Products



Report No.: 0244152831a2 001 Page 1 of 18

Client: LUMI UNITED TECHNOLOGY CO., LTD.

Contact Information: F8, Jingqizhigu office building, No.1 Tangling Rd., Liuxian Ave., Taoyuan

Sub-dist., Nanshan Dist., Shenzhen, P.R. China

Manufacturer's name: LUMI UNITED TECHNOLOGY CO., LTD.

F8, Jingqizhigu office building, No.1 Tangling Rd., Liuxian Ave., Taoyuan

Sub-dist., Nanshan Dist., Shenzhen, P.R. China

Identification/Smart PlugModel No(s):SP-EUC01Sample Receiving date:2019-06-25

Testing Period: 2019-06-25 to 2019-08-01

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:

Ratings: 10A 250VAC 50/60Hz

Remark: Please be kindly informed all data refer to 0244152831a1 001

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

Charting Cai

2019-08-05 Chartting Cai / Project Engineer

Date Name/Position

Test result is drawn according to the kind and extent of tests performed.

This test report relates to the a. m. 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.



Page 2 of 18

Material List:

Smart Plug Item:

SP-EUC01

Material No.	Material	Color	Location
M001	Plastic	white	refer to photo
M002	Plastic	white	refer to photo
M003	Plastic	beige	refer to photo
M004	Metal	golden	refer to photo
M005	Metal	golden	refer to photo
M006	Metal	silver	refer to photo
M007	Metal	silver	refer to photo
M008	Metal	silver	refer to photo
M009	Solder	silver	refer to photo
M010	Plastic	black+white	refer to photo
M011	Plastic	black	refer to photo
M012	Metal	golden	refer to photo
M013	Ceramic	green	refer to photo
M014	Ceramic	blue	refer to photo
M015	Ceramic	grey	refer to photo
M016	Metal	silver	refer to photo
M017	PCB board	green	refer to photo
M018	Plastic	black	refer to photo
M019	Metal	golden	refer to photo
M020	Plastic	black	refer to photo
M021	Magnet	black	refer to photo
M022	Metal	copper	refer to photo
M023	Glue	white	refer to photo
M024	Plastic + printing	black+grey	refer to photo
M025	Plastic	brown	refer to photo
M026	Plastic	white	refer to photo
M027	Metal	silver	refer to photo
M028	Metal	silver	refer to photo



Page 3 of 18

M029	PCB board	green	refer to photo
M030	Plastic	black	refer to photo
M031	Plastic	black	refer to photo
M032	Metal	golden	refer to photo
M033	Metal	silver	refer to photo
M034	Metal	silver	refer to photo
M035	Plastic + printing + paper + adhesive	black+white	refer to photo
M036	Plastic	transparent	refer to photo
M037	Plastic	white	refer to photo
M038	Plastic	white	refer to photo
M039	Metal	silver	refer to photo
M040	Glue	white	refer to photo



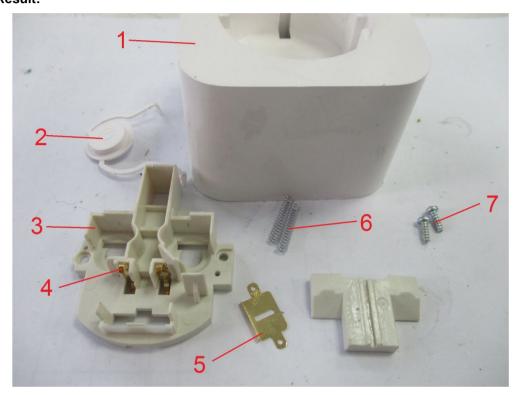
Page 4 of 18

1.Screening Test by XRF spectroscopy

Test Method: Cadmium, Lead, Mercury, Chromium, Bromine

-- With reference to IEC 62321-3-1:2013

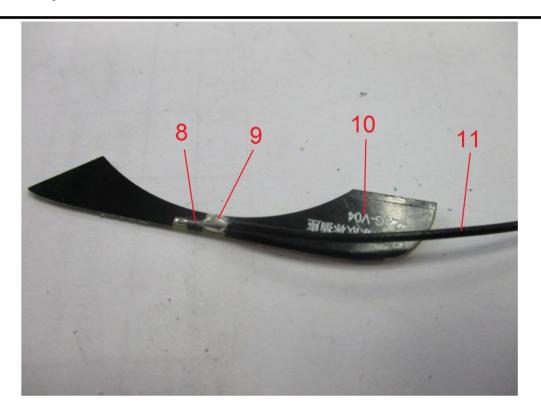
Test Result:



