Listing Constructional Data Report (CDR)

1.0 Reference and Address			
Report Number	190701410SHA-001	Original Issued: 9-Aug-2019	Revised: None
Standard(s)	Information Technology Equipment Safety Part 1: General Requirements >Valid without technical revision: 20Dec2020< [UL 60950-1:2007 Ed.2+R:14Oct2014] Information Technology Equipment Safety Part 1: General Requirements (R2016) >Valid without technical revision: 20Dec2020< [CSA C22.2#60950-1:2007 Ed.2+A1;A2]		

Applicant	Shenzhen Fabulux Technology Co., Ltd	Manufacturer	**Shenzhen Fabulux Technology Co., Ltd**
Address	Factory 1201, No. 14 of Xiawei Industrial Zone, Zhangkengjing Community, Guanhu Street, Longhua District,, SHENZHEN Guangdong 515110	Address	Factory 1201, No. 14 of Xiawei Industrial Zone, Zhangkengjing Community, Guanhu Street, Longhua District,, SHENZHEN Guangdong 515110
Country	China	Country	China
Contact	Weiji Wu	Contact	Weiji Wu
Phone	13430753894	Phone	13430753894
FAX	-	FAX	-
Email	fab004@fabuluxled.com	Email	fab004@fabuluxled.com

2.0 Product Description	
Product	LED DISPLAY
Brand name	FABULUX LED
Description	The EUT is a LED DISPLAY which is designed for indoor use only. The max. working temperature is 25°C. If have any modify for product, the "Input current test" need to retest.
Models	Master1.5, Master1.8, Master2.6, Master2.9, Master3.9, Master4.8
Model Similarity	The models covered in this report have the same circuit schematic, construction and the critical components except for model number, quantity of LED and lattice distance of LED.
Ratings	Input: 100-240Vac, 50/60Hz, 16A(Max); Output: 100-240Vac, 50/60Hz, 11A(Max).
Other Ratings	NA

3.0 Product Photographs

Photo 1 - External view

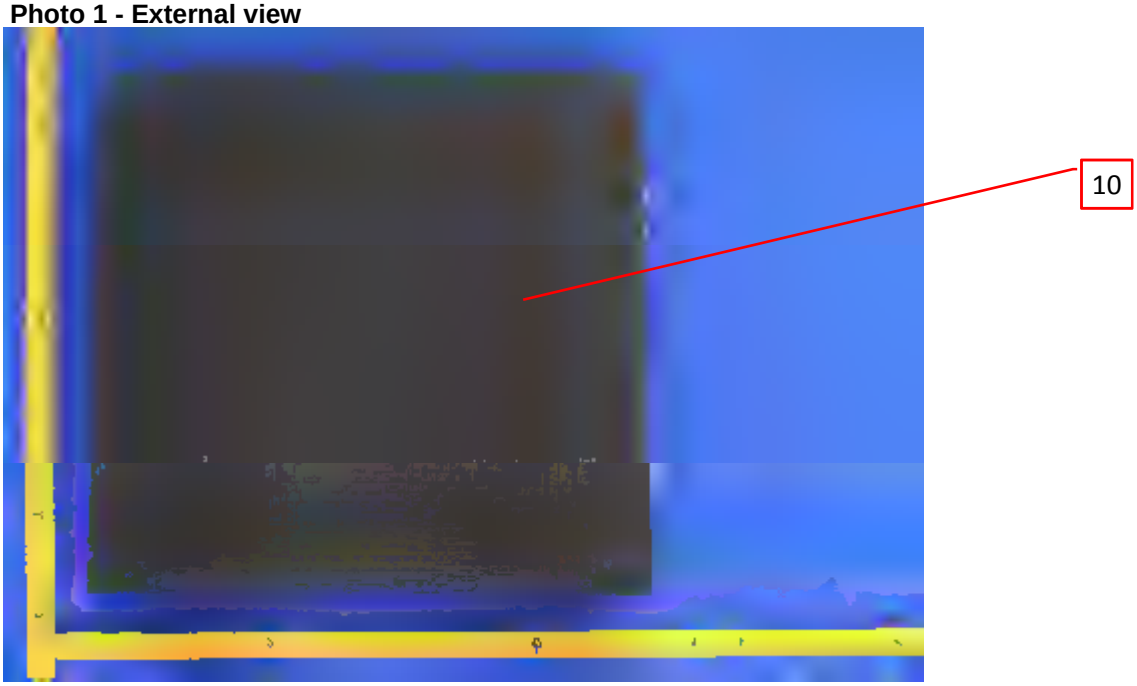
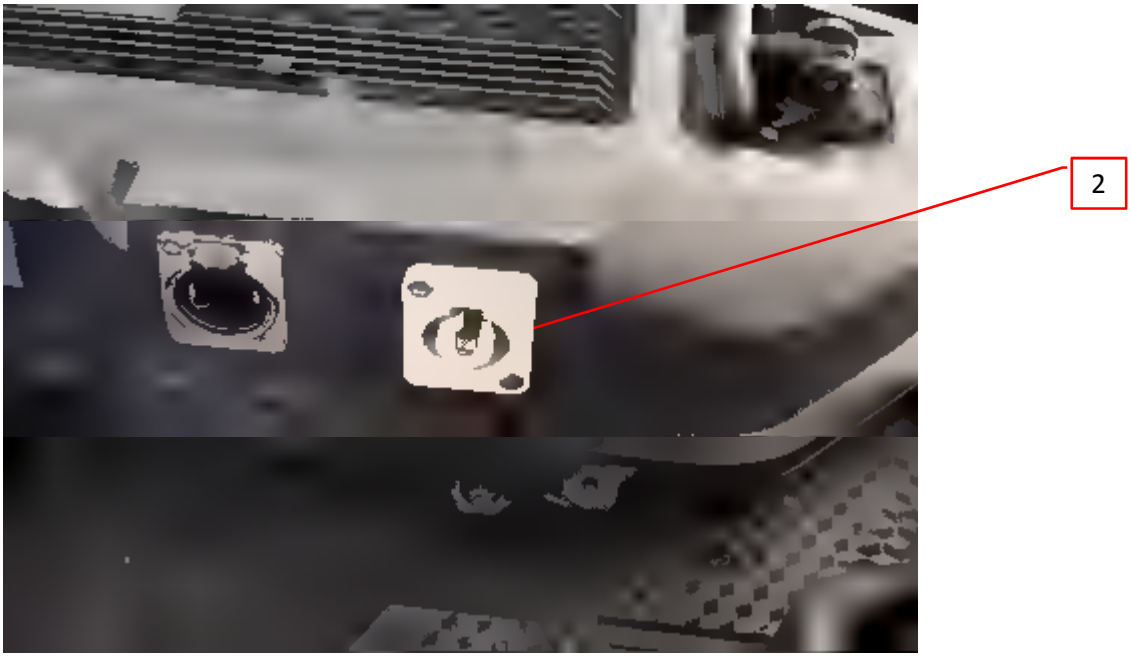


