1.0 Reference and Address			
Report Number	230518036SZN-001	Original Issued: 29-May-2023	Revised: 27-May-2024
Standard(s)	Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements [UL 62368-1:2019 Ed.3+R:22Oct2021] Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements [CSA C22.2#62368-1:2019 Ed.3+U1]		

Applicant	Shenzhen Chip Optech Co., Ltd.	Manufacturer 1	**Huizhou Mepro Optech Co., Ltd**
Address	5th Floor, Tower C, Baoshi Technological Park, Baoshi Road, Shiyan Street, Bao'an District, Shenzhen Guangdong 518108	Address	Tower 12, Xinhua Av. No 6, Chenjiang Street, Zhongkai Hi-Tech District, Huizhou Guangdong 516006
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2.0 Product Description	
Product	Mini LED Display Screen
Brand name	CHIPSHOW
Description	The equipment under test (EUT) is a Mini LED Display Screen, supplied by AC mains via permanent connection and class I equipment, intended to indoor use only. The product needs to be supplied with a suitable power cordset for the countries where the product will be sold, intended to be installed by professional service person, the installation instructions contained a statement to this effect. When installing the equipment, all requirements of the relevant standard must be fulfilled. The LED lamp of this equipment is classified as exempt group according to IEC 62471. Relevant technical consideration: Classification of use by: Skilled person Supply connection: AC mains Supply % tolerance: +10%, -10% Operating condition: Continuous Supply connection - type: permanent connection Considered current rating of protective device as part of the building: 20A Equipment mobility: wall/ceiling-mounted and stationary Over voltage category (OVC): OVC II Class of equipment: Class I Access location: NA Pollution degree (PD): PD 2 Maximum ambient temperature: 40 degree C IP protection class: IPX0 Power systems: TN, TT Altitude of operation (m): up to 5000 m
Models	P0.7, P0.9, P1.2, P1.5, P1.8
Model Similarity	The product with all the models covered in this report are the same as each other, except for different model No. and the appearance (for color, silk-screen only) for trading purpose.
Ratings	Input: 100-240V~, 50/60Hz, 3.5A; Output: 100-240V~, 50/60Hz, 2.0A. Class I
Other Ratings	NA

