DBP	DEHP	DIBP
Maximum permissible Limit (%)	0.1	0.1	0.1	0.1

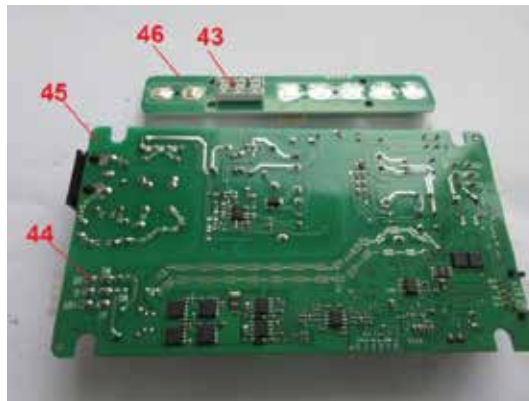
Test No.	Material No.	RL (%)			
		BBP	DBP	DEHP	DIBP
		0.005			
		0.005	0.005	0.005	0.005
T001	M009 + M010 + M015	< RL	< RL	< RL	< RL
T002	M016 + M017 + M021	< RL	< RL	< RL	< RL
T003	M025 + M026 + M027	< RL	< RL	< RL	< RL
T004	M028 + M047 + M055	< RL	< RL	< RL	< RL
T005	M077 + M079 + M080	< RL	< RL	< RL	< RL
T006	M083 + M084 + M085	< RL	< RL	< RL	< RL
T007	M089 + M090	< RL	< RL	< RL	< RL
T008	M022	< RL	< RL	< RL	< RL
T009	M023	< RL	< RL	< RL	< RL
T010	M024	< RL	< RL	< RL	< RL

Abbreviation: BBP= Benzylbutyl phthalate
 DBP= Dibutyl phthalate
 DEHP= Bis(2-ethylhexyl) phthalate
 DIBP= Diisobutyl phthalate
 < = less than
 RL = Reporting Limit
 N.A. = Not Applicable
 %= percentage

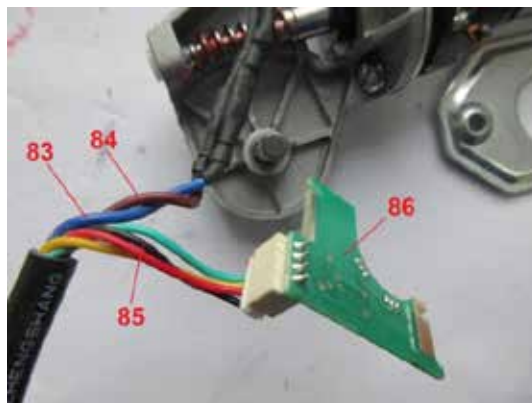
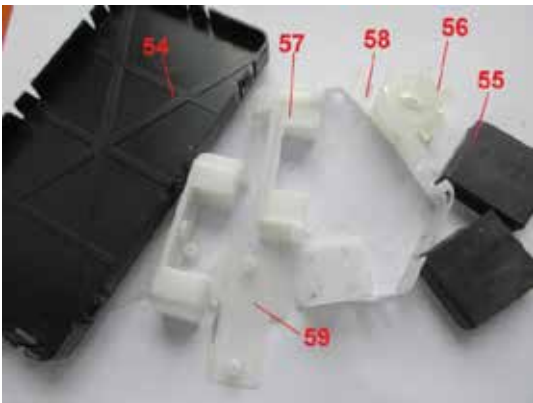
Sample Photos



Sample Photos



Sample Photos



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Sample Photos



- END -

General Terms and Conditions of Business of TÜV Rheinland in Greater China

1. **Scope**
1.1 These General Terms and Conditions of Business of TÜV Rheinland in Greater China ("GTBC") is made between the client and one or more member entities of TÜV Rheinland in Greater China as applicable as the case may be ("TÜV Rheinland"). The Greater China hereof refers to Mainland China, Hong Kong and Taiwan. The client hereof includes:
(i) a natural person capable to form legally binding contracts under the applicable laws who concludes the contract for the purpose of providing services;
(ii) the incorporated or unincorporated entity duly organized, validly existing and capable to form legally binding contracts under the applicable law;
(iii) any standard terms and conditions of the client of any nature shall not apply and shall hereby be expressly excluded. No standard contractual terms and conditions of the client shall form part of the contract even if TÜV Rheinland does not explicitly object to them.