Photo 2 - External view

3.0 Product Photographs

Photo 3 - External view

Photo 4 - External view



3.0 Product Photographs

Photo 5 - Internal view

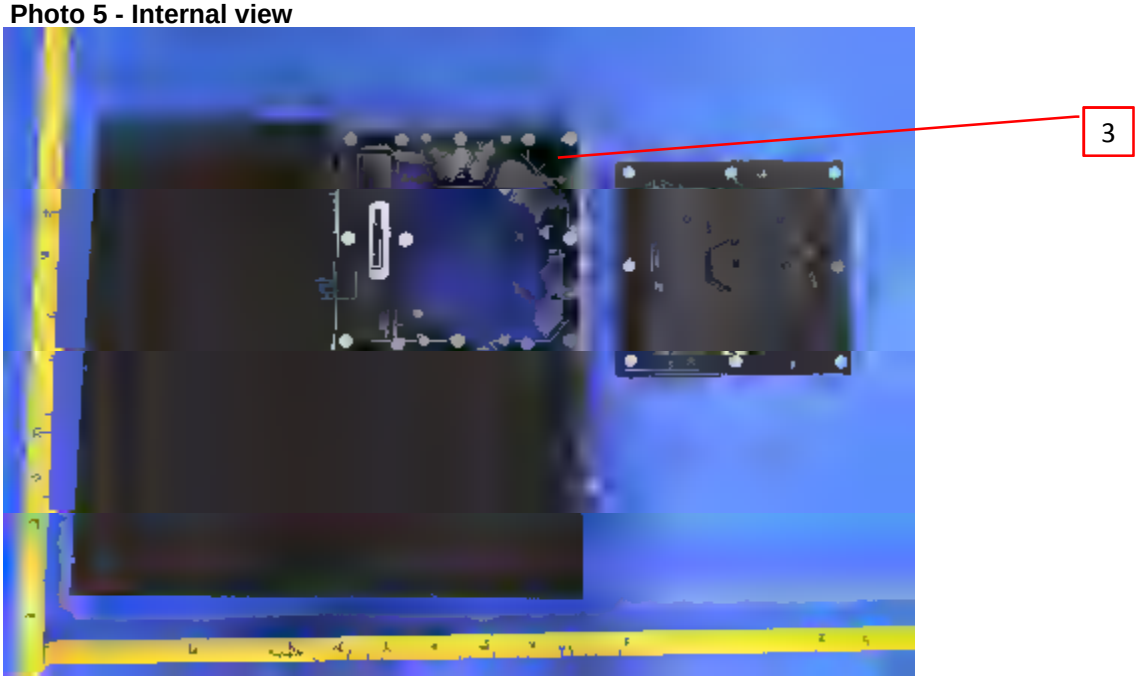
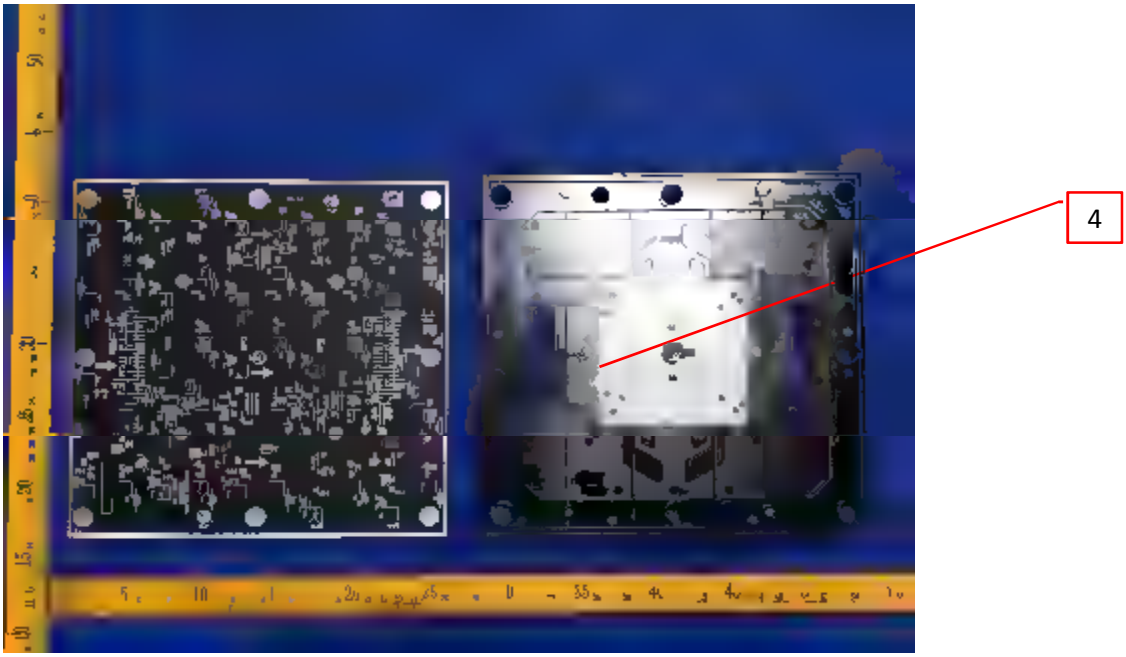


Photo 6 - Internal view



3.0 Product Photographs

Photo 7 - Internal view

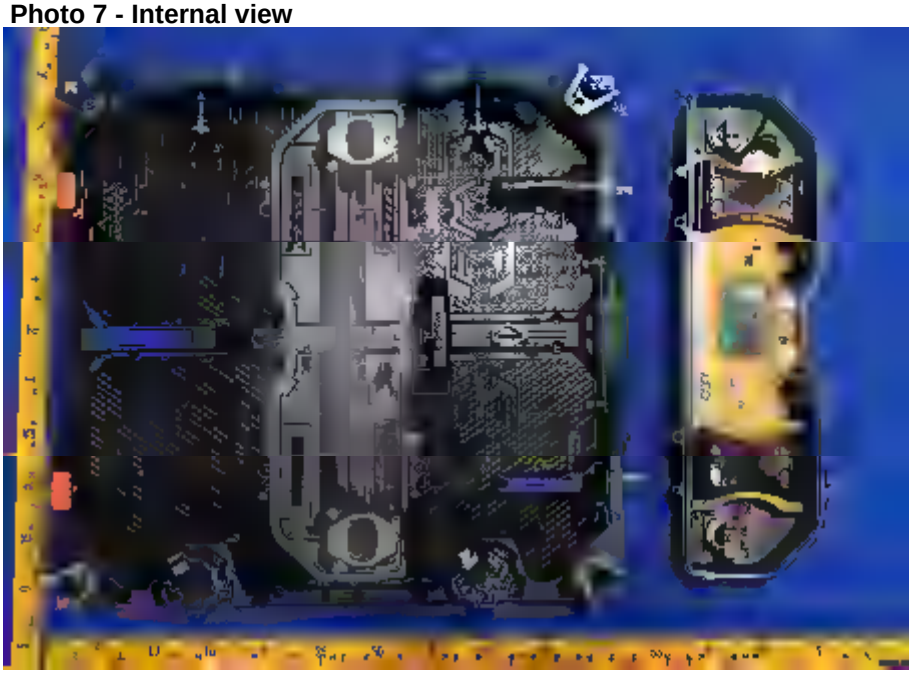
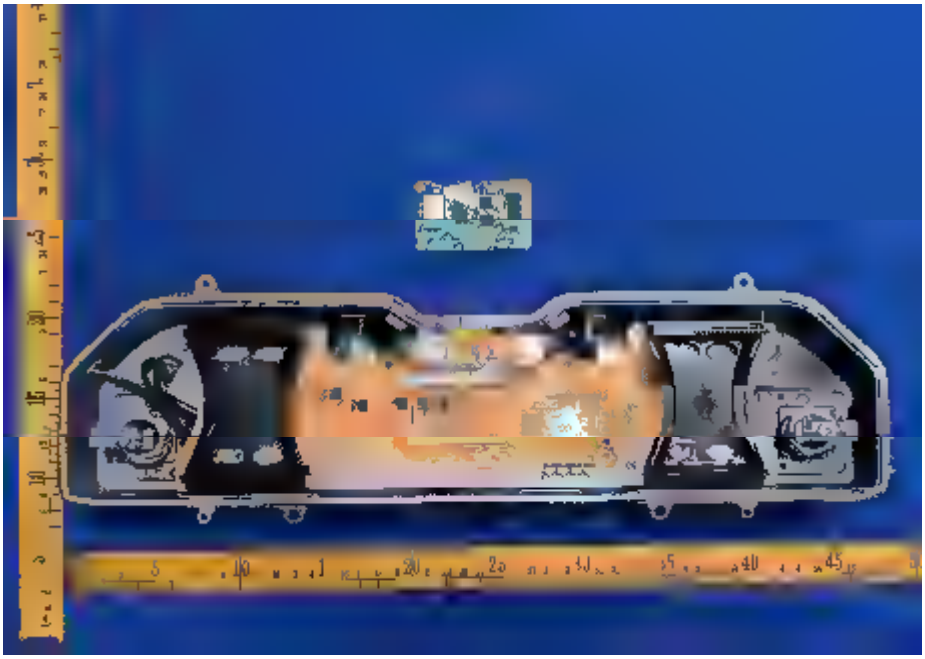