3.0 Product Photographs

Photo 1 - External View_1 of equipment

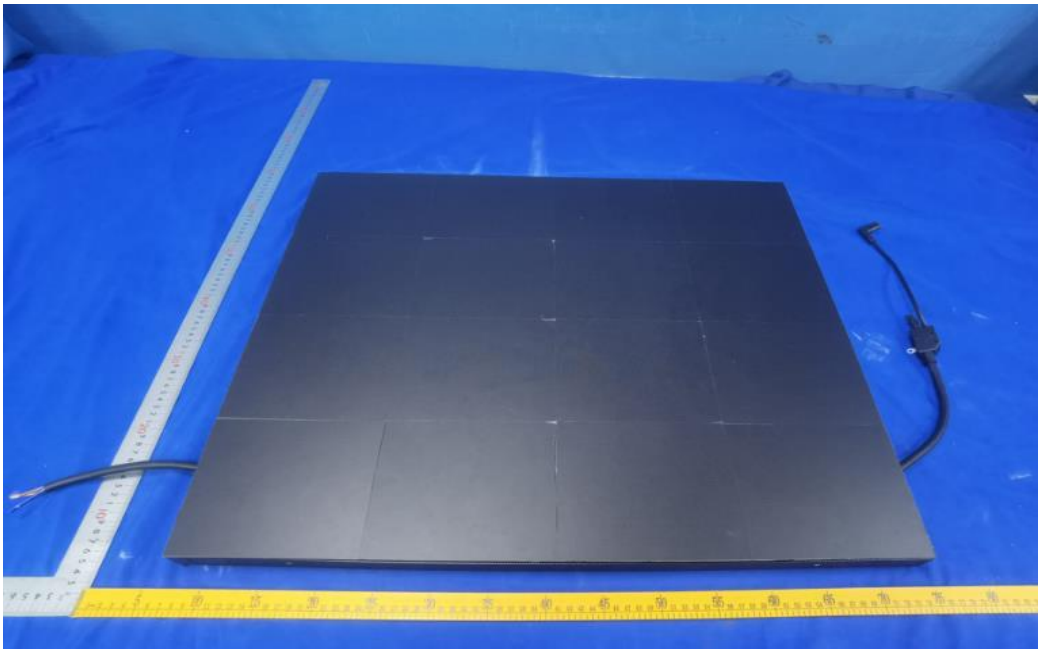
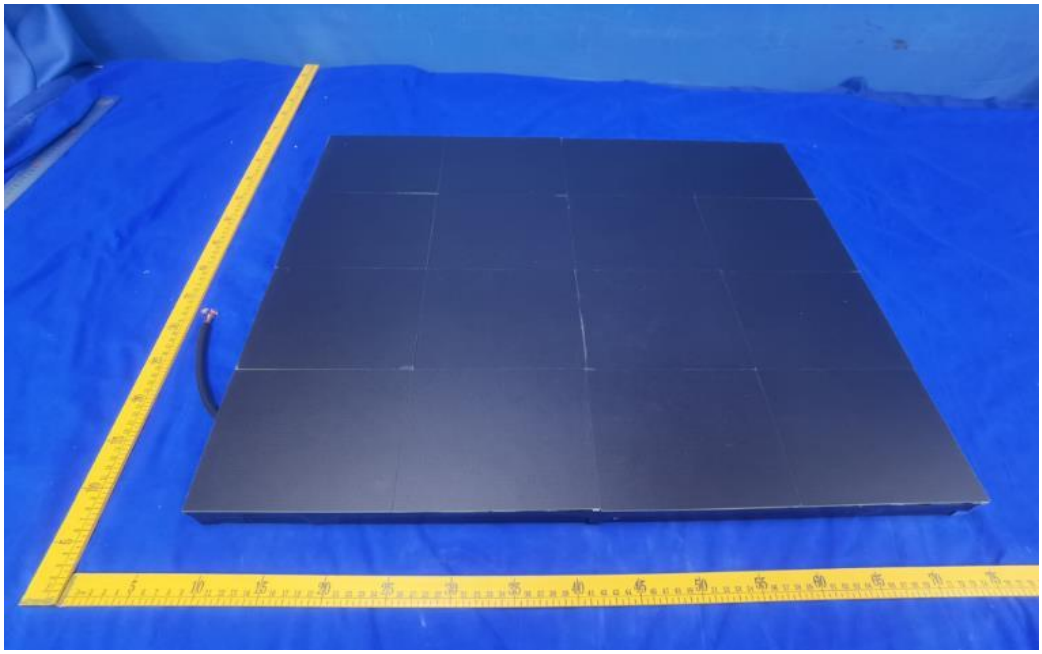


