TÜVRheinland®
Precisely Right.

Report No.:	244364451c 002
Client:	**TRIO MOTION TECHNOLOGY LTD.**
Contact Information:	Shannon Way, Tewkesbury, Gloucestershire, GL20 8ND, UK
Identification/ Model No(s):	Please refer to page 4-6.
Condition at delivery:	Test item complete and undamaged.
Sample Receiving date:	2021-10-21
Testing Period:	2021-10-21 to 2021-11-04
Place of testing:	Chemical laboratory Shanghai

Test Specification: *Test result:*

Customer's requirement:

1. Screening Test by XRF Spectroscopy — PASS
   Cadmium, Lead, Chromium (VI), Mercury, Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE)
   BBP, DBP, DEHP, DIBP content
   Reference to RoHS (recast): Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, 2011/65/EU last amended by (EU) 2015/863

Other information:

Remark: All data refer to 244364451a 001.
Please be kindly informed that all the content recorded in the captioned report 244364451c 001 is cancelled and now superseded by 244364451c 002.

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



2022-01-21 — Eric Xu / Project Engineer

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 in extracts. This test 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 enforcement for test results are applicable throughout this test report.

Material List:

Item: Please refer to page 4-6.

Material No.	Material	Color	Location
M001	Plastic	yellow-green	refer to photo
M002	Plastic	black	refer to photo
M003	Plastic	black	refer to photo
M004	Metal	silver	refer to photo
M005	Plastic	black	refer to photo
M006	Metal	silver	refer to photo
M007	Metal	golden	refer to photo
M008	Plastic	white	refer to photo
M009	Metal	silver	refer to photo
M010	Plastic	black	refer to photo
M011	Coating	black	refer to photo
M012	Plastic	black	refer to photo
M013	Textile	white	refer to photo
M014	Glue	black	refer to photo
M015	Metal	silver	refer to photo
M016	Metal	silver	refer to photo
M017	Plastic	black	refer to photo
M018	Metal	golden	refer to photo
M019	Metal	silver	refer to photo
M020	Plastic	black	refer to photo
M021	Plastic	dark red-orange	refer to photo
M022	Metal	silver	refer to photo
M023	Metal	silver	refer to photo
M024	Metal	silver	refer to photo
M025	Metal	silver	refer to photo
M026	Metal	silver	refer to photo
M027	Plastic	red-orange	refer to photo
M028	Plastic	black	refer to photo

M029	Plastic	white	refer to photo
M030	Plastic	brown	refer to photo
M031	Plastic	light magenta	refer to photo
M032	Plastic	dark cyan-blue	refer to photo
M033	Solder	silver	refer to photo
M034	Plastic	black	refer to photo
M035	Plastic	black	refer to photo
M036	Foam material	white	refer to photo
M037	Plastic	black	refer to photo
M038	Metal	black	refer to photo
M039	Metal	silver	refer to photo
M040	Metal	silver	refer to photo
M041	Metal	silver	refer to photo
M042	Metal	dark cyan-blue	refer to photo
M043	Plastic	light yellow	refer to photo
M044	Electronic components	black	refer to photo
M045	PCB board	green	refer to photo
M046	Electronic components	golden	refer to photo
M047	Electronic components	black	refer to photo
M048	Plastic	yellow	refer to photo
M049	Metal	black	refer to photo
M050	Metal	black	refer to photo
M051	Metal	golden	refer to photo

Models:
MXM-b$0630c#&&&-*
MXM-b$0830c#&&&-*

MXM-z$1315c#&&&-*
MXM-z$1815c#&&&-*

MXL-a$1030c#&&&-*
MXL-a$1330c#&&&-*

b= 02,,04, 08,10;
z=09, 13 , 18, 29, 44, 55, 75;
a=15,20,30,40,50
$ stands for A, D to indicate input voltage, A = 200 V 3~, D=400 V, 3~;
c = L,K,F,T to indicate encoder type;
# stands for A-Z to indicate encoder soft edition;
& stands for 0-9 to indicate the mechanical structure of the shaft;
* stands for null to indicate general manufacturer;
* stands for 0-9 or A-Z or any other form to indicate client number.

	ESTUN TYPE	TRIO TYPE
EM3J series	EM3J-04ALA222	MXM-04A0630LA222
	EM3J-04ALA242	MXM-04A0630LA242
	EM3J-04ATA222	MXM-04A0630TA222
	EM3J-04ATA242	MXM-04A0630TA242
	EM3J-08ALA222	MXM-08A0830LA222
	EM3J-08ALA242	MXM-08A0830LA242
	EM3J-08ATA222	MXM-08A0830TA222
	EM3J-08ATA242	MXM-08A0830TA242
	EM3J-02ALA222	MXM-02A0630LA222
	EM3J-02ALA242	MXM-02A0630LA242
	EM3J-02ATA222	MXM-02A0630TA222
	EM3J-02ATA242	MXM-02A0630TA242
	EM3J-10ALA222	MXM-10A0830LA222
	EM3J-10ALA242	MXM-10A0830LA242
	EM3J-10ATA222	MXM-10A0830TA222
	EM3J-10ATA242	MXM-10A0830TA242
EM3G series	EM3G-09ALA224	MXM-09A1315LA224
	EM3G-09ALA244	MXM-09A1315LA244
	EM3G-09ATA224	MXM-09A1315TA224
	EM3G-09ATA244	MXM-09A1315TA244
	EM3G-09DLA224	MXM-09D1315LA224
	EM3G-09DLA244	MXM-09D1315LA244
	EM3G-09DTA224	MXM-09D1315TA224
	EM3G-09DTA244	MXM-09D1315TA244
	EM3G-13ALA224	MXM-13A1315LA224

