XI'AN LIB ENVIRONMENTAL SIMULATION INDUSTRY

Climatic Test Chamber Manufacturer And Supplier

Test Chamber for Solar Panel Testing

PV-04

TEMPERATURE
-60℃ ~ +100℃

HUMIDITY
20%~98%RH

Test Chamber For Solar Panel Testing

【Technical Parameter】

Model			PV-04
Internal Dimension (mm)			1300*700*1350
Overall Dimension (mm)			1900*1100*1750
Interior Volume			1220L
Parameter	Temperature Range		-60℃ ～ +100 ℃
	Temperature Fluctuation		± 0.5 ℃
	Temperature Deviation		± 2.0 ℃
	Humidity Range		20% ~ 98% RH
	Humidity Deviation		± 2.5% RH
	Temperature Change Rate		1 ~ 3.4℃ / Min
	Panel Size		1M*2M
	Panel Capacity		4 / 6 / 8 / 10 / 12 Pieces
Structure	Cooling	Cooling system	Mechanical compression refrigeration system
		Refrigerating unit	French TECUMSEH compressor
		Refrigerant	R404A, R23
	Heating Element		Nichrome heater
	Controller		Programmable color LCD touch screen controller
			Ethernet connection, PC Link
	Humidity	Water supply system	Automatic water supply
		Water supply system	Water purification system
		Humidifier	External isolation, stainless steel surface evaporation humidifier
		Dehumidification	Evaporator
	Sensor	Temperature Sensor	PTR Platinum Resistance PT100Ω/MV A-class, accuracy 0.001℃
		Humidity Sensor	Dry and wet bulb sensor
	Build-in Water Tank(mm)		270*300*450
	View Window Size(mm)		330*370
	Air Circulation		Centrifugal wind fan
	Safety Device		Humidifier Dry-combustion Protection; Over-temperature Protection; Over-current Protection; Refrigerant High-pressure Protection; Water Shortage Protection; Earth leakage Protection
Material	Exterior Material		Steel Plate with protective coating
	Interior Material		SUS304 stainless steel
	Thermal Insulation		Polyurethane foam and insulation cotton
	Observation Window		Interior lighting, double-layer thermo stability silicone rubber sealing
Standard Configuration			1 Cable hole (Φ 50,) with plug; 2 shelves
Power Supply			220V 50Hz / 380V 50HZ
Maximum Noise			65 dBA
Environmental Conditional			5℃～+35 ℃ ≤85% RH
Standard			IEC61215, IEC61646, IEC61108, IEC62688, UL1703, IEC61345

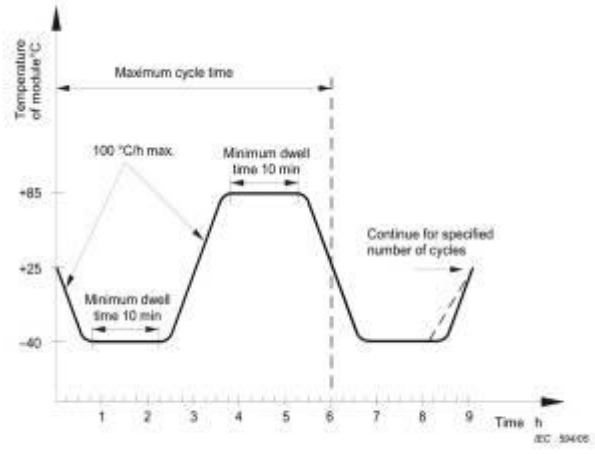


Figure 11 – Thermal cycling test

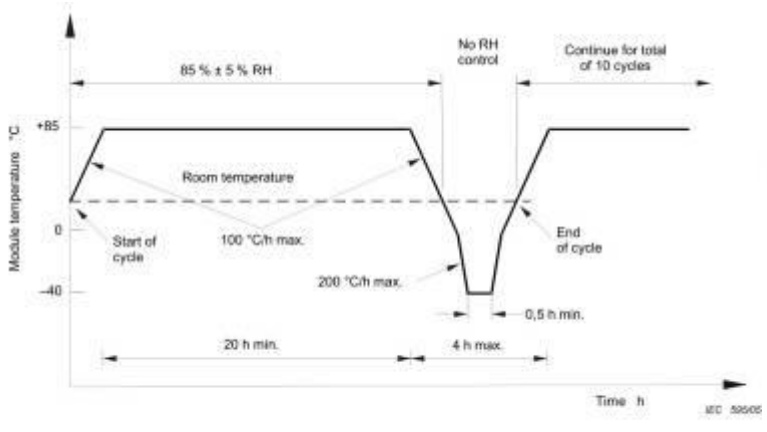


Figure 12 – Humidity-freeze cycle

The following severities are applied:

Test temperature: 85 °C ± 2 °C

Relative humidity: 85 % ± 5 %

Test duration: 1 000 h.