1.2 In the context of an ongoing business relationship with the client, this GTBC shall also apply to future contracts with the client unless TÜV Rheinland refers to them separately in each individual case.
2. **Quotations**
Unless otherwise agreed, all quotations submitted by TÜV Rheinland can be changed by TÜV Rheinland without notice prior to its acceptance and confirmation by the other party.
3. **Coming into effect and duration of contracts**
3.1 The contract shall come into effect for the agreed terms upon the quotation letter of TÜV Rheinland or a separate contractual document being signed by both contracting parties, or upon request by the client being carried out by TÜV Rheinland. If the client instructs TÜV Rheinland not receiving a quotation from TÜV Rheinland (quotation), TÜV Rheinland is, in its sole discretion, not responsible for any delay in providing the quotation or acceptance (including notice sent via electronic means) or by performing the requested services.
3.2 The contract term starts upon the coming into effect of the contract in accordance with article 3.1 and shall continue for the term agreed in the contract.
3.3 If the contract provides for an extension of the contract term, the contract term will be extended by the term stated for the contract unless terminated in writing by either party with a 3-month notice prior to the end of the contractual term.
4. **Scope of services**
4.1 The scope and type of the services to be provided by TÜV Rheinland shall be specified in the contractually agreed service scope of TÜV Rheinland by both parties. If no such separate service scope of TÜV Rheinland exists, then the written confirmation of order by TÜV Rheinland shall be decisive for the services to be provided or examined after the order. Beyond the scope of the service description (e.g. checking the correctness and functionality of parts, products, processes, installations, organizations not listed in the service description, as well as the intended use and application of such parts, products, processes, installations) no assumption is assumed for the design, selection of materials, construction or intended use of an examined part, product, process or plant, unless this is expressly stated in the order.
4.2 The agreed services shall be performed in compliance with the regulations in force at the time the contract is entered into.
4.3 TÜV Rheinland is entitled to determine, in its sole discretion, the method and nature of the assessments unless otherwise agreed in writing of any mandatory provisions require a specific procedure to be followed.
4.4 On execution of the work there shall be no simultaneous assumption of any guarantee of the correctness (proper quality) and working order of either tested or examined parts nor of the installation as a whole and its upstream and/or downstream processes, organizations, use and application in accordance with regulations, nor of the systems on which the installation is based. In particular, TÜV Rheinland shall assume no responsibility for the construction, selection of materials and assembly of installations examined, nor for their use and application in accordance with regulations, unless these questions are expressly covered by the contract.
4.5 In the case of inspection work, TÜV Rheinland shall not be responsible for the accuracy or checking of the safety programmes or safety regulations on which the inspections are based, unless otherwise expressly agreed in writing.
4.6 If mandatory legal regulations and standards or official requirements for the agreed service scope change after conclusion of the contract, with a written notice to the client, TÜV Rheinland shall be entitled to additional remuneration for resulting additional expenses.
4.7 The services to be provided by TÜV Rheinland under the contract are agreed exclusively with the client. A contract of third parties with the services of TÜV Rheinland, as well as making available of and justifying confidence in the work results (test reports, test results, expert reports, etc.) is not part of the agreed services. This also applies if the client passes on work results - in full or in extracts - to third parties in accordance with clause 11.4.
5. **Performance periods/dates**
5.1 The contractually agreed periods/dates of performance are based on estimates of the work involved which are prepared in line with the details provided by the client. They shall only be binding if confirmed in writing by TÜV Rheinland.