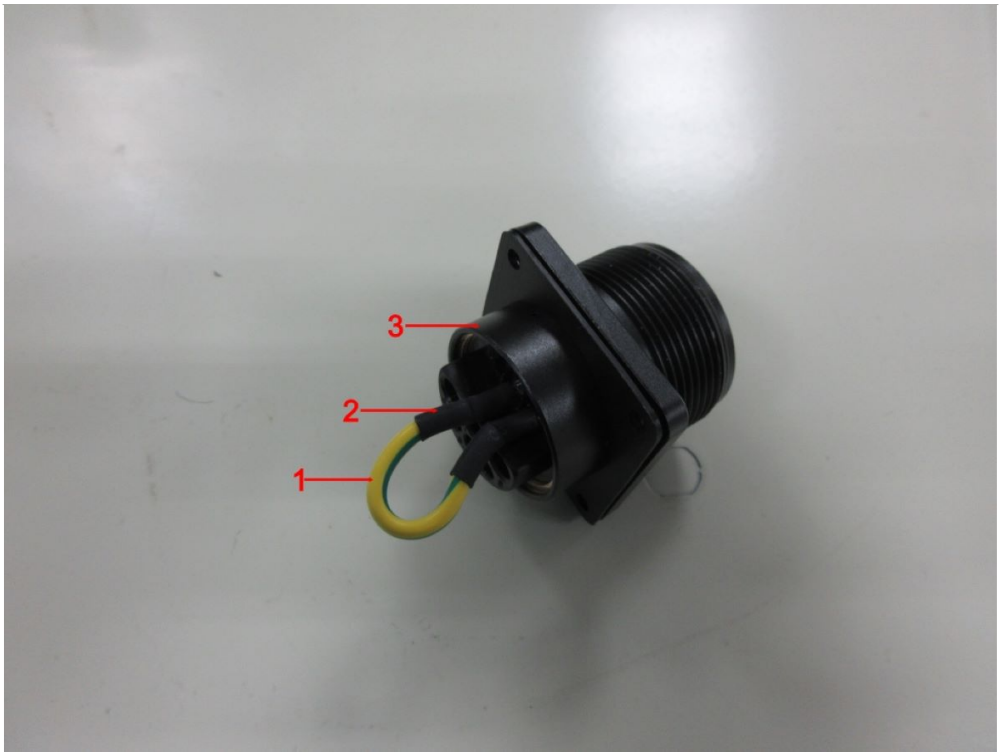
	EM3G-13ALA244	MXM-13A1315LA244
	EM3G-13ATA224	MXM-13A1315TA224
	EM3G-13ATA244	MXM-13A1315TA244
	EM3G-13DLA224	MXM-13D1315LA224
	EM3G-13DLA244	MXM-13D1315LA244
	EM3G-13DTA224	MXM-13D1315TA224
	EM3G-13DTA244	MXM-13D1315TA244
	EM3G-18DLA224	MXM-18D1315LA224
	EM3G-18DLA244	MXM-18D1315LA244
	EM3G-18DTA224	MXM-18D1315TA224
	EM3G-18DTA244	MXM-18D1315TA244
	EM3G-29DLA224	MXM-29D1815LA224
	EM3G-29DLA244	MXM-29D1815LA244
	EM3G-44DLA224	MXM-44D1815LA224
	EM3G-44DLA244	MXM-44D1815LA244
	EM3G-55DLA224	MXM-55D1815LA224
	EM3G-55DLA244	MXM-55D1815LA244
	EM3G-75DLA224	MXM-75D1815LA224
	EM3G-75DLA244	MXM-75D1815LA244
M3A series	EM3A-15ALB224	MXL-15A1030LB224
	EM3A-15ALB244	MXL-15A1030LB244
	EM3A-20ALB224	MXL-20A1030LB224
	EM3A-20ALB244	MXL-20A1030LB244
	EM3A-30ALA224	MXL-30A1330LA224
	EM3A-30ALA244	MXL-30A1330LA244
	EM3A-15ATB224	MXL-15A1030TB224
	EM3A-15ATB244	MXL-15A1030TB244
	EM3A-20ATB224	MXL-20A1030TB224
	EM3A-20ATB244	MXL-20A1030TB244
	EM3A-15DLB224	MXL-15D1030LB224
	EM3A-15DLB244	MXL-15D1030LB244

	EM3A-20DLB224	MXL-20D1030LB224
	EM3A-20DLB244	MXL-20D1030LB244
	EM3A-15DTB224	MXL-15D1030TB224
	EM3A-15DTB244	MXL-15D1030TB244
	EM3A-20DTB224	MXL-20D1030TB224
	EM3A-20DTB244	MXL-20D1030TB244
	EM3A-30DLA224	MXL-30D1330LA224
	EM3A-30DLA244	MXL-30D1330LA244
	EM3A-40DLA224	MXL-40D1330LA224
	EM3A-40DLA244	MXL-40D1330LA244
	EM3A-50DLA224	MXL-50D1330LA224
	EM3A-50DLA244	MXL-50D1330LA244

1.Screening Test by XRF spectroscopy

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

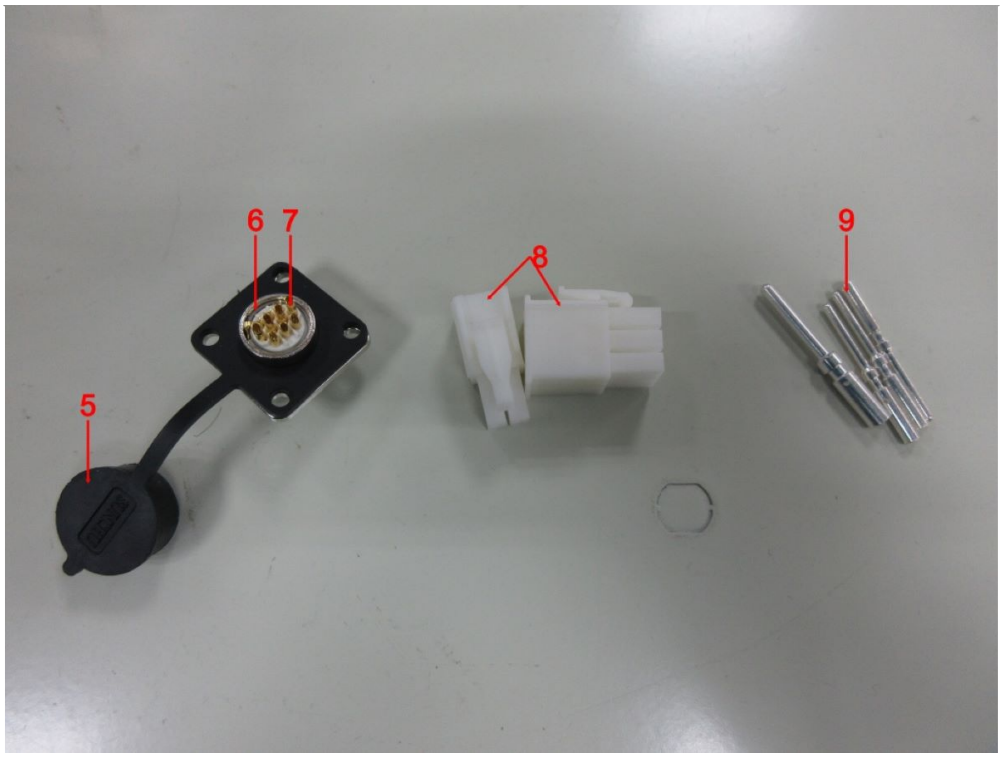
Test Result:



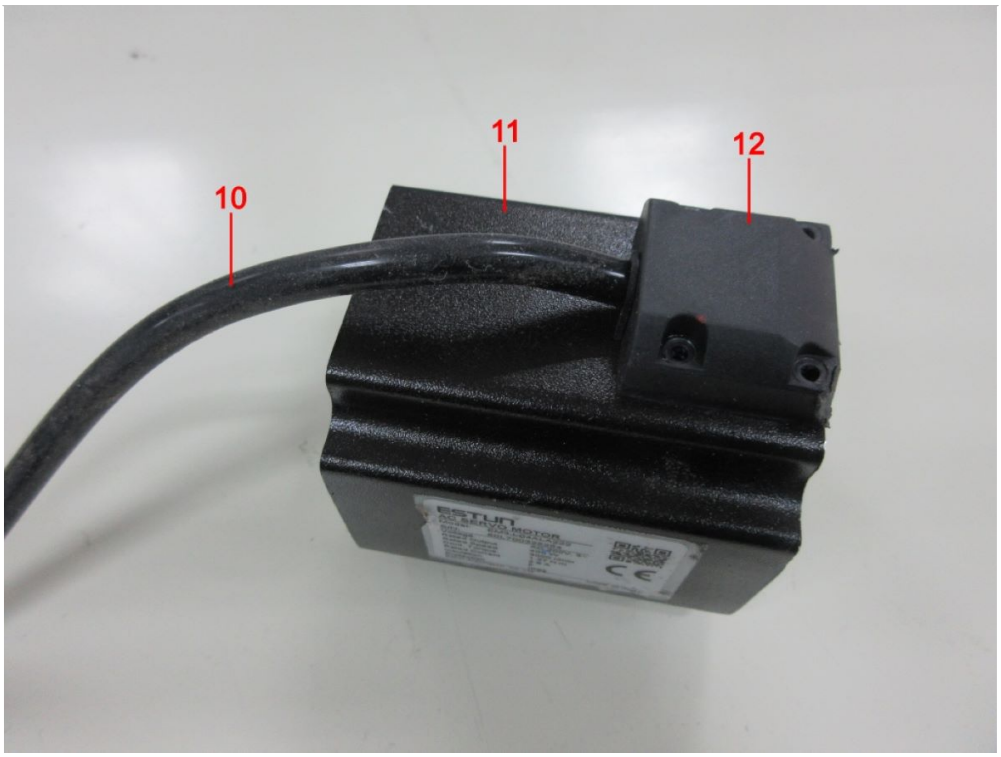
Material No.	Cd	Cr	Pb	Hg	Br
M001	< RL	< RL	< RL	< RL	< RL
M002	< RL	< RL	< RL	< RL	< RL
M003	< RL	d*2	< RL	< RL	n.a.



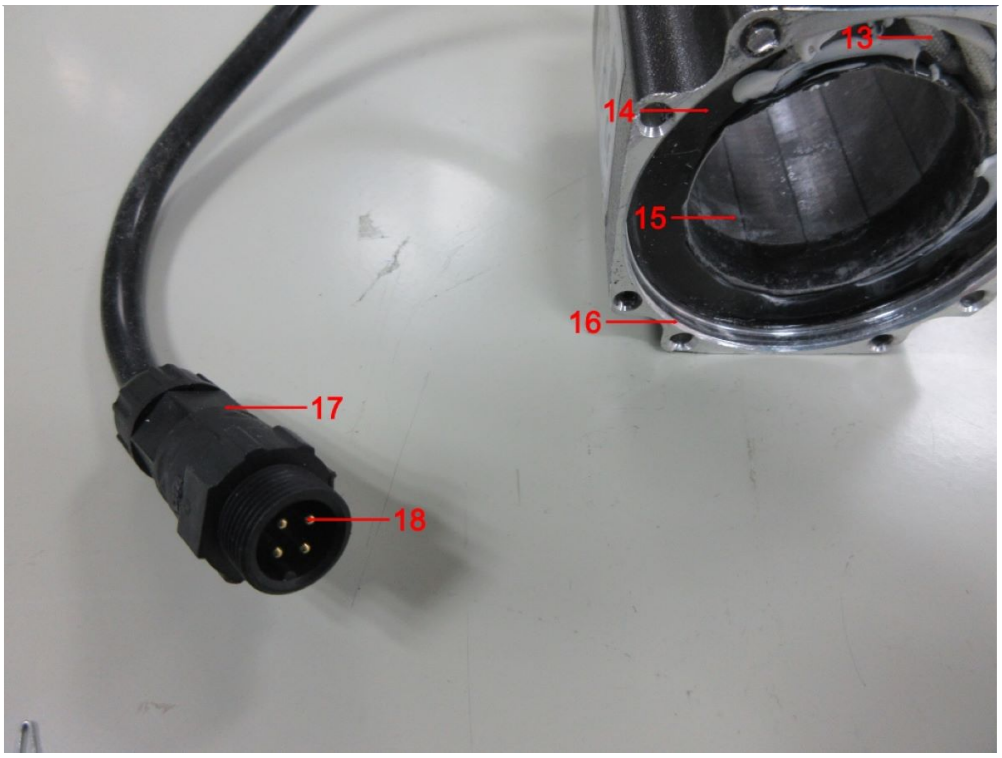
Material No.	Cd	Cr	Pb	Hg	Br
M004	< RL	< RL	d*2	< RL	n.a.