Structures

Test Chamber for Solar Panel Testing

Appearance

1.Workroom

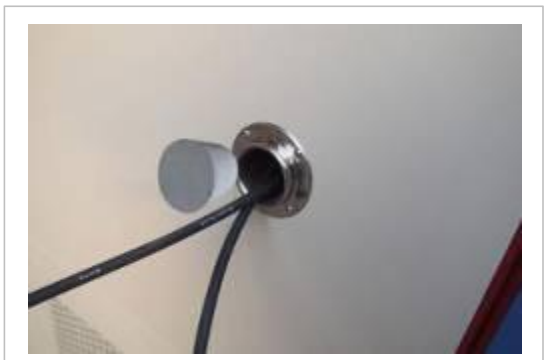
The internal material is 304 stainless steel, mirror surface, rust-proof to high and low temperature and moisture corrosion;
This Room is designed for panels up to 1.2m.

2.Sample Supporting Racks

Supporting racks for fix PV panels can be adjusted up and down to fit the various sizes of panels.

3.Cable Hole

A standard test hole, located at the left side of the work room, is provided with a sleeve inside to prevent moisture from entering the insulation layer. Equipped with flange.
The standard inner hole diameter is 50mm.
Soft silicone plug seal; Metal enclosure closed, beautiful designed.

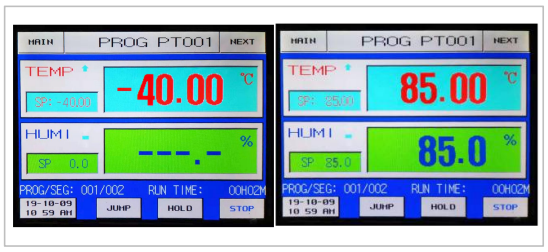


4.Viewing Window

Double layer insulating glass 8cm thick, made of tempered glass.
The conductive film is located on the interior glass to prevent window frosting, built-in LED light for the work room lighting; can clearly observe samples.
The light control button is located below the controller.

5.Controller

PID programmable color touch screen controller, network connection computer.
Can edit 120 programs 20 segment.
LIB also can preset program into the controller based on user testing requirements.
The set system language is English for standard.



6.Water Re-circulation

Water purifier: mainly purification from water source to water tank.
The filter element is suggested to be replaced once a year.
Water re-circulation system that reduced water use and a series of water pipes。

7.Automatic Water Inlet

Automatic control of the water intake of equipment, the customer can be directly connected to the laboratory faucet, so as to achieve automated testing;
Automatic inlet diameter 1/2 inch (13.5MM);
High and low water level alarm, water shortage lights and sound.
Standard 2 meter drain, longer.

8.Castor

Install 4 castors for ease moving, and with brakes function.
Caster height adjustable.

9.Insulation

10cm thick polyurethane foam and insulation cotton;
Better insulation performance, degradation resistance, environmental protection, noise reduction.

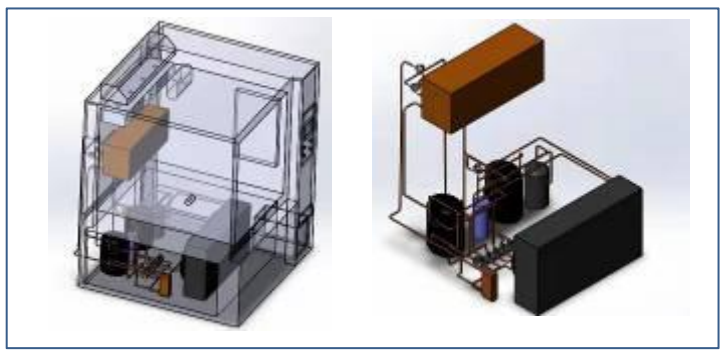
10.External Materials

A3 steel plate with galvanized coating;
Electrostatic treatment; High and low temperature corrosion resistance; High hardness, anti - impact
Very high safety factor;
Color can be customized.