5.2 If binding periods of performance have been agreed, these periods shall not commence until the client has submitted all required documents to TÜV Rheinland.
5.3 Articles 5.1 & 5.2 also apply, even if the client, to all extents of agreed periods/dates of performance not caused by TÜV Rheinland.
5.4 TÜV Rheinland is not responsible for a delay in performance, in particular if the client has not fulfilled his obligation to cooperate in accordance with clause 5.1 or has not done so in time and, in particular, has not provided TÜV Rheinland with all documents and information required for the performance of the service as specified in the contract.
5.5 If the performance of TÜV Rheinland is delayed due to unforeseeable circumstances such as force majeure, strikes, business disruptions, governmental regulations, transport obstacles, etc., TÜV Rheinland is entitled to postpone performance for a reasonable period of time which may be required to restore performance.
5.6 If the client is obliged to comply with legal, officially prescribed and/or by the accreditator prescribed deadlines, it is the client's responsibility to agree on performance dates with TÜV Rheinland, which enable the client to comply with the legal and/or officially prescribed deadlines. TÜV Rheinland assumes no responsibility in this respect unless TÜV Rheinland expressly agrees in writing specifically stating that ensuring the deadlines is the contractual obligation of TÜV Rheinland.
6. **The client's obligation to cooperate**
6.1 The client shall guarantee that all cooperation required on its part, its agents or third parties will be provided in a timely manner and under the contract of TÜV Rheinland.
6.2 Design documents, supplies, auxiliary staff, etc. necessary for performance of the services shall be made available free of charge by the client. Moreover, collaborative action of the client must be undertaken in accordance with legal provisions, standards, safety regulations and accident prevention instructions. And the client represents and warrants that:
a) It has required statutory qualifications;
b) The product, service or management system to be certified complies with applicable laws and regulations; and
c) It doesn't have any illegal and dishonest behaviours or is not included in the list of Enterprises with Serious Illegal Disruptive Behaviours published by a reputable commercial bank in the country where TÜV Rheinland is located. At the same time, TÜV Rheinland reserves the right to claim further damages.
6.3 Should the client default in payment of the invoice despite being granted a reasonable grace period, TÜV Rheinland shall be entitled to cancel the contract, withdraw the certificate, claim damages for non-performance and refuse to continue performance of the contract.
6.4 The provisions set forth in article 8.4 shall also apply in cases involving returned checks, cessation of payment, commencement of insolvency proceedings against the client's assets or cases in which the commencement of insolvency proceedings has been dismissed due to lack of assets.
6.5 Objections to the invoices of TÜV Rheinland shall be submitted in writing within two weeks of receipt of the invoice.
6.6 TÜV Rheinland shall be entitled to demand appropriate advance payments.
6.7 TÜV Rheinland shall be entitled to raise its fees at the beginning of a month if overheads and/or purchase costs have increased. In this case, TÜV Rheinland shall notify the client in writing of the rise in fees. This notification shall be issued one month prior to the date on which the rise in fees shall come into effect (period of notice of changes in fees). If the rise in fees remains under 5% per contractual year, the client shall not have the right to terminate the contract. If the rise in fees exceeds 5% per contractual year, the client shall be entitled to terminate the contract by the end of the period of notice of changes in fees. If the contract is not terminated, the changed fees shall be deemed to have been agreed upon by the time of the expiry of the notice period.
6.8 Only legally established and undisputed claims may be offset against claims by TÜV Rheinland.
6.9 TÜV Rheinland shall have the right at all times to seek any amount due or payable by the client, including but not limited to itself against any fees paid by the client under any contracts, agreement and/or orders/quotations reached with TÜV Rheinland.
9. **Acceptance of work**

9.1 Any part of the work result ordered which is complete in itself may be presented by TÜV Rheinland for acceptance as an instalment. The client shall be obliged to accept it immediately.