Material No.	Cd	Cr	Pb	Hg	Br
M001	n.d.	n.d.	n.d.	n.d.	n.d.
M002	n.d.	n.d.	n.d.	n.d.	n.d.
M003	n.d.	n.d.	n.d.	n.d.	d*2
M004	n.d.	n.d.	n.d.	n.d.	n.a.
M005	n.d.	n.d.	n.d.	n.d.	n.a.
M006	n.d.	d*2	n.d.	n.d.	n.a.
M007	n.d.	d*2	n.d.	n.d.	n.a.



Page 5 of 18



Material No.	Cd	Cr	Pb	Hg	Br
M008	n.d.	n.d.	n.d.	n.d.	n.a.
M009	n.d.	n.d.	n.d.	n.d.	n.a.
M010	n.d.	n.d.	n.d.	n.d.	d*2
M011	n.d.	n.d.	n.d.	n.d.	n.d.



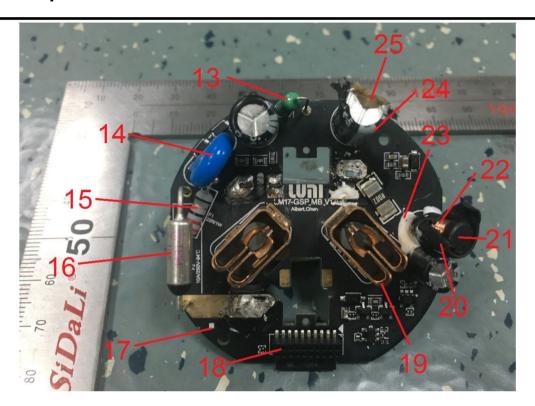
Page 6 of 18



Material No.	Cd	Cr	Pb	Hg	Br
M012	n.d.	n.d.	n.d.	n.d.	n.a.



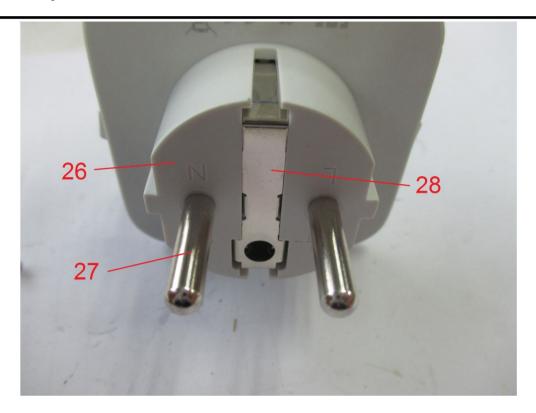
Page 7 of 18



Material No.	Cd	Cr	Pb	Hg	Br
M013	n.d.	n.d.	n.d.	n.d.	n.a.
M014	n.d.	n.d.	n.d.	n.d.	n.a.
M015	n.d.	n.d.	n.d.	n.d.	n.a.
M016	n.d.	n.d.	n.d.	n.d.	n.a.
M017	n.d.	n.d.	n.d.	n.d.	d*2
M018	n.d.	n.d.	n.d.	n.d.	d*2
M019	n.d.	n.d.	n.d.	n.d.	n.a.
M020	n.d.	n.d.	n.d.	n.d.	n.d.
M021	n.d.	n.d.	n.d.	n.d.	n.a.
M022	n.d.	n.d.	n.d.	n.d.	n.a.
M023	n.d.	n.d.	n.d.	n.d.	n.d.
M024	n.d.	n.d.	n.d.	n.d.	n.d.
M025	n.d.	n.d.	n.d.	n.d.	n.d.



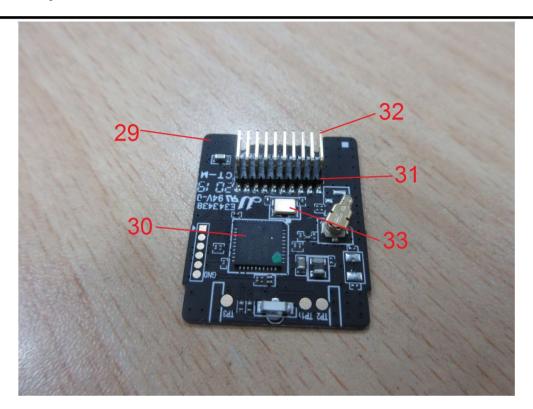
Page 8 of 18



Material No.	Cd	Cr	Pb	Hg	Br
M026	n.d.	n.d.	n.d.	n.d.	n.d.
M027	n.d.	n.d.	n.d.	n.d.	n.a.
M028 n.d.		n.d.	n.d.	n.d.	n.a.