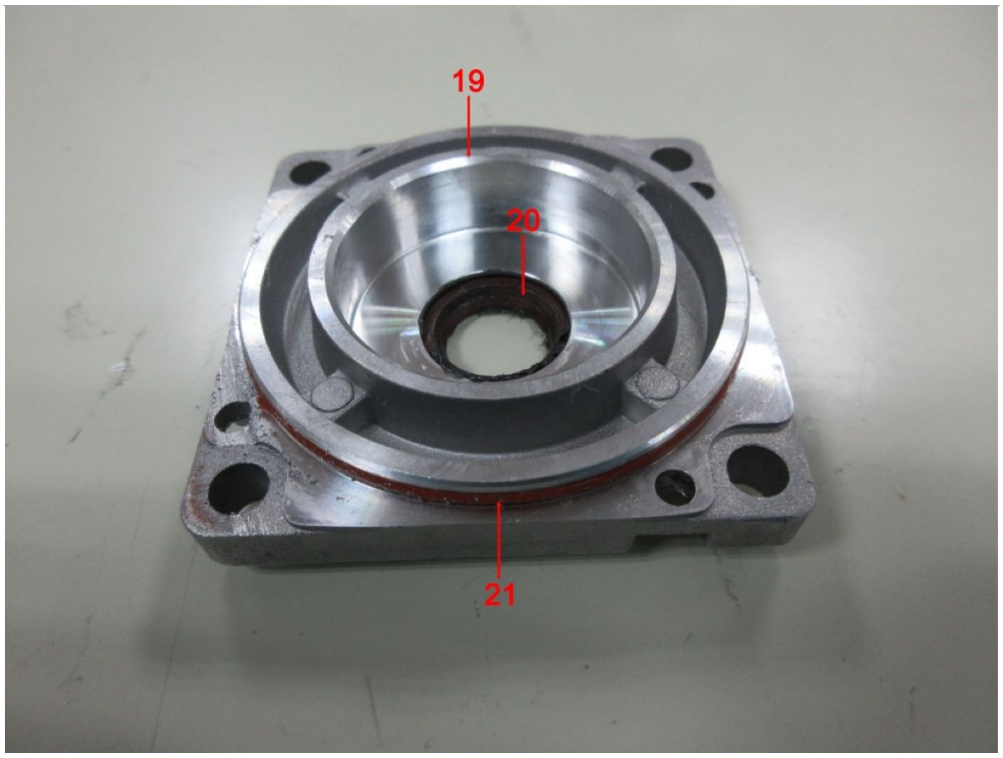
Material No.	Cd	Cr	Pb	Hg	Br
M005	< RL	< RL	< RL	< RL	< RL
M006	< RL	< RL	< RL	< RL	n.a.
M007	< RL	< RL	< RL	< RL	n.a.
M008	< RL	< RL	< RL	< RL	< RL
M009	< RL	< RL	< RL	< RL	n.a.



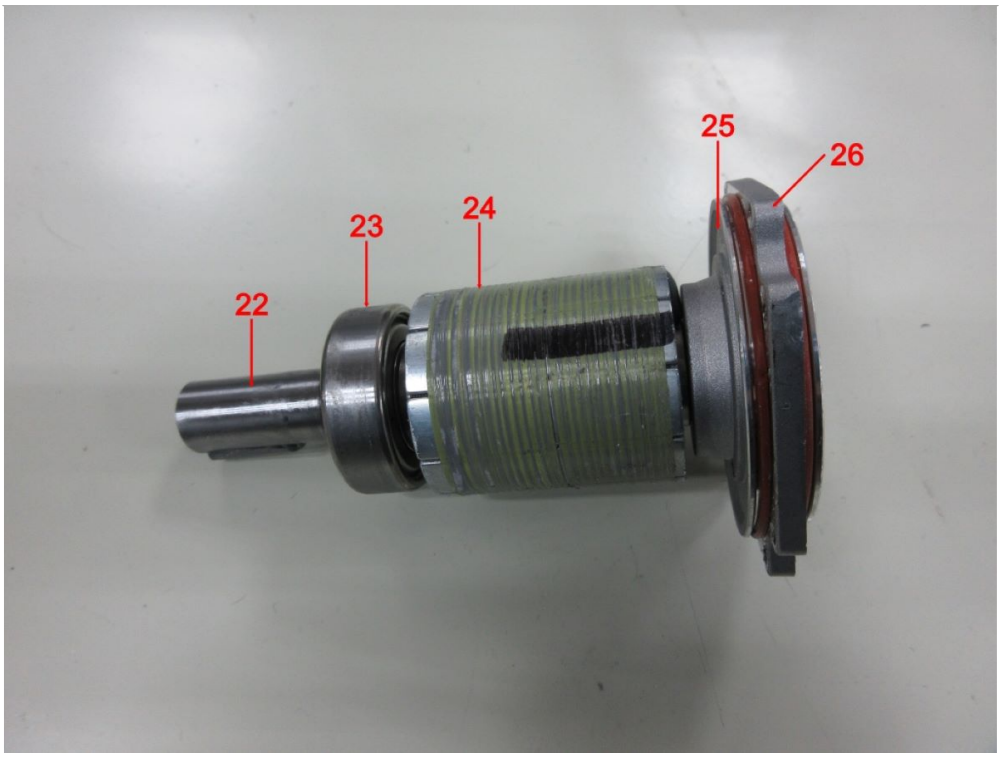
Material No.	Cd	Cr	Pb	Hg	Br
M010	< RL	< RL	< RL	< RL	< RL
M011	< RL	< RL	< RL	< RL	< RL
M012	< RL	< RL	< RL	< RL	d*2



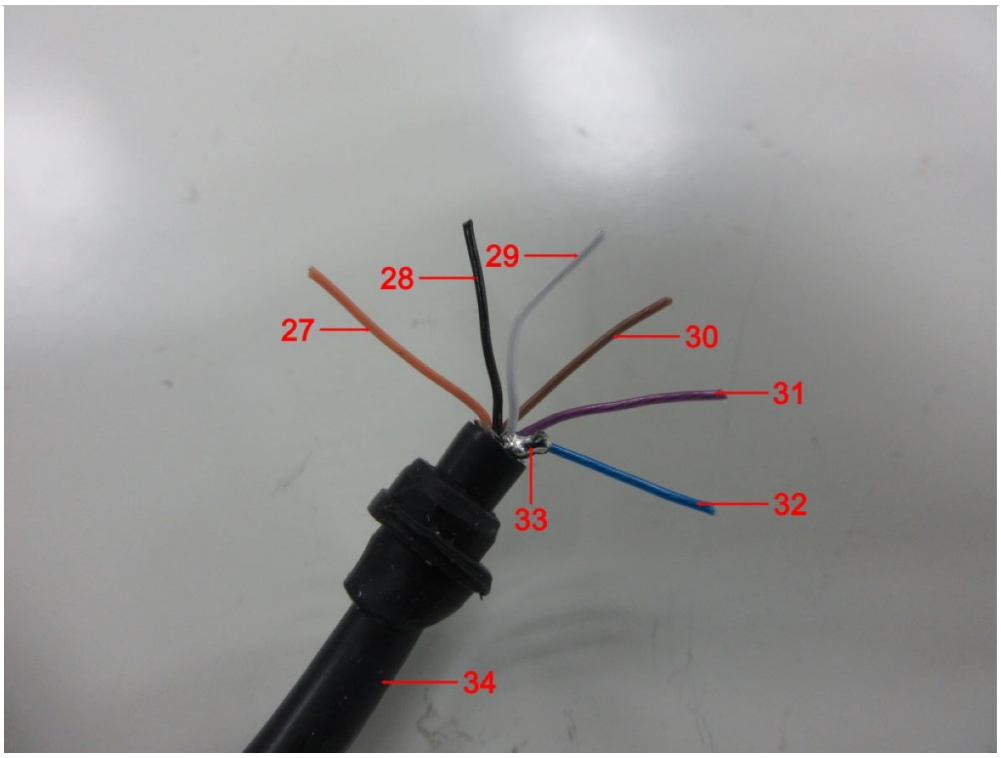
Material No.	Cd	Cr	Pb	Hg	Br
M013	< RL	< RL	< RL	< RL	< RL
M014	< RL	< RL	< RL	< RL	< RL
M015	< RL	d*2	< RL	< RL	n.a.
M016	< RL	d*2	< RL	< RL	n.a.
M017	< RL	< RL	< RL	< RL	< RL
M018	< RL	< RL	d*2	< RL	n.a.