9.2 If acceptance is required or contractually agreed in an individual case, this shall be deemed to have taken place two (2) weeks after completion and handover of the work, unless the client refuses acceptance within this period stating at least one fundamental breach of contract by TÜV Rheinland.
9.3 The client is not entitled to refuse acceptance due to insignificant breach of contract by TÜV Rheinland.
9.4 If acceptance is excluded according to the nature of the work performance of TÜV Rheinland, the completion of the work shall take its place.
9.5 During the follow-up stage of the client may be unable to make use of the time windows provided for within the scope of a certification procedure for auditing/performance by TÜV Rheinland and the certificate is therefore to be withdrawn (e.g. performance of surveillance audits), if the client carries out or postpones a certification or if the client, before or after the agreed date, TÜV Rheinland is entitled to immediately charge a lump-sum compensation of 10% of the order amount as compensation for expenses. The client reserves the right to prove that the TÜV Rheinland has incurred no damage whatsoever or only a considerably lower damage than the above lump sum.
9.6 Insofar as the client has undertaken in the contract to accept services, TÜV Rheinland shall also be entitled to charge lump-sum damages in the amount of 10% of the order amount as compensation for expenses if the services is not called within one year after the order has been placed. The client reserves the right to prove that the TÜV Rheinland has incurred no damage whatsoever or only a considerably lower damage than the above mentioned lump sum.
10. **Confidentiality**
10.1 For the purpose of these terms and conditions, "confidential information" means all know-how, trade secrets, documents, images, drawings, expertise, information, data, test results, reports, samples, project documents, pricing and financial information, customer and supplier data, information relating to marketing techniques and methods, know-how, and any other information transferred or otherwise disclosed by one Party (the "disclosing party") to the other Party (the "receiving party"), in writing or orally, in printed or electronic form. Confidential information expressly not the collection and know-how collected or generated or otherwise disclosed by TÜV Rheinland (non-personal and not proprietary to the client) within the scope of the provision of services by TÜV Rheinland. TÜV Rheinland is entitled to store, use, further develop and pass on the confidential information in connection with the services for the purposes of developing new services, improving services and analysing the provision of services. 10.2. The disclosing party shall mark all confidential information disclosed in written form as confidential before passing it onto the receiving party. The same applies to confidential information transmitted by e-mail. If confidential information is disclosed orally, the receiving party shall be appropriately informed in advance and the disclosing party shall confirm in writing the confidentiality nature of the information being orally disclosed. Where the disclosing party fails to do so within the stipulated period, the receiving party shall not take any confidentiality obligations hereunder towards such information. The client shall avoid using third party platform services (e.g. WeChat, QQ, etc.) for the transfer of confidential information to TÜV Rheinland. Instead, the client shall send any confidential information to company email of TÜV Rheinland employees through its company email. If the client suffers from any security or information protection incidents caused by the adoption of any unauthorized confidential information sharing methods mentioned above, TÜV Rheinland shall be waived for any compensation liabilities.
10.3 All confidential information which is disclosed in writing or orally to the receiving party, unless expressly otherwise agreed in writing by the disclosing party, shall:
a) may only be used by the receiving party for the purposes of performing the contract, unless expressly otherwise agreed in writing;
b) may not be copied, distilled, published or otherwise disclosed by the receiving party, unless this is necessary for fulfilling the purpose of the contract or TÜV Rheinland is required to pass this information on to government bodies or other government departments, judicial court, accreditation bodies or third parties that are involved in the performance of the contract;
c) must be treated by the receiving party with the same level of confidentiality as the receiving party uses to protect its own confidential information, but never with a lesser level of confidentiality than that which is reasonably required.
10.4 The receiving party shall not disclose confidential information received from the disclosing party only to those of its employees who need this information to perform the services required for the contract. The receiving party undertakes to oblige these employees to observe the same level of confidentiality as the disclosing party with the client. However, the disclosing party shall not be bound by any confidentiality obligation to furnish proof that:
a) it was generally known at the time of disclosure or has become general knowledge without violation of confidentiality clause by the disclosing party;
b) it was disclosed to the receiving party by a third party entitled to disclose this information; or
c) the disclosing party already possessed this information prior to disclosure by the disclosing party;
d) the receiving party developed it itself, irrespective of disclosure by the disclosing party, shall not be deemed to constitute "confidential information" as defined in this confidentiality clause.