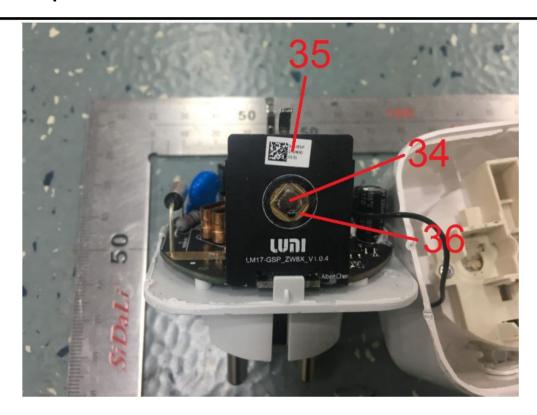
Page 9 of 18



Material No.	Cd	Cr	Pb	Hg	Br
M029	n.d.	n.d.	n.d.	n.d.	n.d.
M030	n.d.	n.d.	n.d.	n.d.	n.d.
M031	n.d.	n.d.	n.d.	n.d.	d*2
M032	n.d.	n.d.	n.d.	n.d.	n.a.
M033	n.d.	n.d.	n.d.	n.d.	n.a.



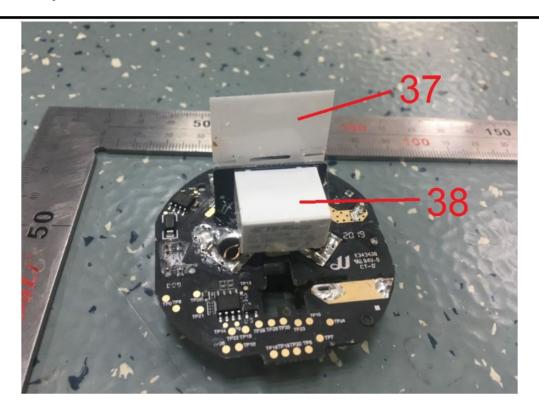
Page 10 of 18



Material No.	Cd	Cr	Pb	Hg	Br
M034	n.d.	d*2	n.d.	n.d.	n.a.
M035	n.d.	n.d.	n.d.	n.d.	n.d.
M036	n.d.	n.d.	n.d.	n.d.	n.d.



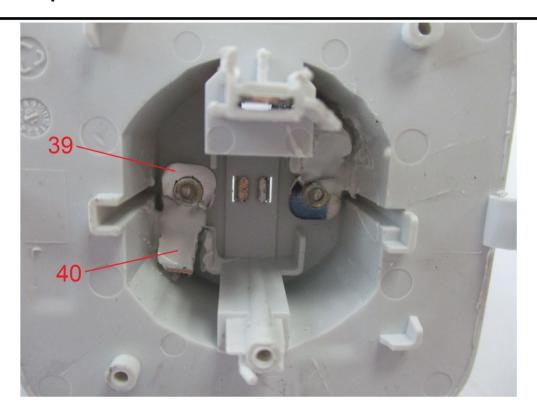
Page 11 of 18



Material No.	Cd	Cr	Pb	Hg	Br
M037	n.d.	n.d.	n.d.	n.d.	n.d.
M038	n.d.	n.d.	n.d.	n.d.	d*2



Page 12 of 18



Material No.	Cd	Cr	Pb	Hg	Br
M039	n.d.	n.d.	n.d.	n.d.	n.a.
M040	n.d.	n.d.	n.d.	n.d.	n.d.

Abbreviation: Pb = Lead

Cd = Cadmium
Hg = Mercury
Cr = Chromium
Br = Bromine
n.a. = not applicable

n.a. = not applicable n.d.= not detected d.= detected



Page 13 of 18

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 :