Photo 8 - Internal view



3.0 Product Photographs

Photo 9 - Internal view

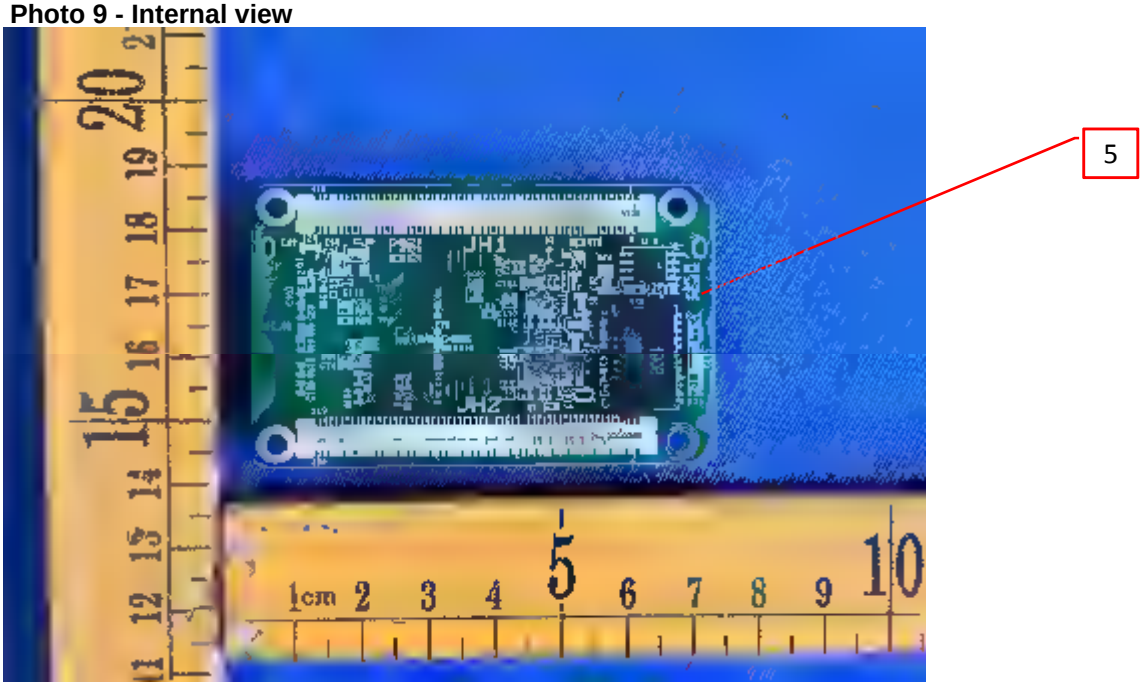
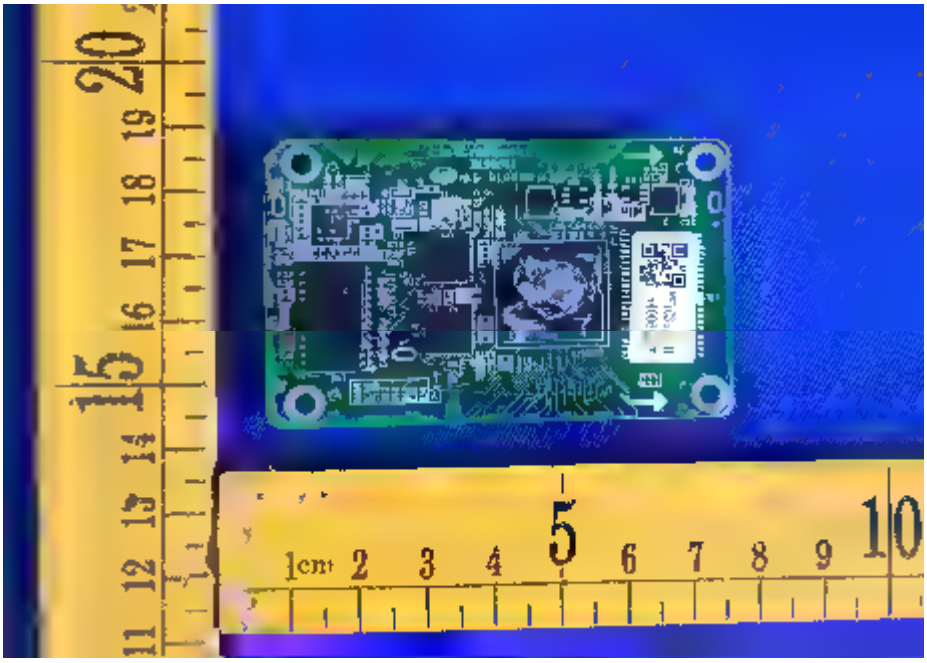