Photo 2 - External View_2 of equipment



3.0 Product Photographs

Photo 3 - External View_3 of equipment

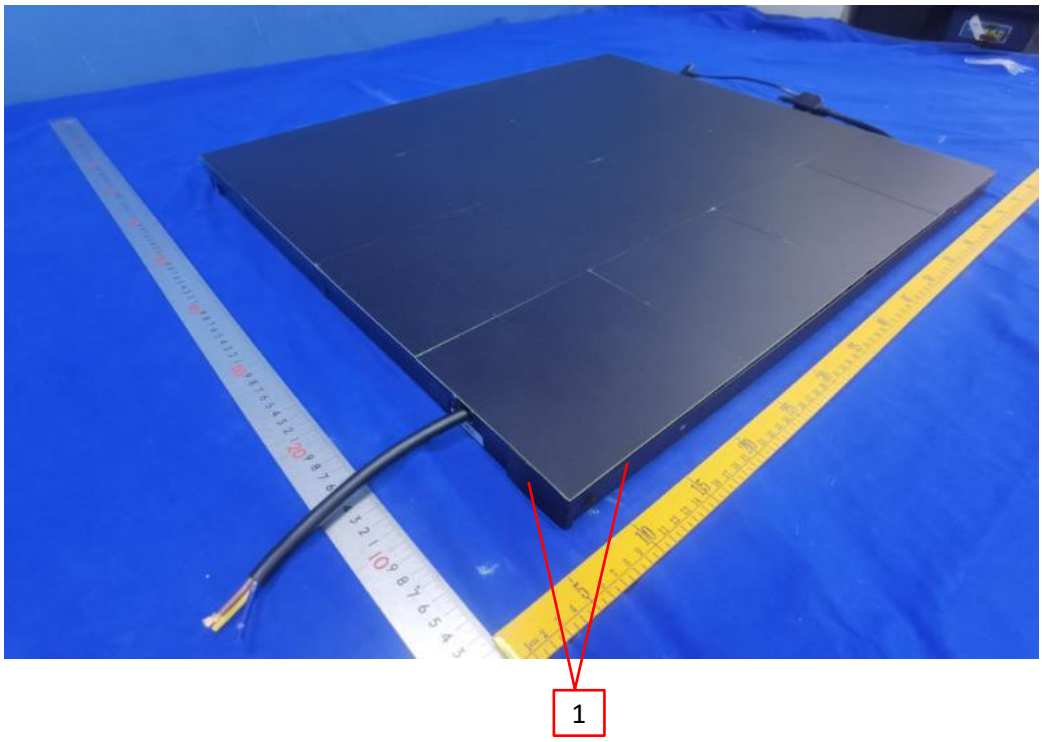
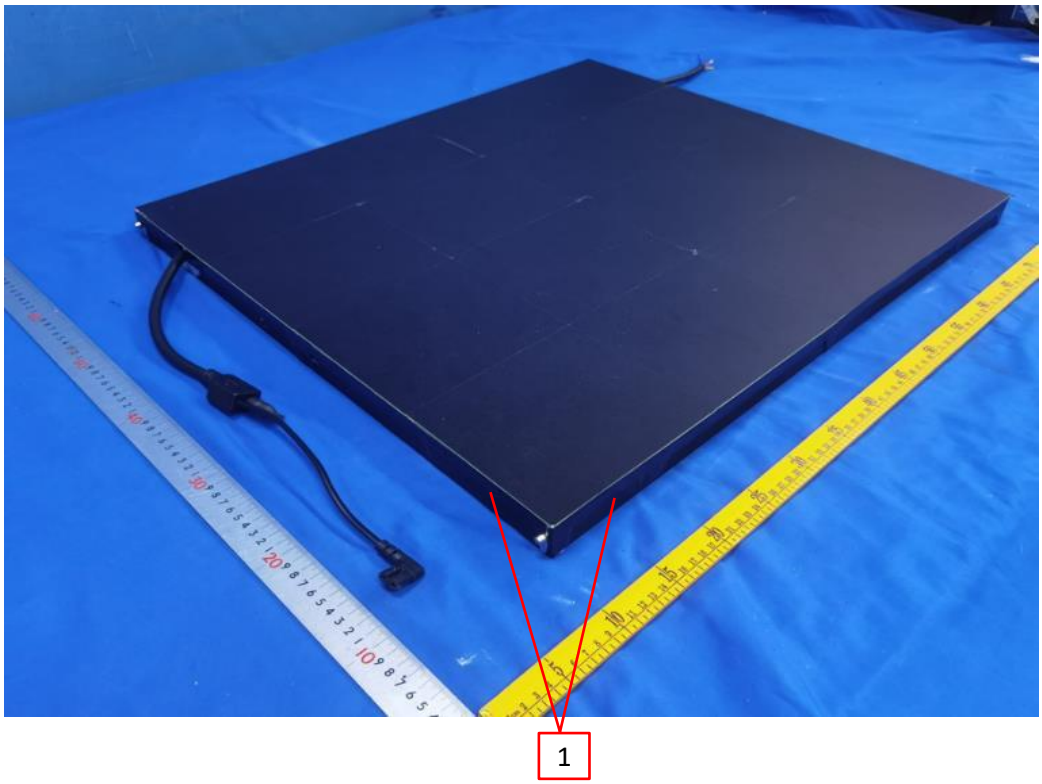