Structures

Test Chamber For Solar Panel Testing

Core Function

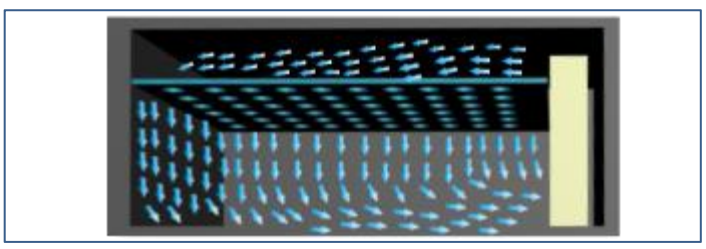


Cooling System

After the liquid refrigerant absorbs the heat of the cooled object in the evaporator, it is vaporized into low-temperature and low-pressure steam, sucked by the compressor, compressed into high-pressure high-temperature steam, discharged into the condenser, and radiated to the cooling medium in the condenser, condensed into a high-pressure liquid, throttling through a throttle valve into a low-pressure low-temperature refrigerant, and again entering the evaporator to absorb heat and vaporize, to achieve the purpose of cycle refrigeration.
In this way, the refrigerant completes a refrigeration cycle through four basic processes of evaporation, compression, condensation, and throttling in the system.

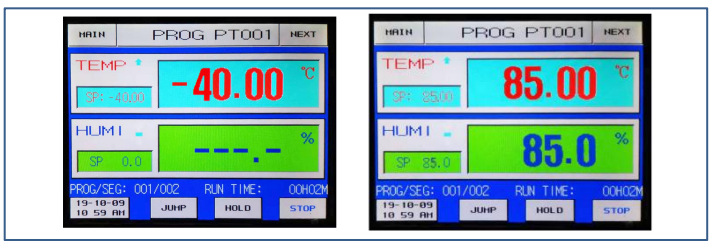
Humidity System

When the current humidity is less than the set point humidity, the equipment is automatically humidified. The humidification of is automatically heated by the humidification tank. When the water is heated, steam is generated, and then the steam is injected into the working room to increase the test humidity.



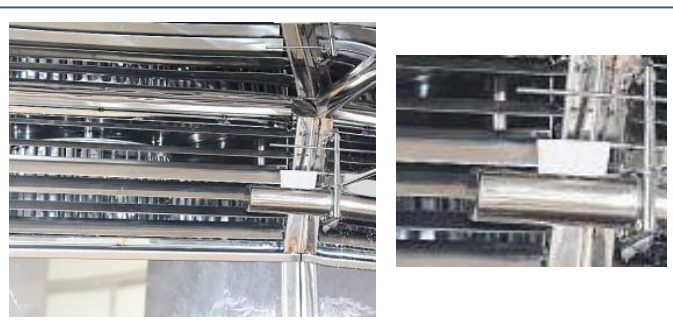
Air Circulation

The centrifugal fan is installed at the rear of the chamber body, and the air is uniformly distributed through the air outlet. Air circulation adopts air outlet at top and air return at bottom, and the wind speed and pressure are in compliance with the test standard, and the temperature is stabilized at the moment of switching. The high-quality centrifugal fan is used to strongly supply air circulation, making the temperature distribution in the test area uniform.



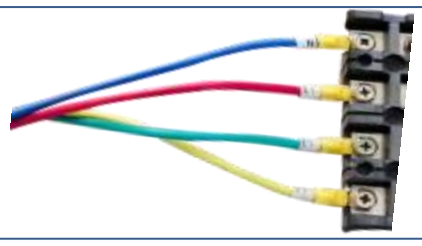
Controller System

The PID controller as the main control unit to command, operate, detect and redistribute the various components of the equipment to achieve maximum effective use.
The temperature control adopts P.I.D. S.S.R. system synchronous coordinated control, which can improve the stability and life of the control components and interface.
Screen display function: LCD display, which can display test conditions (including temperature section, cycle number, running time and remaining time, etc.).