10.5 All confidential information remain the property of the disclosing party and the receiving party hereby agrees to immediately (i) return all confidential information, including all copies, to the disclosing party, and/or (ii) on request by the disclosing party, to destroy all confidential information, including all copies, and any other documents or materials containing confidential information, including the disclosing party in writing, at any time if so requested by the disclosing party but at the latest and without special request after termination or expiry of the contract. This does not extend to include reports and certificates prepared for the client solely for the purpose of fulfilling the obligations under the contract, which are provided to the client. However, TÜV Rheinland is entitled to make file copies of such reports, certificates and confidential information which forms the basis for preparing these reports and certificates in order to evidence the correctness of its results and for legal and other purposes. The disclosure of confidential information shall be limited to the minimum required by laws, regulations and the requirements of working procedures of TÜV Rheinland.
10.7 From the start of the contract and for a period of three years after termination or expiry of the contract, the receiving party shall maintain strict confidentiality of all confidential information and shall not disclose this information to any third parties or use it for itself.
11. **Copyrights and rights of use, publications**
11.1 TÜV Rheinland shall retain all exclusive copyrights in the reports, expert reports/opinions, test reports/results, results, calculations, presentations, etc. prepared by TÜV Rheinland, unless otherwise agreed by the parties in a separate agreement. As the owner of the copyrights, TÜV Rheinland is free to grant others the right to use the work results for individual or all types of use (right of use).
11.2 The client receives a simple, unlimited, non-transferable, non-sublicensable right of use to the contents of the work results produced within the scope of the contract, unless otherwise agreed by the parties in a separate agreement. The client may only use such reports, expert reports/opinions, test reports/results, results, calculations, presentations etc. prepared within the scope of the contract for the purposes of the contract.
11.3 The transfer of right of use of the generated work results regulated in clause 11.2 of the GTBC is subject to full payment of the remuneration agreed in favour of TÜV Rheinland.
11.4 The client may use work results only complete and unshortened. The client may only pass on the work results in full unless TÜV Rheinland has given its prior written consent to the partial passing on of work results.
11.5 Any publication or duplication of the work results for advertising purposes or any further use of the work results beyond the scope regulated in clause 11.2, and any quotation of the introduction of TÜV Rheinland need the prior written approval of TÜV Rheinland in each individual case. Besides, the client ensures that the aforesaid use shall comply with relevant applicable laws, regulations and relevant rules (including but not limited to specific applicable testing and certification rules, etc.).
11.6 TÜV Rheinland shall be free to give approval according to clause 11.5 at any time without stating reasons. In this case, the client is obliged to stop the transfer of the work results immediately at his own expense and, as far as possible, to withdraw publications.
11.7 The consent of TÜV Rheinland to publication or other uses of work results does not entitle the client to use the corporate logo, corporate design or test/certification mark of TÜV Rheinland.
12. **Liability of TÜV Rheinland**
12.1 In respect of the legal basis, to the fullest extent permitted by applicable law, in the event of a breach of contractual obligations or tort, the liability of TÜV Rheinland for all damages, losses and reimbursement of expenses caused by TÜV Rheinland, its legal representatives and/or employees shall be limited to:
(i) in the case of a contract with a fixed overall fee, three times the overall fee for the entire contract; (ii) in the case of a contract for an annually recurring services, the agreed annual fee; (iii) in the case of a contract expressly charged on a time and material basis, a maximum of 20,000 Euro or equivalent amount in local currency; and (iv) in the case of a framework agreement that provides for the possibility of placing individual orders, three times the fee for the individual order under which the damages or losses have occurred. Notwithstanding the above, in the event that the total and accumulated liability calculated according to the foregoing provisions exceeds 2.5 Million Euro or equivalent amount in local currency, the total and accumulated liability of TÜV Rheinland shall be only limited to and shall not exceed the said 2.5 Million Euro or equivalent amount in local currency.