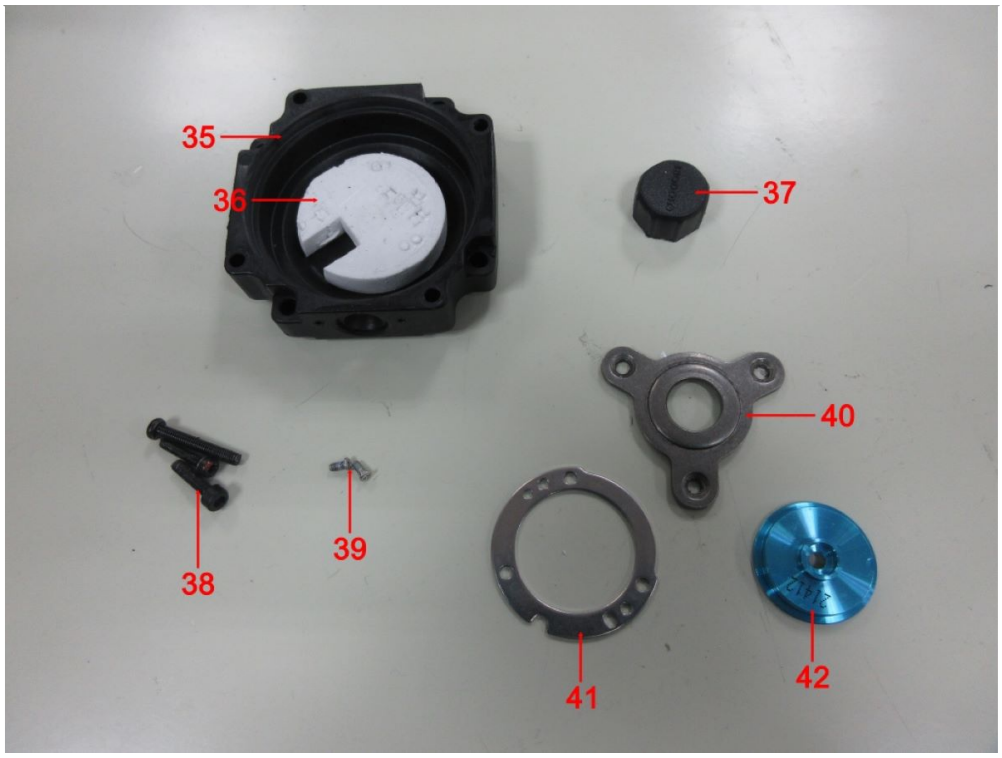
Material No.	Cd	Cr	Pb	Hg	Br
M019	< RL	d*2	< RL	< RL	n.a.
M020	< RL	< RL	< RL	< RL	< RL
M021	< RL	< RL	< RL	< RL	< RL



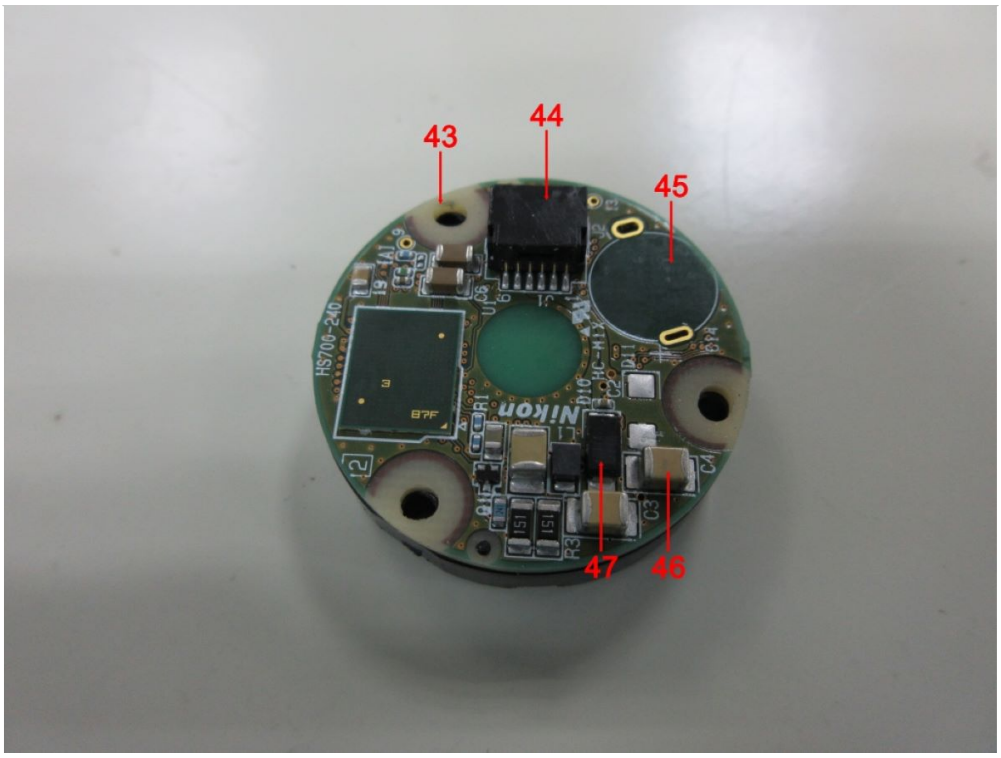
Material No.	Cd	Cr	Pb	Hg	Br
M022	< RL	d*2	< RL	< RL	n.a.
M023	< RL	d*2	< RL	< RL	n.a.
M024	< RL	< RL	< RL	< RL	n.a.
M025	< RL	< RL	< RL	< RL	n.a.
M026	< RL	< RL	< RL	< RL	n.a.