Temperature and Humidity Sensor

PT-100 Class A sensor, real-time accurate detection and display of temperature changes at 0.001 degrees.
A wet gauze and a real-time temperature, converted by temperature difference, showing real-time relative humidity.



Wiring System

Voltage 380V 50Hz 3 phase.
L1, L2, L3, PE, N, grounding protection.
Standard 2m long cable.

Over Temperature Protection
Water Shortage Protection

Over Current Protection
Earth Leakage Protection
Phase Sequence Protection

Humidifier Dry Combustion Protection
Refrigerant High Pressure Protection

Protection System

Option

Test Chamber For Solar Panel Testing

Sample Supporting Racks	■ Can be customized
Power Cords	■ 2.5m ■ 3m
Test Hole	■ Diameter 100mm ■ Diameter 125mm ■ Shape and size can be customized
Demineral Water Device	
Observation Window	■ Size can be customized ■ Inner glass door ■ Hand-in ports
Reverse Osmosis Unit	
Controller	■ WiFi connection ■ Mobile APP control ■ Multi-language controller interface：Russian, French, Polish, Romanian, German

Shipping & Packaging

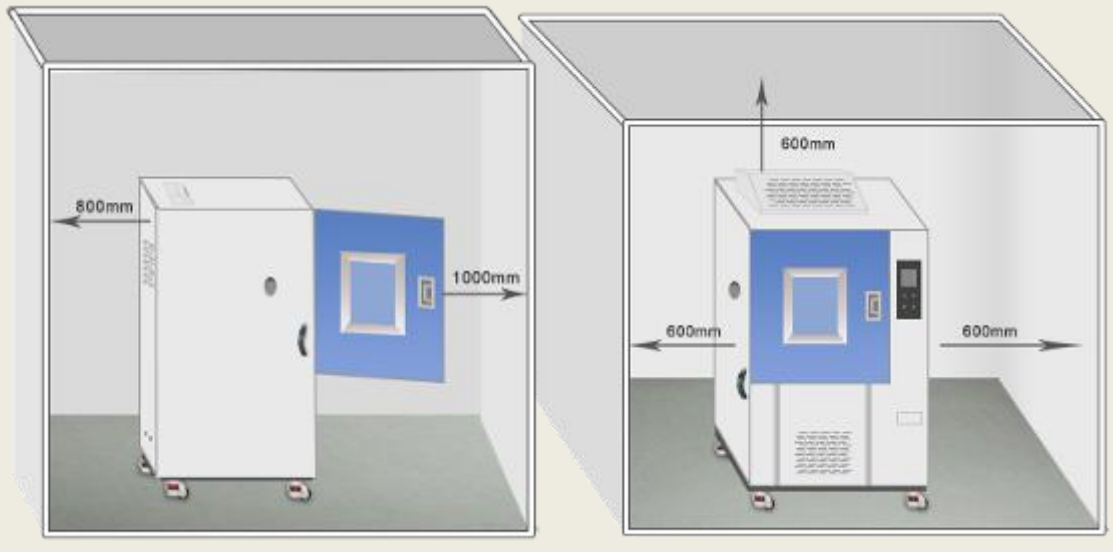
Install Condition

Environment Conditions

Temperature: +5℃ ~ +35℃
Relative humidity: ≤85%;
Pressure: 86 KPa—106 KPa

Space Conditions

Sufficient space for ventilation



***Safety Instruction:** 1.Prohibited to test explosive, inflammable and high corrosive substance
2.Chemical exposure to the equipment is prohibited
3.Equipment must be safety on the ground to avoid electrostatic induction

Packaging

First, seal chamber with waterproof plastic film. Protect chamber from seawater corrosion.
Second, buffer foam is placed in the four corners of the chamber.It is used for fixing equipment to prevent shaking and damaging chamber during transportation.

Plywood: standard wood export packaging. The wooden box is fixed by sheet metal to prevent damage during transportation.

Gross weight: 1560kgs~
Package size: 2100*2800*1900 mm

Shipping

Material: Export standard wooden box
*Can be used for Sea, Air, Railway, Truck and multimodal transport.

Warranty & Service

- 3 Years Warranty, Lifelong Follow-up Services

Professional After-sales Team
If you have any questions during operation, we will supply solution to you with 24 hours.