12.2 The limitation of liability according to article 12.1 above shall not apply to damages and/or losses caused by malice, intent or gross negligence on the part of TÜV Rheinland or its conscious agents. Such limitation shall not apply to damages for a person's death, physical injury or illness.
12.3 In cases involving a fundamental breach of contract, TÜV Rheinland will be liable even where minor negligence is involved. For this purpose, a "fundamental breach" is a breach of a material contractual obligation, the performance of which permits the due performance of the contract. Any claim for damages for a fundamental breach of contract shall be limited to the amount of damages reasonably foreseeable as a possible consequence of such breach of contract at the time of the breach (reasonably foreseeable damages), unless any of the circumstances described in article 12.2 apply.
12.4 TÜV Rheinland shall not be liable for the acts of the personnel made available by the client to support TÜV Rheinland in the performance of its services under the contract, unless such personnel made available is regarded as vicarious agent of TÜV Rheinland. If TÜV Rheinland is not liable for the acts of the personnel made available by the client under the foregoing provision, the client shall indemnify TÜV Rheinland against any claims made by third parties arising from or in connection with such personnel's acts.
12.5 Unless otherwise contractually agreed in writing, TÜV Rheinland shall only be liable under the contract to the client.
12.6 The limitation periods for claims for damages shall be based on statutory provisions.
12.7 None of the provisions of this article 12 changes the burden of proof to the disadvantage of the client.
14. **Data protection notice**

The client understands and agrees that TÜV Rheinland processes personal data (including but not limited to personal information) of the client and its related parties (including but not limited to the supplier of the client) for the purpose of fulfilling this contract. The client confirms that it has obtained the prior consent of the data subject, which entitles TÜV Rheinland to access, use, or process the personal data that the client collected or processed by itself and transferred to TÜV Rheinland. For certain purposes, we may also process sensitive personal data. TÜV Rheinland will use and process the data in accordance with the relevant legal basis. If any personal data has to be disclosed or transferred to any third party or any overseas party outside of the district in which the personal data was collected, the client also confirms that it has obtained the prior consent of the data subject. TÜV Rheinland will carry out cross-border data transmission and protect the data in compliance with the privacy and personal data security related laws and regulations in force in the local country. TÜV Rheinland will take measures to avoid any leakage, abuse, manipulation, damage or unauthorized access of personal data. The personal data will be deleted immediately as soon as a corresponding reason for deletion arises. Data subjects may exercise the following rights: right of information, right of decision, right of rectification, right of deletion, right of processing limitation, right of objection, right of data transferability. In addition, persons concerned by the data processing have the right to revoke their consent at any time with effect for the future, as well as the right to file a complaint with the competent data protection supervisory authority. For further details on the processing of personal data by TÜV Rheinland as the person responsible or contract processor, please refer to the privacy policy of TÜV Rheinland. You can contact the Group Data Protection Officer of TÜV Rheinland by e-mail at dataprotection@tuv.com or by post at the following address: TÜV Rheinland AG, c/o Group Data Protection Officer, Am Grauen Stein, 51106 Cologne, Germany.
15. **Retention of test material and documentation**
15.1 The test samples submitted by the client to TÜV Rheinland for testing will be scrapped following test and will be returned to the client at the client's expense. The only exceptions are test samples, which are placed in storage on the basis of statutory regulations or of another agreement with the client.
15.2 Changes applicable to the samples are stored at the premises of TÜV Rheinland. The cost of placing a test sample into storage will be disclosed to the client in the quotation.
15.3 If reference samples or documentations are given to the client to be placed in storage at their premises or reference samples or documentations must be made available to TÜV Rheinland upon request promptly and free of charge. If the client, in response to such a request, is incapable of making available the reference samples and/or documentation, any liability claims for material and pecuniary damages caused by the client in respect to the respective test and certification that is brought forward by the client against TÜV Rheinland shall be voided.