	Concentration (%)						
Material	Cd	Cr	Pb	Hg	Br		
Polymeric	P≤0.006 <x≤0.014<f< th=""><th>P≤0.064<x< th=""><th>P≤0.067<x≤0.133<f< th=""><th>P≤0.066<x≤0.134<f< th=""><th>P≤0.029<x< th=""></x<></th></x≤0.134<f<></th></x≤0.133<f<></th></x<></th></x≤0.014<f<>	P≤0.064 <x< th=""><th>P≤0.067<x≤0.133<f< th=""><th>P≤0.066<x≤0.134<f< th=""><th>P≤0.029<x< th=""></x<></th></x≤0.134<f<></th></x≤0.133<f<></th></x<>	P≤0.067 <x≤0.133<f< th=""><th>P≤0.066<x≤0.134<f< th=""><th>P≤0.029<x< th=""></x<></th></x≤0.134<f<></th></x≤0.133<f<>	P≤0.066 <x≤0.134<f< th=""><th>P≤0.029<x< th=""></x<></th></x≤0.134<f<>	P≤0.029 <x< th=""></x<>		
Metallic	P≤0.006 <x≤0.014<f< th=""><th>P≤0.064<x< th=""><th>P≤0.067<x≤0.133<f< th=""><th>P≤0.066<x≤0.134<f< th=""><th>NA</th></x≤0.134<f<></th></x≤0.133<f<></th></x<></th></x≤0.014<f<>	P≤0.064 <x< th=""><th>P≤0.067<x≤0.133<f< th=""><th>P≤0.066<x≤0.134<f< th=""><th>NA</th></x≤0.134<f<></th></x≤0.133<f<></th></x<>	P≤0.067 <x≤0.133<f< th=""><th>P≤0.066<x≤0.134<f< th=""><th>NA</th></x≤0.134<f<></th></x≤0.133<f<>	P≤0.066 <x≤0.134<f< th=""><th>NA</th></x≤0.134<f<>	NA		
Electronic Components	P≤0.004 <x≤0.016<f< th=""><th>P≤0.044<x< th=""><th>P≤0.047<x≤0.153<f< th=""><th>P≤0.046<x≤0.154<f< th=""><th>P≤0.024<x< th=""></x<></th></x≤0.154<f<></th></x≤0.153<f<></th></x<></th></x≤0.016<f<>	P≤0.044 <x< th=""><th>P≤0.047<x≤0.153<f< th=""><th>P≤0.046<x≤0.154<f< th=""><th>P≤0.024<x< th=""></x<></th></x≤0.154<f<></th></x≤0.153<f<></th></x<>	P≤0.047 <x≤0.153<f< th=""><th>P≤0.046<x≤0.154<f< th=""><th>P≤0.024<x< th=""></x<></th></x≤0.154<f<></th></x≤0.153<f<>	P≤0.046 <x≤0.154<f< th=""><th>P≤0.024<x< th=""></x<></th></x≤0.154<f<>	P≤0.024 <x< th=""></x<>		



Page 14 of 18

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

Test Method: To

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:

				Test plan	
Material No.	Material	Color	Location	A = Test HM only B = Test FR only C = Test HM + FR	
M003	Plastic	beige	refer to photo	В	
M006	Metal	silver	refer to photo	A	
M007	Metal	silver	refer to photo	Α	
M010	Plastic	black+white	refer to photo	В	
M017	PCB board	green	refer to photo	В	
M018	Plastic	black	refer to photo	В	
M031	Plastic	black	refer to photo	В	
M034	Metal	silver	refer to photo	A	
M038	Plastic	white	refer to photo	В	

Abbreviation: HM (Heavy metal) = Cd, Pb, Hg, Cr (VI)

FR (Flame Retardant) = PBBs, PBDEs



Page 15 of 18

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
M003	n.a.	n.a.	n.a.	n.a.	n.d.	n.d.
M010	n.a.	n.a.	n.a.	n.a.	n.d.	n.d.
M017	n.a.	n.a.	n.a.	n.a.	n.d.	n.d.
M018	n.a.	n.a.	n.a.	n.a.	n.d.	n.d.
M031	n.a.	n.a.	n.a.	n.a.	n.d.	n.d.
M038	n.a.	n.a.	n.a.	n.a.	n.d.	n.d.