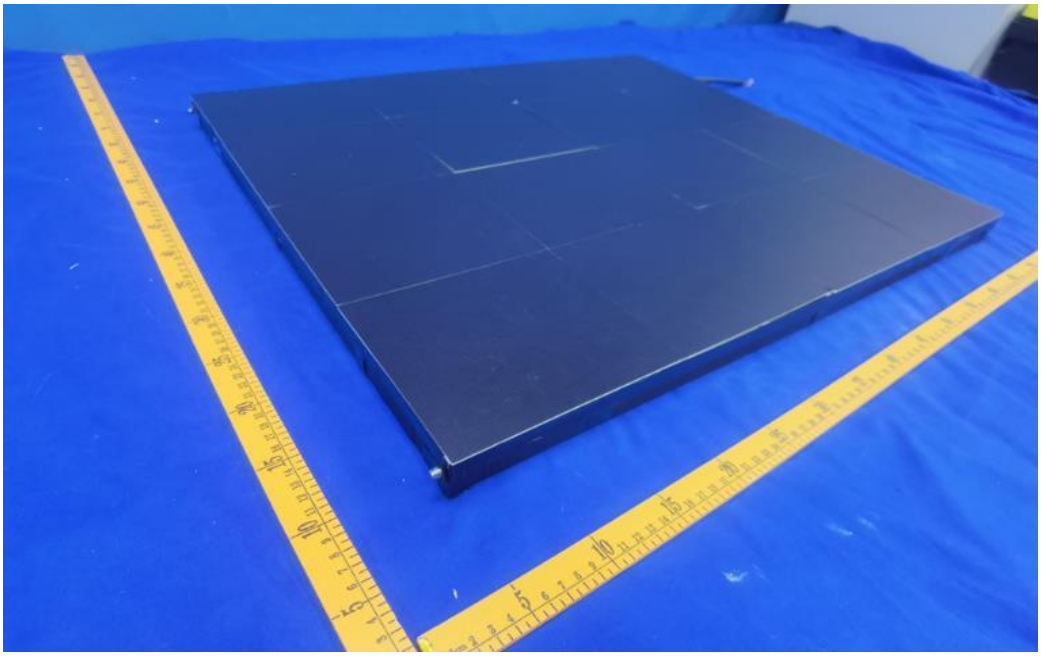
Photo 4 - External View_4 of equipment



3.0 Product Photographs

Photo 5 - External View_5 of equipment

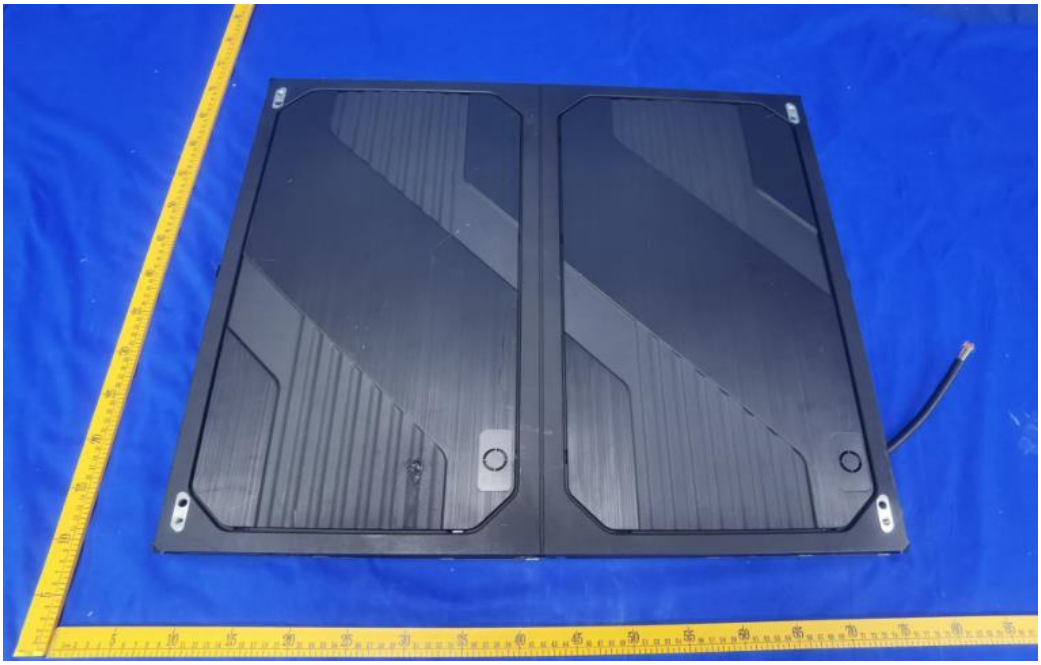
Photo 6 - External View of equipment