15.4 The retention period for the documentation shall be 10 (ten) years after the expiry of the test mark certificate or the applicable legal requirements for EU/EEC certificates of conformity and GS mark certificates.
15.5 The costs of the handover and dispatch of the test samples for storage on the client's premises are borne by the client. TÜV Rheinland will be liable for the loss of test samples or reference samples from the laboratories or warehouses of TÜV Rheinland only in case of gross negligence.
16. **Termination of the contract**
16.1 Notwithstanding clause 3.3 of the GTBC, TÜV Rheinland and the client are entitled to terminate the contract in its entire scope at any time if one of the following conditions is met:
a) the combined parts of the contract individually and independently of the continuation of the remaining services with six (6) months' notice to the end of the contractually agreed term. The notice period shall be extended to six (6) weeks in case TÜV Rheinland is prevented from performing the services due to a loss of accreditation or its accreditation or notification.
b) For good cause, TÜV Rheinland may consider giving a written notice to the client to terminate the contract (immediately) if:
a) the client does not immediately notify TÜV Rheinland of changes in the conditions within the contract which are relevant for certification or signs of such changes;
b) the client misses the certificate or carries out activities beyond the scope of the contract;
c) in the event of several consecutive delays in payment (at least three times);
d) a substantial deterioration of the financial circumstances of the client occurs and as a result of the payment claims of TÜV Rheinland under the contract are not paid for an extended period of time and/or the client's financial performance, as a result of which TÜV Rheinland cannot reasonably be expected to continue the contractual relationship;
e) in the event of any serious misrepresentation, be it intentional fraud or grossly negligent behavior of the managers, employees, agents or subcontractors;
f) TÜV Rheinland, reasons beyond control, is temporarily or finally not able or entitled to continue or finalize the performance of the service, e.g. in case of force majeure, government interference, sanctions, loss of accreditation or notification, or other reasons.
16.2 The event of termination in writing shall be subject to a written notice of termination. TÜV Rheinland shall be entitled to a lump-sum claim for damages against the client if the conditions of a claim for damages exist. In this case, the client shall owe 15% of the remuneration to be paid until the end of the fixed contract term as lump-sum compensation. The client reserves the right to prove that there is no damage or a considerably lower damage. TÜV Rheinland reserves the right to prove a considerably higher damage in individual cases.
16.3 In the event of termination of the contract, the client shall be obliged to inform the client in writing of the reasons for termination and the amount of damage claimed. The client may not be made use of the time windows for auditing/ service provision provided by TÜV Rheinland within the scope of a certification procedure and the certificate therefore has to be withdrawn (for example during the performance of monitoring audits). Clause 16.3 applies accordingly.
17. **Force Majeure**
17.1 "Force Majeure" means the occurrence of an event or circumstance that prevents or impedes a Party from performing one or more of its contractual obligations under the contract, if and to the extent that the Party is unable to prevent or avoid such event or circumstance. For the purposes of this clause, the events and circumstances that constitute force majeure are (a) war (whether declared or not), hostilities, invasion, act of foreign armed forces, sabotage, military mobilization; (b) civil war, riot, rebellion and revolution, military or usurped power, insurrection, act of terrorism, sabotage or piracy; (c) currency and trade restriction, embargo, sanction; (d) act of authority whether lawful or unlawful, compliance with any law or governmental order; (e) expropriation, seizure of works, requisition, nationalization; (f) plague, epidemic, natural disaster or extreme natural event; (g) explosion, fire, destruction of equipment, prolonged break-down of transport, telecommunication, information system, or computer system; (h) general labor disturbance such as boycott, strike and lock-out, go-slow, occupation of factories and premises.