Material No.	Cd	Cr	Pb	Hg	Br
M027	< RL	< RL	< RL	< RL	< RL
M028	< RL	< RL	< RL	< RL	< RL
M029	< RL	< RL	< RL	< RL	< RL
M030	< RL	< RL	< RL	< RL	< RL
M031	< RL	< RL	< RL	< RL	< RL
M032	< RL	< RL	< RL	< RL	< RL
M033	< RL	< RL	< RL	< RL	n.a.
M034	< RL	< RL	< RL	< RL	< RL



Material No.	Cd	Cr	Pb	Hg	Br
M035	< RL	< RL	< RL	< RL	d*2
M036	< RL	< RL	< RL	< RL	< RL
M037	< RL	< RL	< RL	< RL	< RL
M038	< RL	< RL	< RL	< RL	n.a.
M039	< RL	d*2	< RL	< RL	n.a.
M040	< RL	d*2	< RL	< RL	n.a.
M041	< RL	d*2	< RL	< RL	n.a.
M042	< RL	< RL	< RL	< RL	n.a.



Material No.	Cd	Cr	Pb	Hg	Br
M043	< RL	< RL	< RL	< RL	< RL
M044	< RL	< RL	< RL	< RL	d*2
M045	< RL	< RL	< RL	< RL	< RL
M046	< RL	< RL	< RL	< RL	< RL
M047	< RL	< RL	< RL	< RL	d*2

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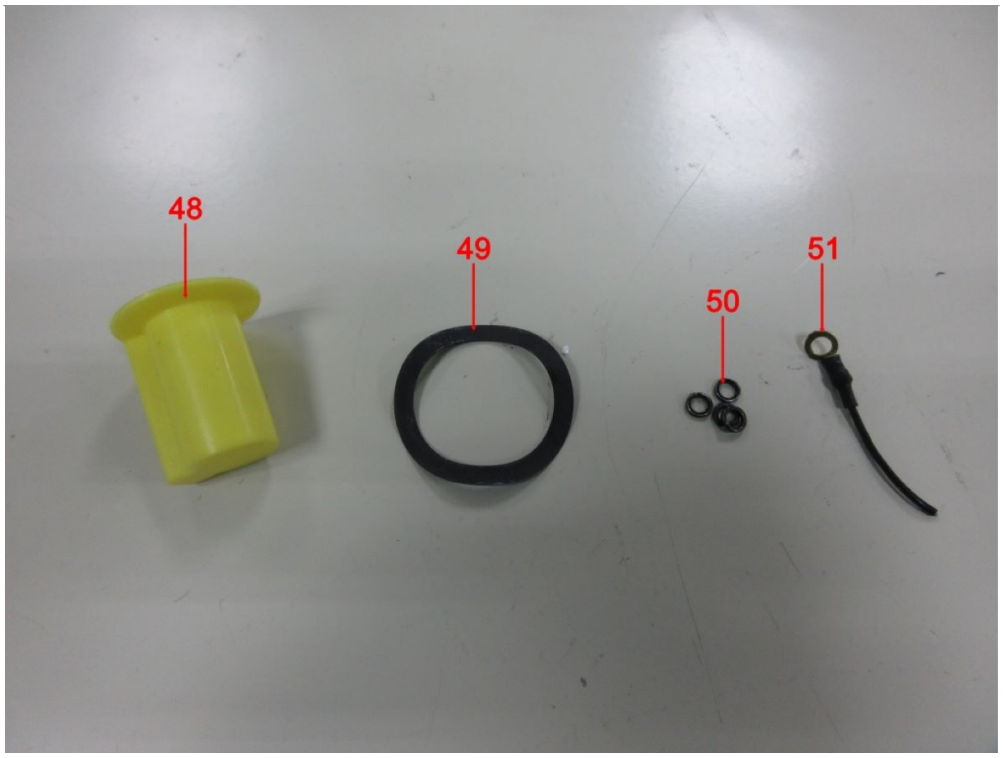

Material No.	Cd	Cr	Pb	Hg	Br
M048	< RL	< RL	< RL	< RL	< RL
M049	< RL	d*2	< RL	< RL	n.a.
M050	< RL	d*2	< RL	< RL	n.a.
M051	< RL	< RL	< RL	< RL	n.a.

Abbreviation: Pb = Lead
Cd = Cadmium
Hg = Mercury
Cr = Chromium
Br = Bromine
n.a. = not applicable
< = less than
RL = Reporting Limit
d.= detected

Remark:

(*1) The screening result was found in the inconclusive region, thus the further wet chemistry tests are suggested.

(*2) The screening result was detected above the screening limits, thus the further wet chemistry tests are suggested.

(*3) For metal sample, the Chromium (VI) content has been confirmed with reference to IEC 62321-7-1:2015.

(*4) For plastic sample or electronic sample, the Chromium (VI) content has been confirmed with reference to IEC 62321-7-2:2017.

(*5) For leather sample, the Chromium (VI) content has been confirmed with reference to EN ISO 17075-1:2017.

(*6) The screening result of Cr was found in the inconclusive region, thus the chromium (VI) content have been confirmed with EN ISO 17075-1:2017.

(*7) Component(s)/ materials(s) with an area of less than 2mm x2 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.

(*8) The Chromium (Cr) and Bromine (Br) in the above result table indicate the total chromium and total bromine by means of XRF screening.
PBBs, or PBDEs content shall be further confirmed with reference to IEC 62321-6:2015.
Chromium (VI) shall be further confirmed with reference to IEC 62321-7-1:2015, IEC 62321-7-2:2017 or EN ISO 17075-1:2017.