Photo 10 - Internal view



3.0 Product Photographs

Photo 11 - Internal view

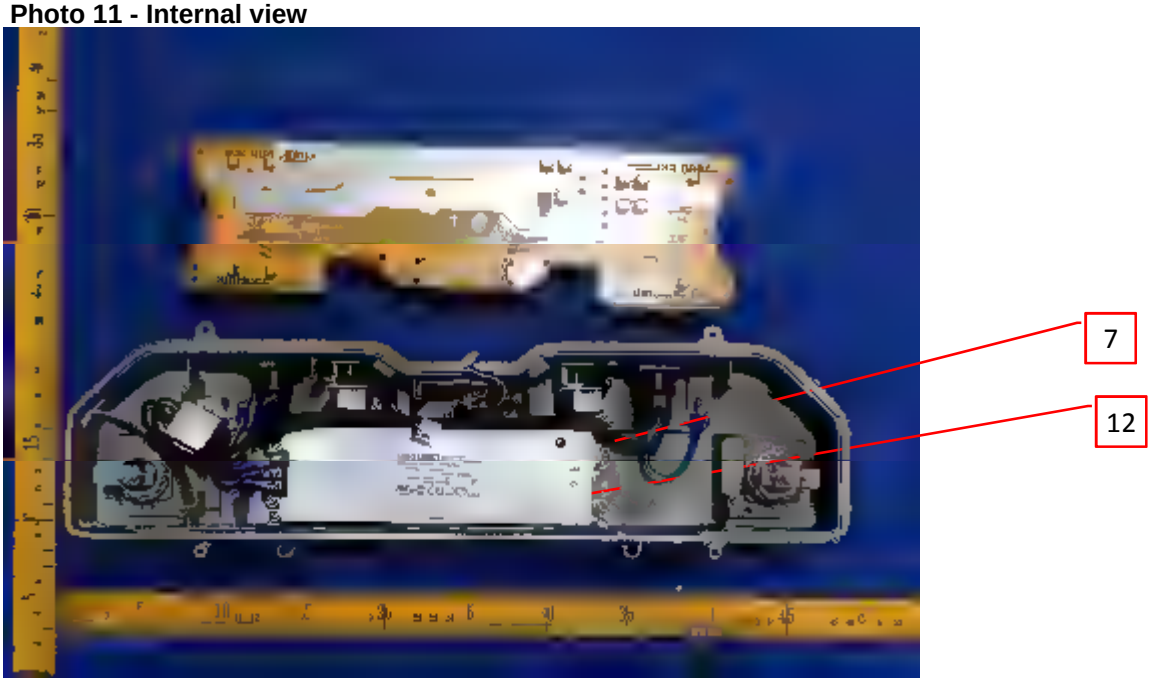
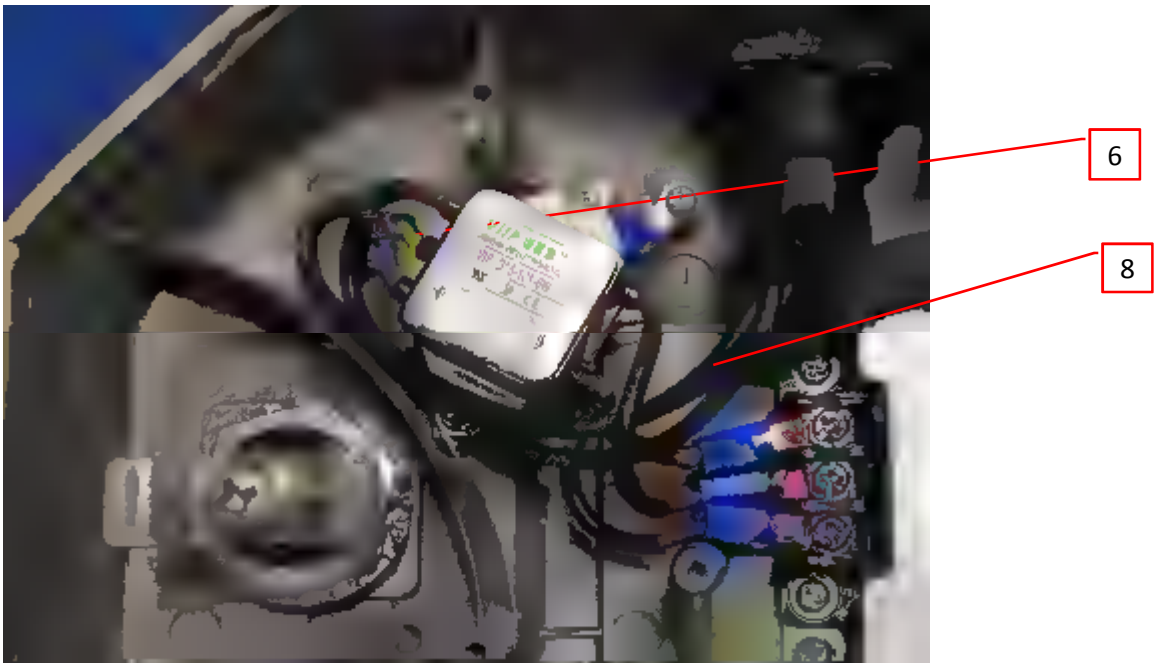


Photo 12 - Internal view



3.0 Product Photographs

Photo 13 - Internal view

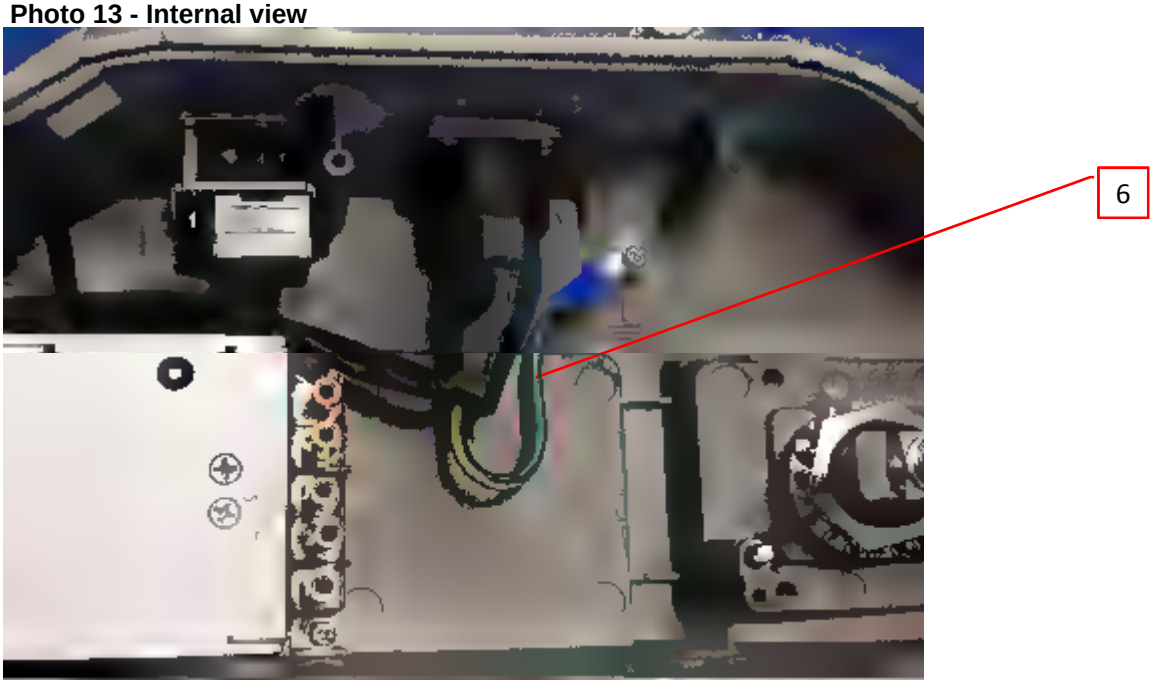
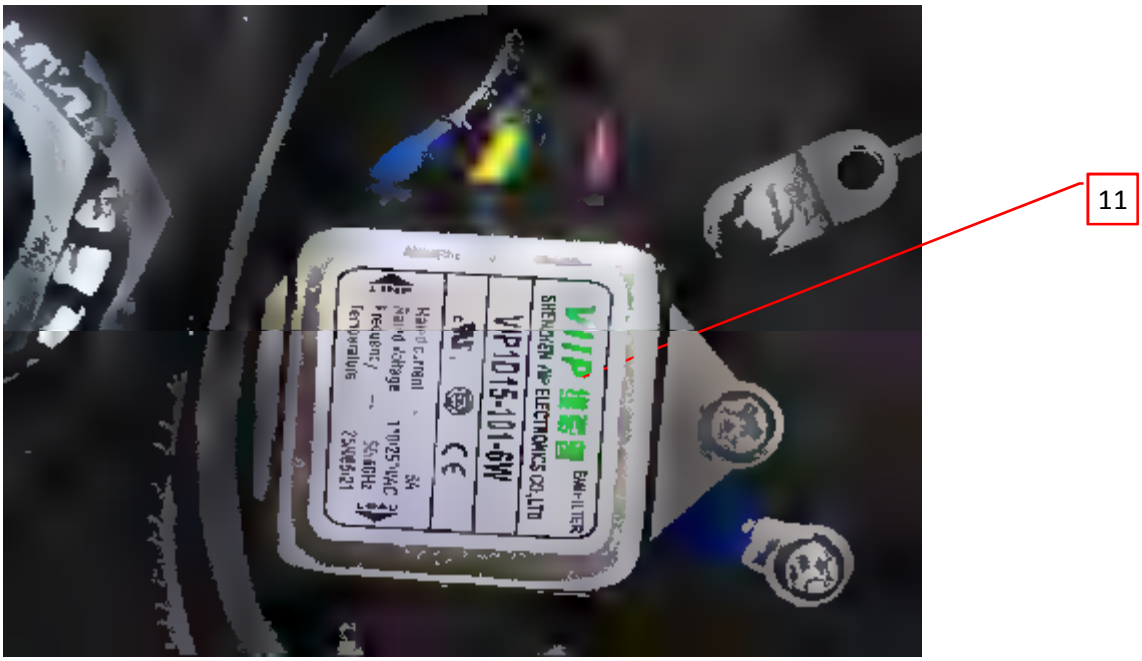