3.0 Product Photographs

Photo 7 - Bottom view_1 of equipment

Photo 8 - Bottom view_2 of equipment



3.0 Product Photographs

Photo 9 - Internal View_1 of equipment

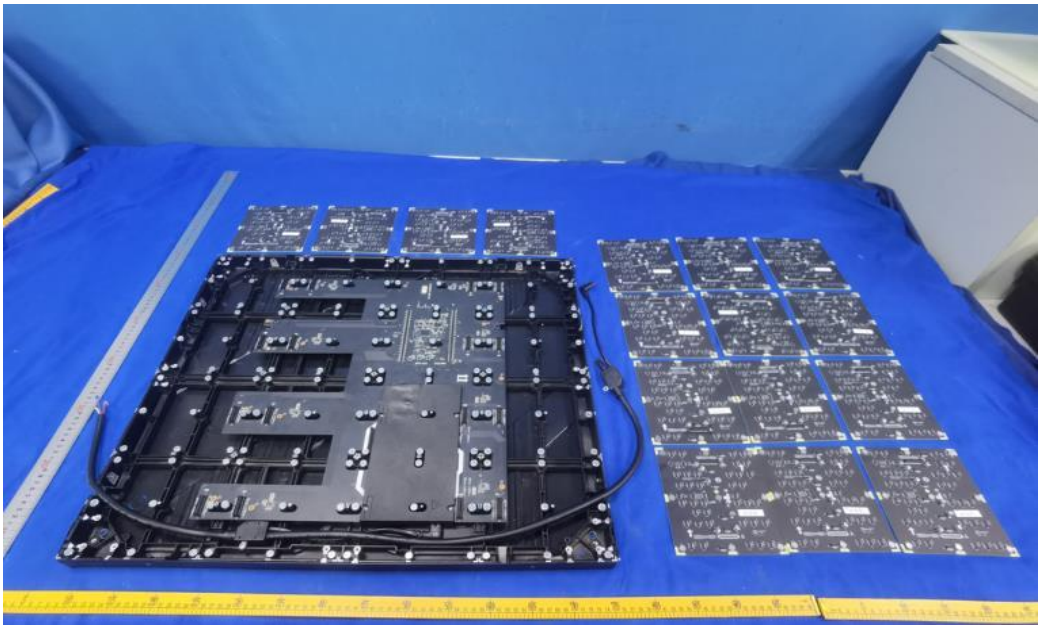
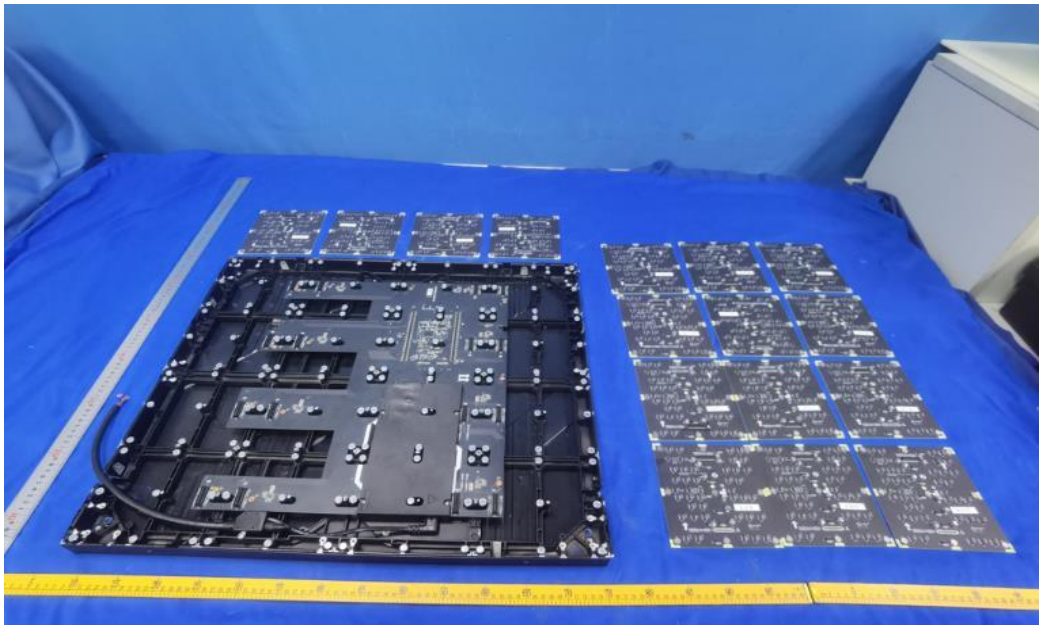