XRF Screening limits for different matrices :

Material	Concentration (%)				
	Cd	Cr	Pb	Hg	Br
Polymeric	P≤0.006<X≤0.014<F	P≤0.064<X	P≤0.067<X≤0.133<F	P≤0.066<X≤0.134<F	P≤0.029<X
Metallic	P≤0.006<X≤0.014<F	P≤0.064<X	P≤0.067<X≤0.133<F	P≤0.066<X≤0.134<F	NA
Electronic Components	P≤0.004<X≤0.016<F	P≤0.044<X	P≤0.047<X≤0.153<F	P≤0.046<X≤0.154<F	P≤0.024<X

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

Material List:

Material No.	Material	Color	Location	Test plan A = Test HM only B = Test FR only C = Test HM + FR
M003	Plastic	black	refer to photo	A
M004	Metal	silver	refer to photo	A
M012	Plastic	black	refer to photo	B
M015	Metal	silver	refer to photo	A
M016	Metal	silver	refer to photo	A
M018	Metal	golden	refer to photo	A
M019	Metal	silver	refer to photo	A
M022	Metal	silver	refer to photo	A
M023	Metal	silver	refer to photo	A
M035	Plastic	black	refer to photo	B
M039	Metal	silver	refer to photo	A
M040	Metal	silver	refer to photo	A
M041	Metal	silver	refer to photo	A
M044	Electronic components	black	refer to photo	B
M047	Electronic components	black	refer to photo	B
M049	Metal	black	refer to photo	A
M050	Metal	black	refer to photo	A

Abbreviation: HM (Heavy metal) = Cd, Pb, Hg, Cr (VI)
FR (Flame Retardant) = PBBs, PBDEs

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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	0.0005	0.0005
M004	n.a.	n.a.	0.0065	n.a.	n.a.	n.a.
M012	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M018	n.a.	n.a.	2.88*6(c)	n.a.	n.a.	n.a.
M035	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M044	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M047	n.a.	n.a.	n.a.	n.a.	< RL	< RL

Material No.	Hexavalent Chromium Content (μg/cm²) (*1) RL: 0.10 μg/cm²
M003	Negative
M015	Negative
M016	Negative
M018	Negative
M019	Negative
M022	Negative
M023	Negative
M039	Negative
M040	Negative
M041	Negative
M049	Negative
M050	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

Remark:

(*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/cm²	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/cm² and ≤0.13 µg/cm²	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/cm²	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).

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

Reporting Limit (%)		
PBBs	Bromobiphenyl	0.0001
	Dibromobiphenyl	0.0001
	Tribromobiphenyl	0.0001
	Tetrabromobiphenyl	0.0001
	Pentabromobiphenyl	0.0002
	Hexabromobiphenyl	0.0002
	Heptabromobiphenly	0.0002
	Octabromobiphenyl	0.0005
	Nonabromobiphenyl	0.0005
	Decabromobiphenyl	0.0005
PBDEs	Bromodiphenylether	0.0001
	Dibromodiphenyl ether	0.0001
	Tribromodiphenyl ether	0.0001
	Tetrabromodiphenyl ether	0.0001
	Pentabromodiphenyl ether	0.0002
	Hexabromodiphenyl ether	0.0002
	Heptabromodiphenyl ether	0.0002
	Octabromodiphenyl ether	0.0005
	Nonabromodiphenyl ether	0.0005
	Decabromodiphenyl ether	0.0005

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

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.	(%)			
		BBP	DBP	DEHP	DIBP
		RL (%)			
		0.005	0.005	0.005	0.005
T001	M001 + M002 + M005	< RL	< RL	< RL	< RL
T002	M008 + M012	< RL	< RL	< RL	< RL
T003	M010 + M021 + M027	< RL	< RL	< RL	< RL
T004	M011	< RL	< RL	< RL	< RL
T005	M014	< RL	< RL	< RL	< RL
T006	M017 + M020 + M035	< RL	< RL	< RL	< RL
T007	M028 + M029 + M030	< RL	< RL	< RL	< RL
T008	M031 + M032 + M034	< RL	< RL	< RL	< RL
T009	M036	< RL	< RL	< RL	< RL
T010	M037 + M043 + M048	< RL	< RL	< RL	< RL
T011	M045	< 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 Photo



- 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 ("GTCB") 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 not for the purpose of a daily use;

(ii) the incorporated or unincorporated entity duly organized, validly existing and capable to form legally binding contracts under the applicable law.

1.2 The following terms and conditions apply to agreed services including consultancy services, information, deliveries and similar services as well as ancillary services and other secondary obligations provided within the scope of contract performance.

1.3 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.

1.4 In the context of an ongoing business relationship with the client, this GTCB shall also apply to future contracts with the client without TÜV Rheinland having to refer 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 the works requested by the client being carried out by TÜV Rheinland. If the client instructs TÜV Rheinland without receiving a quotation from TÜV Rheinland (quotation), TÜV Rheinland is, in its sole discretion, entitled to accept the order by giving written notice of such 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 provided for in the contract unless terminated in writing by either party with a six-week 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 service to be provided.

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 assessment unless otherwise agreed in writing or if 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, organisations, 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 being confirmed as binding by TÜV Rheinland in writing.

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 and 5.2 also apply, even without express approval by the client, to all extensions 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 duties to cooperate in accordance with clause 6.1 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 corresponds at least to the duration of the hindrance plus any time period which may be required to resume performance.

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 good time and at no cost to 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 and Dishonest Acts of People's Republic of China.

If the client breaches the aforesaid representations and warranties, TÜV Rheinland is entitled to i) immediately terminate the contract/order without prior notice; and ii) withdraw the issued testing report/certificates if any.

6.3 The client shall bear any additional cost incurred on account of work having to be redone or being delayed as a result of late, incorrect or incomplete information provided by or lack of proper cooperation from the client. Even where a fixed or maximum price is agreed, TÜV Rheinland shall be entitled to charge extra fees for such additional expense.

7. Prices

7.1 If the scope of performance is not laid down in writing when the order is placed, invoicing shall be based on costs actually incurred. If no price is agreed in writing, invoicing shall be made in accordance with the price list of TÜV Rheinland valid at the time of performance.

7.2 Unless otherwise agreed, work shall be invoiced according to the progress of the work.

7.3 If the execution of an order extends over more than one month and the value of the contract or the agreed fixed price exceeds €2,500.00 or equivalent value in local currency, TÜV Rheinland may demand payments on account or in instalments.

8. Payment terms

8.1 All invoice amounts shall be due for payment without deduction on receipt of the invoice. No discounts and rebates shall be granted.

8.2 Payments shall be made to the bank account of TÜV Rheinland as indicated on the invoice, stating the invoice and client numbers.

8.3 In cases of default of payment, TÜV Rheinland shall be entitled to claim default interest at the applicable short term loan interest rate publicly announced 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.

8.4 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.

8.5 The provisions set forth in article 8.4 shall also apply in cases involving returned cheques, 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.

8.6 Objections to the invoices of TÜV Rheinland shall be submitted in writing within two weeks of receipt of the invoice.

8.7 TÜV Rheinland shall be entitled to demand appropriate advance payments.

8.8 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.