Photo 14 - Internal view



3.0 Product Photographs

Photo 15 - Internal view

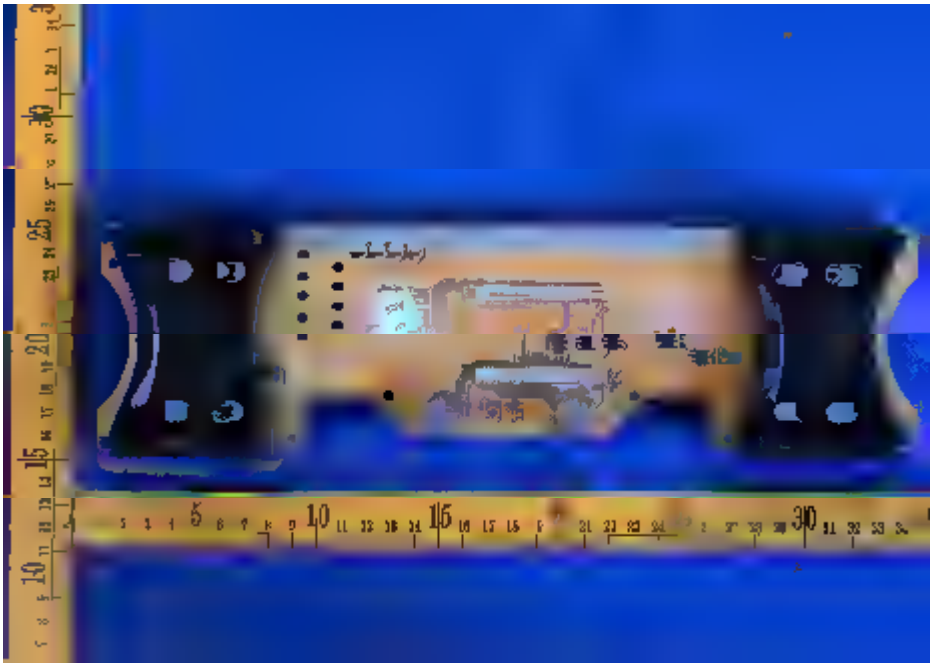


Photo 16 - Internal view

3.0 Product Photographs

Photo 17 - Internal view

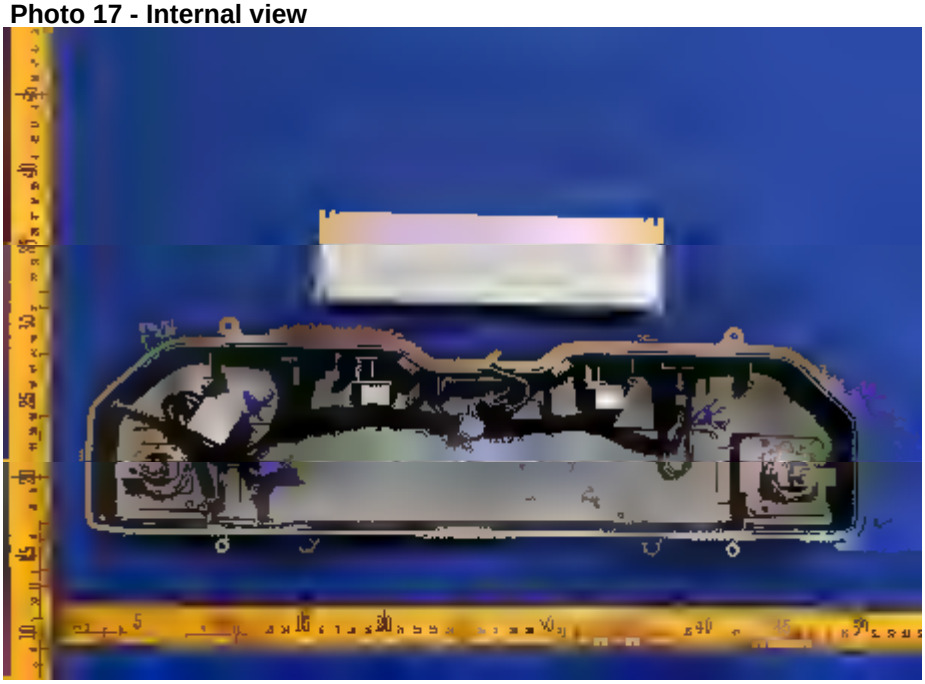
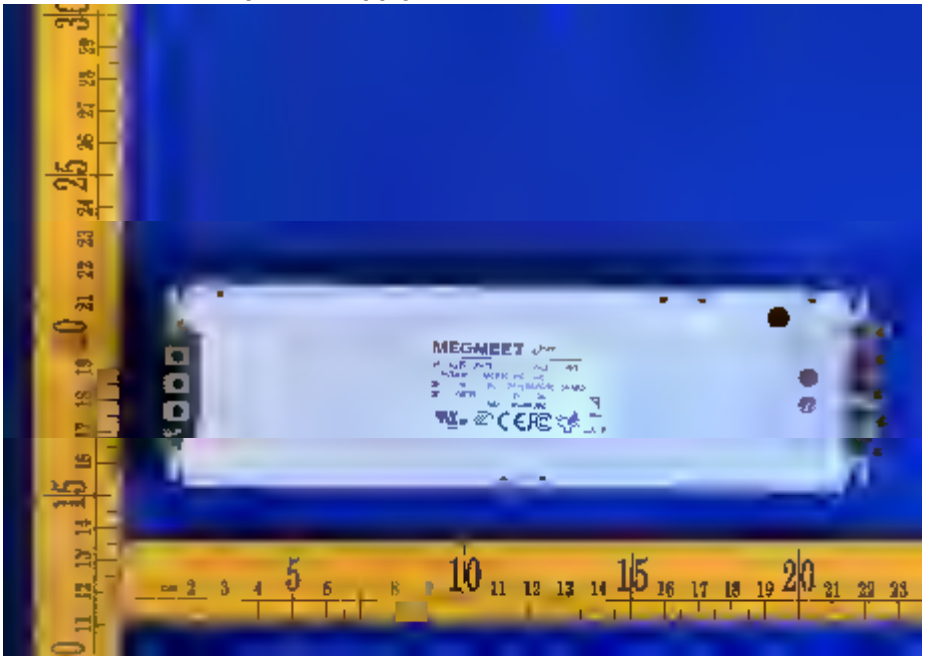
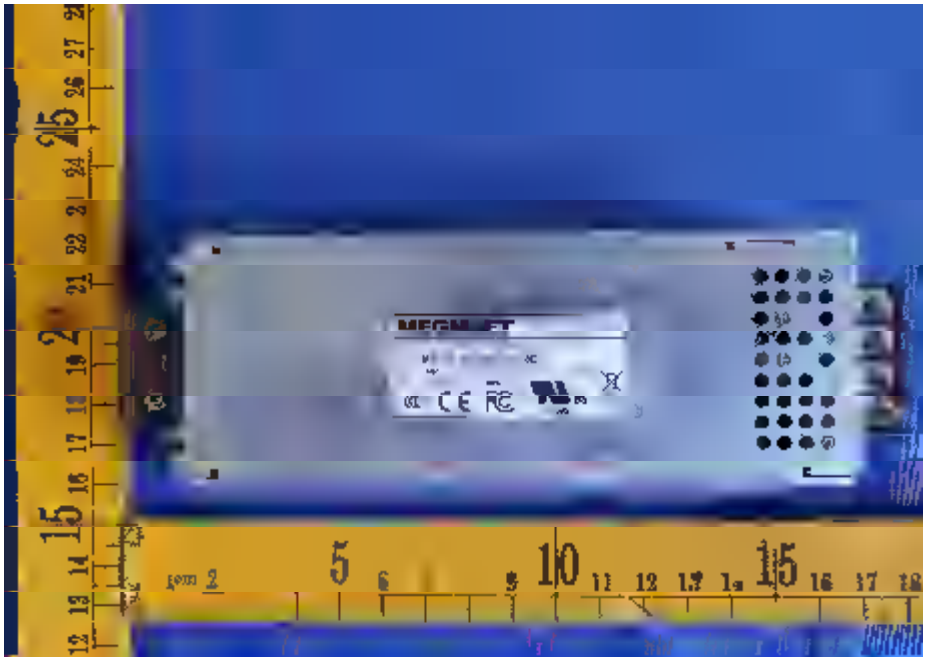