Warranty Condition

Our company will repair the product, if the product, the material of the parts, the design and manufacturing of the products raised hardware problems caused by product itself rather than human error within three years warranty period since the date of dispatching by the customer.
Our company repairs the products, but will collect the basic costs of the spare parts after the warranty period, but service is free always.

How to Service

1. At first, our test chambers are produced based on 20 years product lifetime.
Normally once test chambers have problems, we judge the problems, and send spare parts to our customers, and teach them how to change new parts on by email or video, all spare parts and shipping cost (by DHL, TNT, and FedEx) paid by LIB.
2. f the customer needs our engineer on-site service, they only need pay the ticket accommodation to our Engineers, service is for free.
3. If products still can't use after our engineers repair, we will produce a new test chamber (same as the old one) to our customers with no charge.

Xi'an LIB Environmental Simulation Industry

PROVIDING TEST SOLUTION, PROVIDING TEST EQUIPMENT

Xi'an LIB Environmental Simulation Industry is a lead provider of environmental test chamber in China, with its own brand (LIB) design, production, sales and service since 2009. We continually update technology and develop new products for customer's needs.
Our main products included temperature and climate test chambers, corrosion chambers, weathering testers, IP dust and rain chambers, ozone test chamber, noxious gas SO2 H2S chamber, walk-in chambers. We provide test chamber, we provide test solutions. Standard and customized products to meet different customer needs.
By 2018, global market has spread to 51 countries to USA, Canada, Mexico, Brazil, Peru, Russia, German,UK,France,Finland,Netherlands, Poland,Switzerland,Thailand,Philippines, Singapore, Malaysia, Australian, South Africa etc. and the market continues to expand.

At present 7 Tier-one agents around the world provide LIB products, installation and maintenance service for customers. Make things simple and convenient.

Contact Us

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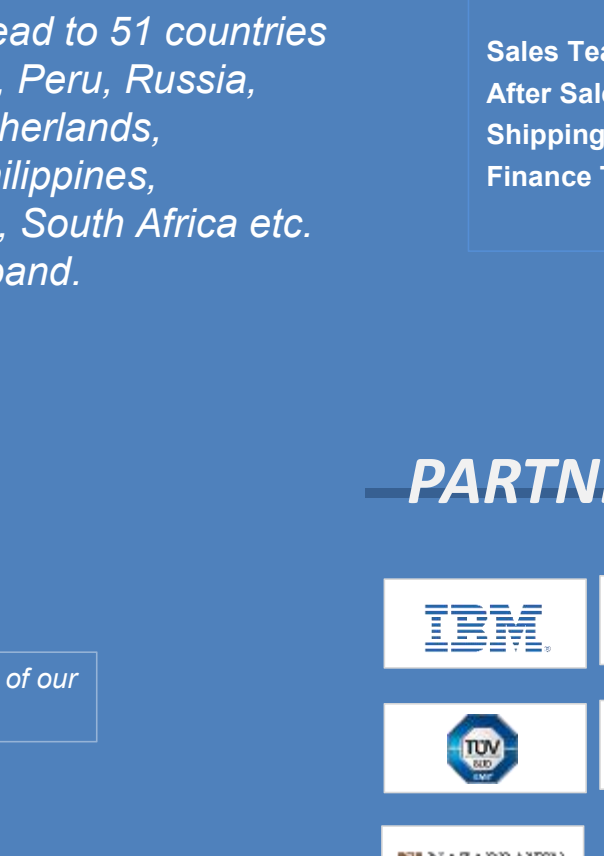
Finance Team： account@lib-industry.com

LIB Industry®

LIB became a registered trademark of our company since 2017 year.

PARTNER

CE
ROHS



CERTIFICATE OF CONFORMITY

Certificate No. : BKC-1806008130

Certificate of Conformity

Applicant : Xi'an LIB Environmental Simulation Industry
No.5 Zhangba First Street, Xi'an High-Tech Area, Shaanxi Province, P.R.China 710065

Manufacturer : Xi'an LIB Environmental Simulation Industry
No.5 Zhangba First Street, Xi'an High-Tech Area, Shaanxi Province, P.R.China 710065