Material No.	Hexavalent Chromium Content (μg/cm²) (*1) RL: 0.10 μg/cm²			
M006	Negative			
M007	Negative			
M034	Negative			

Abbreviation: Pb = Lead

Cd = Cadmium

Hg = Mercury

Cr = Chromium

Cr (VI) = Chromium (VI)

PBBs = Total Polybrominated Biphenyls
PBDEs = Total Polybrominated Diphenyl Ethers

n.d. = Not Detected (<RL)
RL = Reporting Limit
n.a. = Not Applicable

^ = The total Chromium have been determined

% = percentage

Remark:



Page 16 of 18

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



Page 17 of 18

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

		(%)					
Tool No.	Material No.	BBP	DBP	DEHP	DIBP		
Test No.		RL (%)					
		0.005	0.005	0.005	0.005		
T001	M001 + M002 + M003	n.d.	n.d.	n.d.	n.d.		
T002	M010 + M018 + M026	n.d.	n.d.	n.d.	n.d.		
T003	M030 + M031	n.d.	n.d.	n.d.	n.d.		
T004	M037 + M038	n.d.	n.d.	n.d.	n.d.		
T005	M023 + M040	n.d.	n.d.	n.d.	n.d.		
T006	M011	n.d.	n.d.	n.d.	n.d.		
T007	M020	n.d.	n.d.	n.d.	n.d.		
T008	M024	n.d.	n.d.	n.d.	n.d.		
T009	M025	n.d.	n.d.	n.d.	n.d.		
T010	M035	n.d.	n.d.	n.d.	n.d.		
T011	M036	n.d.	n.d.	n.d.	n.d.		

Abbreviation: BBP= Benzylbutyl phthalate

DBP= Dibutyl phthalate

DEHP= Bis(2-ethylhexyl) phthalate

DIBP= Diisobutyl phthalate

n.d.= Not Detected (< Reporting Limit)

RL = Reporting Limit N.A. = Not Applicable %= percentage



Page 18 of 18

Sample Photo



- END -

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

- 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 c'TÜV Rheinland'. The Greater China hereof refers to Mainland China, Hong Kong and Taiwan.The client hereof includes:
- 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.
- Any standard terms and conditions of the client of any nature shall not apply and sha hereby be expressly excluded. No standard contractual terms and conditions of the clien shall form part of the contract even if TÜV Rheinland does not explicitly object to them.
- 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

Unless otherwise agreed, all quotations submitted by $T\ddot{U}V$ Rheinland can be changed by $T\ddot{U}V$ Rheinland without notice prior to its acceptance and confirmation by the other party.

Coming into effect and duration of contracts

- 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, in its sice discretion, entitled to accept the order by giving written cof such acceptance (including notice sent via electronic means) or by performing the requested service.
- 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.

Scope of services

- 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.
- 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.
- On execution of the work there shall be no simultaneous assumption of any guarar the correctness (proper quality) and working order of either tested or examined parts the installation as a whole and its upstream and/or downstream processes, organiss use and application in accordance with regulations, nor of the systems on which installation is based. In particular, 70th heinland shall assume no responsibility for construction, selection of materials and assembly of installations examined, nor to use and application in accordance with regulations, unless these questions are exprovered 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, TUV Rheinland shall be entitled to additional remuneration for resulting additional expenses.
- 4.7The 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 or work results in full or in extracts to third parties in accordance with clause 11.4.

Performance periods/dates

- The contractually agreed periods/dates of performance are based on estimates of involved which are prepared in line with the details provided by the client. They be binding if being confirmed as binding by TÜV Rheinland in writing.
- 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.
- 5.4TÜV Rheinland is not responsible for a delay in performance, in particular if the client has not fulfillided 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.
- 5.5lf 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 cerformance.

The client's obligation to cooperate

- 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 $T\ddot{U}V$ 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.
- 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.

- 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.

- All invoice amounts shall be due for payment without deduction on receipt of the invoice. No discounts and rebates shall be granted.
- 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.
- 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
- 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 w of receipt of the invoice
- 8.7 TÜV Rheinland shall be entitled to demand appropriate advance payments
- 8.7 IUV kneinland shall be entitled to desire fieles 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. 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 exceed 5% per contractual year, the client shall be described to the right to terminate the contract in the rise in fees acceed 5% per contractual year, the client shall be described to the right to terminate 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.

- 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 interesting the complete of the complete or the client shall be obliged to accept it
- 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.
- rnemiano, the completion of the work shall take its place.