Photo 18 - Built-in power supply view for Model MCP300WD-3.8/2.8



3.0 Product Photographs

Photo 19 - Built-in power supply view for Model MCP200WS-3.8E-C



4.0 Critical Components

Photo #	Item no.[1]	Name	Manufacturer/ trademark[2]	Type / model[2]	Technical data and securement means	Mark(s) of conformity [3]
3	1	Appliance inlet and Input connector	NINGBO HAISHU DISTRICT SEETRONIC ELECTRONIC CO LTD	SAC3FCA	250VAC, 20A, 80°C (UL E359036)	cURus
			NINGBO HAISHU DISTRICT SEETRONIC ELECTRONIC CO LTD	SAC3MPA	250VAC, 20A, 80°C (UL E359036)	cURus
4	2	Appliance outlet and outut connector	NINGBO HAISHU DISTRICT SEETRONIC ELECTRONIC CO LTD	SAC3MPB	250VAC, 20A, 80°C (UL E359036)	cURus
			NINGBO HAISHU DISTRICT SEETRONIC ELECTRONIC CO LTD	SAC3FCB	250VAC, 20A, 80°C (UL E359036)	cURus
5	3	Metal enclosure	Various	Various	Aluminum, min. 1.0mm thickness	NR
6	4	LED panel Plastic enclosure	KINGFA SCI & TECH CO LTD	PA66-R10G25 (##) PA66-RG251(fff)(f1)	5VB, min.115°C, min. 0.75mm thickness (UL E171666)	cURus
9	5	PCB	ZHONG KE DA OF BOLUO COUNTRY OF ELECTRONIC CO LTD	ZKD-4	V-0,130°C,min. 1.6mm thickness (UL E327899)	UR
			Various	Various	V-0,130°C,min. 1.6mm thickness	UR
12, 13	6	Earthing wire	DONGGUAN HONGFUWEI CABLE TECHNOLOGY CO LTD	1015 1007	Min. 300VAC, 80°C, min. 18AWG, VW-1, green-and-yellow (UL E316005)	cURus
			Various	Various	Min. 300VAC, 80°C, min. 18AWG, VW-1, green-and-yellow	cURus
11	7	Primary internal wire 1	DONGGUAN NEW NAM LEE ELECTRICAL CO LTD	SJT SJTW ST STW SVT	Min. 300VAC, 105°C, min. 14AWGx3, VW-1 (From appliance inlet to appliance outlet)(UL E216832)	cURus
			Various	Various	Min. 300VAC, 105°C, min. 14AWGx3, VW-1	cURus

4.0 Critical Components

Photo #	Item no.[1]	Name	Manufacturer/ trademark[2]	Type / model[2]	Technical data and securement means	Mark(s) of conformity [3]
12	8	Primary internal wire 2	DONGGUAN HONGFUWEI CABLE TECHNOLOGY CO LTD	1015	Min. 300VAC, 80°C, min. 18AWG, VW-1 (From appliance inlet to Built-in power supply) (UL E316005)	cURus
				1007		
			Various	Various	Min. 300VAC, 80°C, min. 18AWG, VW-1	cURus
12	9	Heat shrinkable tube (not shown)	SHENZHEN WOLIDA TRADING CO LTD	RSFR-H	Min. 300V, VW-1, min. 125°C (Used for primay internal wire) (UL E328530)	cURus
			GUANGZHOU KAIHENG NEW MATERIAL CO LTD	K-102	Min. 300V, VW-1, min. 125°C (UL E321827)	cURus
				K-102 (CB)		
			SHENZHEN WOLIDA TRADING CO LTD	RSFR-H	Min. 300V, VW-1, min. 125°C (UL E329530)	cURus
1	10	LED	SHENZHENG REFONO OPTOELECTRO-NICS CO., LTD	RF-W1SA21HS-N45	VR=5V, IF=20mA	NR
14	11	Power supply filter	SHENZHEN VIIP ELECTRONICS CO LTD	VIP1D15-101-6W	110/250VAC, 6A, 25/85/21, 40°C (UL E496526)	cURus
11	12	Built-in power supply	ShenZhen Megmeet Electrical Co., Ltd.	MCP200WS-3.8E-C	Class I, Input: 100-240Vac, 50/60Hz, 4.5A MAX, output: +3.8VDC, 40A (UL CB report no.: SA1811042S 001)	cURus
			ShenZhen Megmeet Electrical Co., Ltd.	MCP300WD-3.8/2.8	Class I, Input: 100-240Vac, 50/60Hz, 4.5A MAX, output: V01 (+3.8VDC, 30A) V02 (+2.8VDC, 30A) (UL CB report no.: SA1806168S 001)	cURus

NOTES:

1) Not all item numbers are indicated (called out) in the photos, as their location is obvious.