Trademark : LIB

Product : Temperature Humidity Test Chamber

M/N : TH-50
TH-50A, TH-50B, TH-50C, TH-80A, TH-80B, TH-80C, TH-100A, TH-100B, TH-100C, TH-225A, TH-225B, TH-225C, TH-500A, TH-500B, TH-500C, TH-800A, TH-800B, TH-800C, TH-1000A, TH-1000B, TH-1000C, T-50A, T-50B, T-50C, T-80A, T-80B, T-80C, T-100A, T-100B, T-100C, T-225A, T-225B, T-225C, T-500A, TH-500B, T-500C, T-800A, T-800B, T-800C, T-1000A, T-1000B, T-1000C

Test Standard : EN ISO 12100:2010
EN 60204-1:2006+A1:2009+AC:2010

The certificate of conformity is based on an evaluation of a sample of the above mentioned products. It does not imply an assessment of the whole production. It is possible to use CE marking to demonstrate the compliance with this MD Directive 2006/42/EC and LVD Directive 2014/35/EU. It is only valid in connection with the test report number: BKC-1806008130.

CE

Shenzhen BKC Testing Co., Ltd.
6/F, Building 3, Zhoutong Industrial Park, Nanwan Street, Longgang District, Shenzhen, Guangdong, China Tel:4000-875-382 0755-32925341
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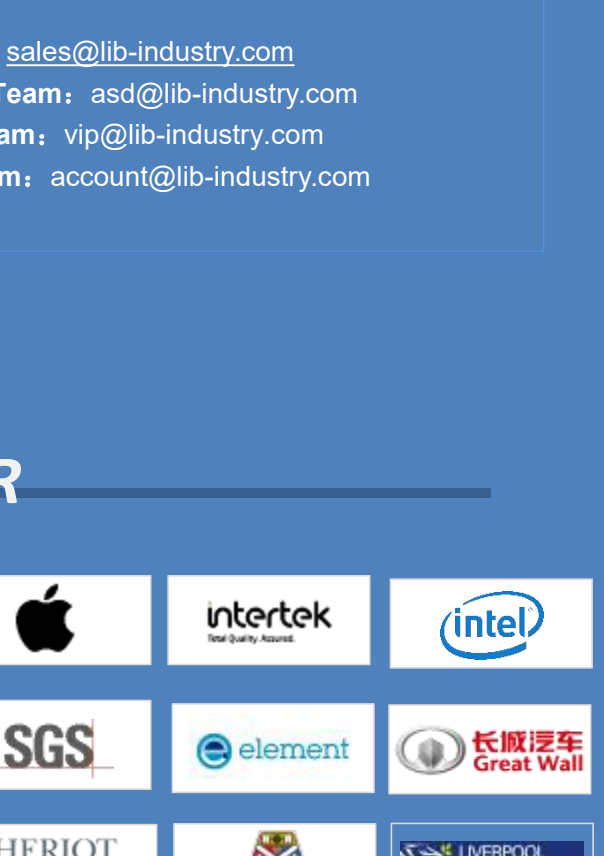

CERTIFICATE OF CONFORMITY

Certificate No. : BKC-1806008140

Certificate of Conformity

Applicant : Xi'an LIB Environmental Simulation Industry
No.5 Zhangba First Street, Xi'an High-Tech Area, Shaanxi Province, P.R.China 710065

Manufacturer : Xi'an LIB Environmental Simulation Industry
No.5 Zhangba First Street, Xi'an High-Tech Area, Shaanxi Province, P.R.China 710065

Trademark : LIB

Product : Temperature Humidity Test Chamber

M/N : TH-50
TH-50A, TH-50B, TH-50C, TH-80A, TH-80B, TH-80C, TH-100A, TH-100B, TH-100C, TH-225A, TH-225B, TH-225C, TH-500A, TH-500B, TH-500C, TH-800A, TH-800B, TH-800C, TH-1000A, TH-1000B, TH-1000C, T-50A, T-50B, T-50C, T-80A, T-80B, T-80C, T-100A, T-100B, T-100C, T-225A, T-225B, T-225C, T-500A, TH-500B, T-500C, T-800A, T-800B, T-800C, T-1000A, T-1000B, T-1000C

Test Standard : IEC62321-1:2013

The EUT described above has been consolidated by us and found in compliance with the council RoHS directive 2011/65/EU. It is possible to use CE marking to demonstrate the compliance with this RoHS Directive. It is only valid in connection with the test report number: BKC-1806008140.

RoHS

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