 9. If the claim was unable to make use of the time windows provided for within the scope of contribution procedure for auditing/performance by TUV. Rheinland and the certificate severe to be provided to the provided provided to t
- 9.6 Insofar as the client has undertaken in the contract to accept services, TÜV Rheinland shall also be entitled to charge lump-sun 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 tump and the contraction of the place of the reserves the reser

- 10. Confidentiality
 10.1-for the purpose of these terms and conditions, "confidential information" means all information, documents, images, drawings, know-how, data, samples and project documentation which one party (the "disclosing party") hands over, transfers or otherw discloses to the other party (the "foceiving party"), and the confidential information reducing performance of work by TUV Rheinfand, including product testing data, defects, conformity to the technical standard and related reports. Confidential information is exp not the data and know-how collected, compled or otherwise obtained by TUV Rheinfand (non-personal) within the scope of the provision of services by TUV Rheinfand. TUV Rheinfand 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 is disclosed orally, the receiving party shall be appropriately 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 holigations her enurient towards such information.
- 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 requir to pass on confidential information, inspection reports or documentation to the governmen authorities, judicial court, accreditation bodies or third parties that are involved in the

communities treated by the receiving party with the same level of confidentiality as the 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 obligh 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, sha 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 copie 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 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, TUV 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, reports/results, results, calculations, presentations etc. prepared by TÜV Rheinland, unit otherwise agreed by the parties in a separeta agreement. As the owner of the copyright TÜV Rheinland is free to grant others the right to use the work results for individual or types of use tright 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 TÛV 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 u the work results beyond the scope regulaed in clause 11.2 needs the prior written appror T/U Rheinland in each individual case.
- 11.6 TÜV Reinland 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.
- The consent of $T\ddot{U}V$ Rheinland to publication or duplication of the work results does not entitle the client to use the corporate logo, corporate design or test/centification mark of $T\ddot{U}V$

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 or annually recurring services, the agreed annual fee; (iii) in the case of a contract or annually recurring services, the agreed annual fee; (iii) in the case of a contract or entire the contract of the co

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 accumulated lia calculated according to the foregoing provisions exceeds 2.5 Million Euro or equiva amount in local currency, the total and accumulated liability of TÜV Rheinland shall be limited to and shall not exceed the said 2.5 Million Euro or equivalent amount in

- 12.2 The limitation of liability according to article 12.1 above shall not apply to damages losses caused by malice, intent or gross negligence on the part of TÜV Rheinland vicarious agents. Such limitation shall not apply to damages for a person's death, pirjury or illness.
- 12.3 In cases involving a fundamental breach of contract, TÜV Rheinland will be liable even w minor negligence is involved. For this purpose, a "fundamental breach" is breach of a man contractual obligation, the performance of which permits the due performance of the cont Any claim for damages for a fundamental breach of contract shall be limited to the amou damages reasonably foreseen as a possible consequence of such breach of contract a time of the breach (reasonably foreseeable damages), unless any of the circumstal 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 vicanious agent of TÜV Rheinland. IT 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

- 13.1When 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 tab.
- 13.2The 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, TDV Pheniand shall be entitled to terminate the contract with immediate effect and the client shall compensate for the fosses incured thereof by TDV Rehelland.

14. Data protection notice

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 objection, right of oretification, right of recessing limitation, right of objection, right of objection, right of the processing limitation, right to objection, right of data transferability. In addition, persons concerned by the data processing have the right to reveloc heir consent at any time with affect for the future, as well as the right to file a complaint with the competent data protection supervisor guildrow; For further death of the processor, please refer to the respective data protection formation. 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 material: transport risk and storage

- 15.1The risk and costs for freight and transport of documents or test material to and from TÜV Rheinland as well as the costs of necessary disposal measures shall be borne by the client.
- 15.2Any destroyed and otherwise worthless test material will be disposed of by TÜV Rheinland for the client at the expense of the client, unless otherwise agreed.
- 15.3Undamaged test material 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.
- 15.4After the expiry of the 4 weeks or any longer period agreed upon, the test material will be disposed of by TÜV Rheinland for the client for a fee in accordance with clause 15.2.

- 16.1 Notwithstanding clause 3.3 of the GTCB, TÜV Rheinland and the client are entitled to te the contract in its entirety or, in the case of services combined in one contract, eac combined parts of the contract individually and independently of the continuation remaining services with six (6) months notice to the end of the contractually agreed te
- 16.2For 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.
- 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 sex sit. 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.
- 16.4TÜV 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

17. Partial invalidity, written form, place of jurisdiction and dispute resolution

- 17.1 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.
- 17.2 Should one or several of the provisions under the contract and/or these terms and condition be or become ineffective, the contracting parties shall replace the invalid provision with legally valid provision that comes closest to the content of the invalid provision in legal a commercial terms.
- 17.3 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
 - 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.
- 17.4 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, that Despute shall be submitted:
 - ajin 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 Taipel Branch 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 Abitration Centre (HKIAC) to be settled by arbitration under the HKIAC Administered Abitration Rules in force when the Notice of Abitration 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.