2) “Various“ means any type, from any manufacturer that complies with the "Technical data and securement means" and meets the "Mark(s) of conformity" can be used.

3) Indicates specific marks to be verified, which assures the agreed level of surveillance for the component. "NR" - indicates Unlisted and only visual examination is necessary. "See 5.0" indicates Unlisted components or assemblies to be evaluated perio

5.0 Critical Unlisted CEC Components

No Unlisted CEC components are used in this report.

6.0 Critical Features

Recognized Component - A component part, which has been previously evaluated by an accredited certification body with restrictions and must be evaluated as part of the basic product considering the restrictions as specified by the Conditions of Acceptability.

Listed Component - A component part, which has been previously Listed or Certified by an accredited Certification Organization with no restrictions and is used in the intended application within its ratings.

Unlisted Component - A part that has not been previously evaluated to the appropriate designated component standard. It may also be a Listed or Recognized component that is being used outside of its evaluated Listing or component recognition.

Critical Features/Components - An essential part, material, subassembly, system, software, or accessory of a product that has a direct bearing on the product's conformance to applicable requirements of the product standard.

Construction Details - For specific construction details, reference should be made to the photographs and descriptions. All dimensions are approximate unless specified as exact or within a tolerance. In addition to the specific construction details described in this Report, the following general requirements also apply.

1. Spacing - In primary circuits, 2.0 mm minimum spacing are maintained through air and 4.0 mm minimum spacing are maintained over surfaces of insulating material between current-carrying parts of opposite polarity and 4.0 mm minimum spacing are maintained through air and 5.0 mm minimum spacing are maintained over surfaces between such current-carrying parts and dead-metal parts or low voltage isolated circuits.
2. Mechanical Assembly - Components such as switches, fuseholders, connectors, wiring terminals and display lamps are mounted and prevented from shifting or rotating by the use of lockwashers, starwashers, or other mounting format that prevents turning of the component.
3. Corrosion Protection - All ferrous metal parts are protected against corrosion by painting, plating or the equivalent.
4. Accessibility of Live Parts - All uninsulated live parts in primary circuitry are housed within a metallic enclosure constructed with no openings.
5. Grounding - All exposed dead-metal parts and all dead-metal parts within the enclosure that are exposed are connected to the grounding.
6. Internal Wiring - Internal wiring is routed away from sharp or moving parts. Internal wiring leads terminating in soldered connections are made mechanically secure prior to soldering. Recognized Component separable (quick disconnect) connectors of the positive detent type, closed loop connectors, or other types specifically described in the text of this report are also acceptable as internal wiring terminals. At points where internal wiring passes through metal walls or partitions, the wiring insulation is protected against abrasion or damage by plastic bushings or grommets. Primary or earthing wiring is minimum 18 AWG, with a minimum rating of 300V, 80°C.
7. Markings - The product is marked on a labeling system as follows: manufacturer's name, trademark, model number, date of manufacturer, electrical ratings. Refer to Illustration No.1 for details.
8. Installation, Operating and Safety Instructions - Instructions for installation and use of this product are provided by the manufacturer. Refer to Illustration No. 2 and 3 for details.

7.0 Illustrations

Illustration 1 - Marking

Remarks:

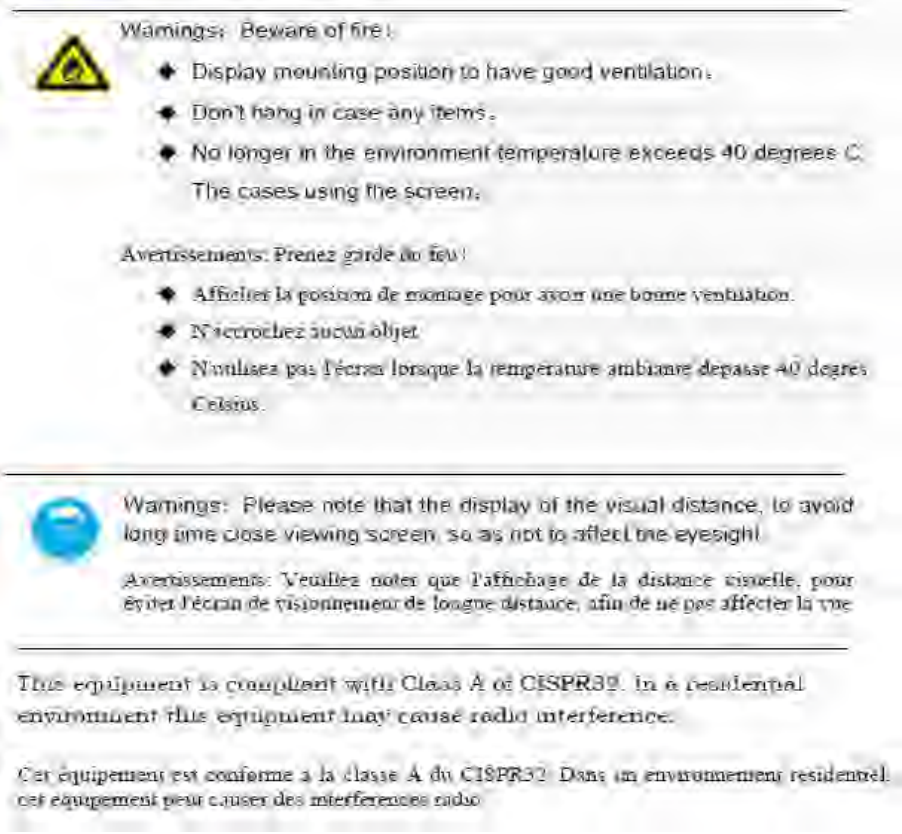
- Other models have same type of label except for the different model names.
- The above markings are The minimum requirements required by The safety standard. For The final productions samples, The additional markings which do not give rise to misunderstanding may be added.
- The ETL logo shall not be less than 8mm in width and 8mm in height, the "US" and "C" shall not be less than 2mm ih height, the "CM" shall not be less than 1mm in height.
- The "Intertek" shall not be less than 3 mm in height.
- The ETL Control Number "5015154" shall not be less than 2 mm in height.

7.0 Illustrations

Illustration 2 - Safety Instructions in manual

7.0 Illustrations

Illustration 3 - Safety Instructions in manual



8.0 Test Summary					
Evaluation Period	12-Jul-2019 to 26-Jul-2019			Project No.	190701410SHA
Sample Rec. Date	12-Jul-2019	Condition	Prototype	Sample ID.	0190712-14-001
Test Location	Intertek Testing Services Shanghai				
Test Procedure	Testing Lab				

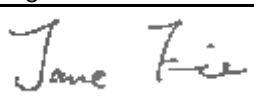
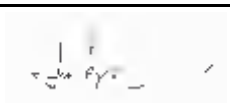
Determination of the result includes consideration of measurement uncertainty from the test equipment and methods. The product was tested as indicated below with results in conformance to the relevant test criteria.