8.9 Only legally established and undisputed claims may be offset against claims by TÜV Rheinland.

8.10 TÜV Rheinland shall have the right at all times to setoff any amount due or payable by the client, including but not limited to setoff 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 fundmental 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-Audit stage, if the client was 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), 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 service 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 information, and marketing techniques and materials, tangible or intangible, that are supplied, 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 format. Confidential information is expressly not the data and know-how collected, compiled or otherwise obtained 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 data obtained in connection with the provision of 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 within five working days of oral disclosure. 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 any third party platform and/or system (e.g. Wechat, Dingding, etc. Unauthorized by TÜV Rheinland) to send any 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 losses or damages due to any theft or leakages to be 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 the disclosing party transmits or otherwise discloses to the receiving party and which is created during performance of work by TÜV Rheinland:

a) may only be used by the receiving party for the purposes of performing the contract, unless expressly otherwise agreed in writing by the disclosing party;

b) may not be copied, distributed, 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 on confidential information, inspection reports or documentation to the government authorities, 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 may disclose any 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 secrecy as set forth in this confidentiality clause.

10.5 Information for which the receiving party can furnish proof that:

a) it was generally known at the time of disclosure or has become general knowledge without violation of this confidentiality clause by the receiving party; or

b) it was disclosed to the receiving party by a third party entitled to disclose this information; or

c) the receiving party already possessed this information prior to disclosure by the disclosing party; or

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.

10.6 All confidential information shall remain the property of the disclosing party. 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 confirm the destruction of this confidential information to 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 shall remain with the client. However, TÜV Rheinland is entitled to make file copies of such reports, certificates and confidential information that forms the basis for preparing these reports and certificates in order to evidence the correctness of its results and for general documentation purposes 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 secrecy 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 contractually agreed purpose.

11.3 The transfer of right of use of the generated work results regulated in clause 11.2. of the GTCB 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 regulaed in clause 11.2 needs the prior written approval of TÜV Rheinland in each individual case.

11.6 TÜV Rheinland may revoke a once given 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 duplication of the 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 Irrespective 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 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 of 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 vicarious 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 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 foreseen 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 applies.

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.

13. Export control

13.1 When passing on the services provided by TÜV Rheinland or parts thereof to third parties in Greater China or other regions, the client must comply with the respectively applicable regulations of national and international export control law.

13.2 The performance of a contract with the client is subject to the proviso that there are no obstacles to performance due to national or international foreign trade legislations or embargos and/or sanctions. In the event of a violation, TÜV Rheinland shall be entitled to terminate the contract with immediate effect and the client shall compensate for the losses incured thereof by TÜV Rheinland.

14. Data protection notice

TÜV Rheinland processes personal data of the client for the purpose of fulfilling this contract. In addition, TÜV Rheinland also processes the data for other legal purposes in accordance with the relevant legal basis. The personal data of the client will only be disclosed to other natural or legal persons if the legal requirements are met. This also applies to transfers to third countries. 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 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 respective data protection information. You can contact the Group Data Protection Officer of TÜV Rheinland by e-mail at datenschutz@de.tuv.com or by post at the following address: TÜV Rheinland AG, c/o Group Data Protection Officer, Am Grauen Stein, 51105 Cologne, Germany.

15. Test materials/samples: transport risk and storage

15.1 The risk and costs for freight and transport of documents or test materials/samples to and from TÜV Rheinland as well as the costs of necessary disposal measures shall be borne by the client. TÜV Rheinland will be only liable for the direct loss of test materials/samples in the laboratories or warehouses of TÜV Rheinland only in case of gross negligence.

15.2 Any destroyed and otherwise worthless test materials/samples will be disposed of by TÜV Rheinland for the client at the expense of the client, unless otherwise agreed.

15.3 Undamaged test materials/samples shall be stored by TÜV Rheinland for four (4) weeks after completion of the test. If a longer storage period is desired, TÜV Rheinland charges an appropriate storage fee.

15.4 After the expiry of the 4 weeks or any longer period agreed upon, the test materials/samples will be disposed of by TÜV Rheinland for the client for a fee in accordance with clause 15.2.

15.5 If test materials/samples or documentations are given to the client to be placed in storage at their premises, the test materials/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 test materials/samples and/or documentation, any liability claims for material and pecuniary damage resulting from the respective testing and certification that is brought forward by the client against TÜV Rheinland shall be voided.

16. Termination of the contract

16.1 Notwithstanding clause 3.3 of the GTCB, TÜV Rheinland and the client are entitled to terminate the contract in its entirety or, in the case of services combined in one contract, each of 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 shortened to six (6) weeks in case TÜV Rheinland is prevented from performing the services due to a loss or a suspension of its accreditation or notification.

16.2 For good causes, TÜV Rheinland may consider giving a written notice to the client to terminate the contract which includes but not limited to the following:

a) the client does not immediately notify TÜV Rheinland of changes in the conditions within the company which are relevant for certification or signs of such changes;

b) the client misuses the certificate or certification mark or uses it in violation 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 the payment claims of TÜV Rheinland under the contract are considerably endangered and TÜV Rheinland cannot reasonably be expected to continue the contractual relationship.

e) in the event of any serious misrepresentation, be it by intentional fraud or grossly negligent behavior of the managers, employees or agents of the client;

f) if TÜV Rheinland, for reasons beyond its 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.

16.3 In the event of termination with written notice by TÜV Rheinland for good cause, 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.

16.4 TÜV Rheinland is also entitled to terminate the contract with written notice if the client has not been able to make 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 that Party proves: (a) that such impediment is beyond its reasonable control; and (b) that it could not reasonably have been foreseen at the time of the conclusion of the contract; and (c) that the effects of the impediment could not reasonably have been avoided or overcome by the affected Party.

17.2. In the absence of proof to the contrary, the following events affecting a Party shall be presumed to fulfil conditions (a) and (b) under paragraph 1 of this Clause: (i) war (whether declared or not), hostilities, invasion, act of foreign enemies, extensive military mobilization; (ii) civil war, riot, rebellion and revolution, military or usurped power, insurrection, act of terrorism, sabotage or piracy; (iii) currency and trade restriction, embargo, sanction; (iv) act of authority whether lawful or unlawful, compliance with any law or governmental order, expropriation, seizure of works, requisition, nationalization; (v) plague, epidemic, natural disaster or extreme natural event; (vi) explosion, fire, destruction of equipment, prolonged break-down of transport, telecommunication, information system or energy; (vii) general labor disturbance such as boycott, strike and lock-out, go-slow, occupation of factories and premises.

17.3. The Party successfully invoking this Clause is relieved from its duty to perform its obligations under the contract and from any liability in damages or from any other contractual remedy for 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 has the effect of substantially depriving 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 it 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.

18.3. 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 friendly through negotiations.

Unless otherwise stipulated in the contract, if no settlement or no 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 by 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 Centre (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 rules. 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.