17.2 The Party successfully invoking this Clause is relieved from its duty to perform its obligations under the contract from any liability and/or damages from any other contractual remedy in breach of contract, from the time at which the impediment causes inability to perform, provided that the notice thereof is given without delay. If notice thereof is not given without delay, the relief is effective from the time at which notice thereof reaches the other Party. Where the effect of the impediment or event invoked is temporary, the above consequences shall apply only as long as the impediment invoked impedes performance by the affected Party. Where the duration of the impediment invoked is of such substantial nature as to deprive the contracting Parties of what they were reasonably entitled to expect under the contract, either Party has the right to terminate the contract by notification within a reasonable period to the other Party. Unless otherwise agreed, the Parties expressly agree that the contract may be terminated by either Party if the duration of the impediment exceeds 120 days.
18. **Hardship**
18.1 The Parties are bound to perform their contractual duties even if events have rendered performance more onerous than could reasonably have been anticipated at the time of the conclusion of the contract.
18.2 Notwithstanding paragraph 1 of this Clause, where a Party proves that:
(a) The continued performance of its contractual duties has become excessively onerous due to an event beyond its reasonable control which could not reasonably have been expected to have taken into account at the time of the conclusion of the contract; and that
(b) it could not reasonably have avoided or overcome the event or its consequences, the Parties are bound, within a reasonable time of the invocation of this Clause, to negotiate alternative contractual terms which reasonably allow to overcome the consequences of the event.
Where Clause 18.2 applies, but where the Parties have been unable to agree alternative contractual terms as provided in that paragraph, the Party invoking this Clause is entitled to terminate the contract, but cannot request adaptation by the judge or arbitrator without the agreement of the other Party.
19. **Partial invalidity, written form, place of jurisdiction and dispute resolution**
19.1 All amendments and supplements must be in writing in order to be effective. This also applies to amendments and supplements to this clause 17.1.
19.2 Should one or several of the provisions under the contract and/or these terms and conditions be or become ineffective, the contracting parties shall replace the invalid provision with a legally valid provision that comes closest to the content of the invalid provision in legal and commercial terms.
19.3 Unless otherwise stipulated in the contract, the governing law of the contract and these terms and conditions shall be chosen following the rules as below:
(a) If TÜV Rheinland in question is legally registered and existing in the People's Republic of China, the contracting parties hereby agree that the contract and these terms and conditions shall be governed by the laws of the People's Republic of China.
(b) If TÜV Rheinland in question is legally registered and existing in Taiwan, the contracting parties hereby agree that the contract and these terms and conditions shall be governed by the laws of Taiwan.
(c) If TÜV Rheinland in question is legally registered and existing in Hong Kong, the contracting parties hereby agree that the contract and these terms and conditions shall be governed by the laws of Hong Kong.
19.4 Any dispute in connection with the contract and these terms and conditions or the execution thereof shall be settled through friendly negotiation. If no settlement or agreement in respect of the extension of the negotiation period can be reached within two months of the arising of the dispute, the dispute shall be submitted:
(a) in the case of TÜV Rheinland in question being legally registered and existing in the People's Republic of China, to China International Economic and Trade Arbitration Commission (CIETAC) to be settled through arbitration under the Arbitration Rules of CIETAC in force when the arbitration is submitted. The arbitration shall take place in Beijing, Shanghai, Shenzhen or Chongqing as appropriately chosen by the claiming party;
(b) in the case of TÜV Rheinland in question being legally registered and existing in Taiwan, to Chinese Arbitration Association, Taipei to be arbitrated in accordance with its then current Rules of Arbitration. The arbitration shall take place in Taipei;
(c) in the case of TÜV Rheinland being legally registered and existing in Hong Kong, to Hong Kong International Arbitration Center (HKIAC) to be settled by arbitration under the HKIAC Administered Arbitration Rules in force when the Notice of Arbitration is submitted in accordance with these terms and conditions. The arbitration shall take place in Hong Kong. The decision of the relevant arbitration tribunal shall be final and binding on both parties. The arbitration fee shall be borne by the losing party.