The following tests were performed:

Test Description	UL 60950-1:2007 Ed.2+R:14Oct2014 CSA C22.2#60950-1:2007 Ed.2+A1;A2 Clause
Input test	1.6.2
Marking test	1.7.11
Finger test	2.1.1.1 b)
Pin test	2.1.1.1 c)
Stored charge on capacitors test	2.1.1.7
Earthing resistance test	2.6.3
Humidity test	2.9.2
Working voltage measurement	2.10.2
Clearances and creepage distances measurement	2.10.3 & 2.10.4
Solid insulation measurement	2.10.5
Steady force test, 250N	4.2.4
Mechanical strength, steel ball test	4.2.5
Stress relief test	4.2.7
Mechanical strength, loading test	4.2.10
Temperature tests	4.5.2
Resistance to abnormal heat	4.5.5
Touch current test	5.1
Electric strength test	5.2
Abnormal operating and fault conditions test	5.3

8.1 Signatures

A representative sample of the product covered by this report has been evaluated and found to comply with the applicable requirements of the standards indicated in Section 1.0.

Completed by:	Jane Fei	Reviewed by:	Jacky Shu
Title:	Engineer	Title:	Reviewer
Signature:		Signature:	

9.0 Correlation Page For Multiple Listings

The following products, which are identical to those identified in this report except for model number and Listee name, are authorized to bear the ETL label under provisions of the Intertek Multiple Listing Program.

BASIC LISTEE	Shenzhen Fabulux Technology Co., Ltd
Address	Factory 1201, No. 14 of Xiawei Industrial Zone, Zhangkengjing Community, Guanhu Street, Longhua District,, SHENZHEN Guangdong 515110
Country	China
Product	LED DISPLAY

MULTIPLE LISTEE 1	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	

MULTIPLE LISTEE 1 MODELS	BASIC LISTEE MODELS

MULTIPLE LISTEE 2	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	

MULTIPLE LISTEE 2 MODELS	BASIC LISTEE MODELS

MULTIPLE LISTEE 3	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	

MULTIPLE LISTEE 3 MODELS	BASIC LISTEE MODELS

10.0 General Information

The Applicant and Manufacturer have agreed to produce, test and label ETL Listed products in accordance with the requirements of this Report. The Manufacturer has also agreed to notify Intertek and to request authorization prior to using alternate parts, components or materials.

COMPONENTS

Components used shall be those itemized in this Intertek report covering the product, including any amendments and/or revisions.

LISTING MARK

The ETL Listing mark applied to the products shall either be separable in form, such as labels purchased from Intertek, or on a product nameplate or other media only as specifically authorized by Intertek. Use of the mark is subject to the control of Intertek.

The mark must include the following four items:

1) applicable country identifiers "US" and/or "C" or "US", "C" and "EU"
2) the word "Listed" or "Classified" or "Recognized Component" (whichever is appropriate)
3) a control number issue by Intertek
4) a product descriptor that identifies the standards used for certification. Example:

For US standards, the words, “Conforms to” shall appear with the standard number along with the word, “Standard” or “Std.” Example: “Conforms to ANSI/UL Std. XX.”

For Canadian standards, the words “Certified to CAN/CSA Standard CXX No. XX.” shall be used, or abbreviated, “Cert. to CAN/CSA Std. CXX No. XX.”

Can be used together when both standards are used.

Note: A facsimile must be submitted to Intertek, Attn: Follow-up Services for approval prior to use. The facsimile need not have a control number. A control number will be issued **after signed Certification Agreements** have been received by the Follow-up Services office, approval of the facsimile of your proposed Listing Mark, satisfactory completion of the Listing Report, and scheduling of a factory assessment in your facility.

MANUFACTURING AND PRODUCTION TESTS

Manufacturing and Production Tests shall be performed as required in this Report.

FOLLOW-UP SERVICE

Periodic unannounced audits of the manufacturing facility (and any locations authorized to apply the mark) shall be scheduled by Intertek. An audit report shall be issued after each visit. Special attention will be given to the following:

1. Conformance of the manufactured product to the descriptions in this Report.
2. Conformance of the use of the ETL mark with the requirements of this Report and the Certification Agreement.
3. Manufacturing changes.
4. Performance of specified Manufacturing and Production Tests.

In the event that the Intertek representative identifies non-conformance(s) to any provision of this Report, the Applicant shall take one or more of the following actions:

1. Correct the non-conformance.
2. Remove the ETL Mark from non-conforming product.
3. Contact the issuing product safety evaluation center for instructions.

10.1 Evaluation of Unlisted Components

Because Unlisted Components are uncontrolled, and they do not fall under a third party follow up program, Intertek may require these components to be tested and/or evaluated at least once annually, more often for certain components, as part of the independent certification process. The Unlisted Components in Section 5.0 require testing and/or evaluation as indicated.

Note to Intertek Follow Up Inspector: The Component Evaluation Center, CEC, will notify you in writing when these components must be selected and sent to the CEC for re-evaluation

Ship the samples to:
Intertek Testing Services Shanghai Limited
ETL Component Evaluation Center
Building No. 86, 1198 Qinzhou Road (North)
Shanghai 200233, China
Attn: Ms. Angela Han
Sample Disposition: Due to the destructive nature of the testing, all samples will be discarded at the conclusion of testing unless, the manufacturer specifically requests the return of the samples. The request for return **must** accompany the initial component shipment.

11.0 Manufacturing and Production Tests

The manufacturer agrees to conduct the following Manufacturing and Production Tests as specified:

Required Tests

Dielectric Voltage Withstand Test

11.1 Dielectric Voltage Withstand Test

Method

One hundred percent of production of the products covered by this Report shall be subjected to a routine production line dielectric withstand test.

The test shall be conducted on products, which are fully assembled. Prior to applying the test potential, all switches, contactors, relays, etc., should be closed so that all primary circuits are energized by the test potential. If all primary circuits cannot be tested at one time, then separate applications of the test potential shall be made.

The test voltage specified below shall be applied between primary circuits and accessible dead-metal parts. The test voltage may be gradually increased to the specified value but must be maintained at the specified value for one second or one minute as required.

Test Equipment

The test equipment shall incorporate a transformer with an essentially sinusoidal output, a means to indicate the applied test potential, and an audible and/or visual indicator of dielectric breakdown.
The test equipment shall incorporate a voltmeter in the output circuit to indicate directly the applied test potential if the rated output of the test equipment is less than 500VA.
If the rated output of the test equipment is 500VA or more, the applied test potential may be indicated by either:
1 - a voltmeter in the primary circuit;
2 - a selector switch marked to indicate the test potential; or
3 - a marking in a readily visible location to indicate the test potential for test equipment having a single test potential output.
In cases 2 and 3, the test equipment shall include a lamp or other visual means to indicate that the test potential is present at the test equipment output. All test equipment shall be maintained in current calibration.

Products Requiring Dielectric Voltage Withstand Test:

Product - 100% of production of the products covered by this Report:	**Test Voltage**	**Test Time**
Between input circuit and earthed enclosure	1500 Vac	1 s
Between input circuit and unearthed parts	3000 Vac	1 s

12.0 Revision Summary

The following changes are in compliance with the declaration of Section 8.1:

Date/ Proj # Site ID	Project Handler/ Reviewer	Section	Item	Description of Change
				None.