Photo 10 - Internal View_2 of equipment



3.0 Product Photographs

Photo 11 - Internal View_3 of equipment

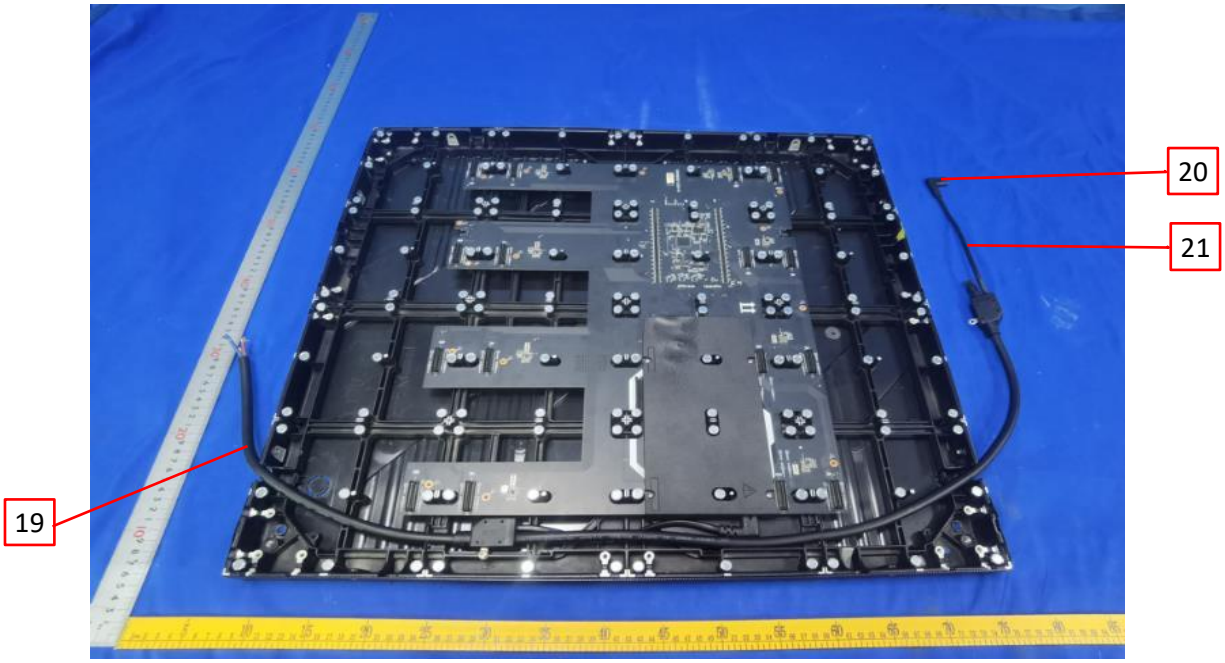
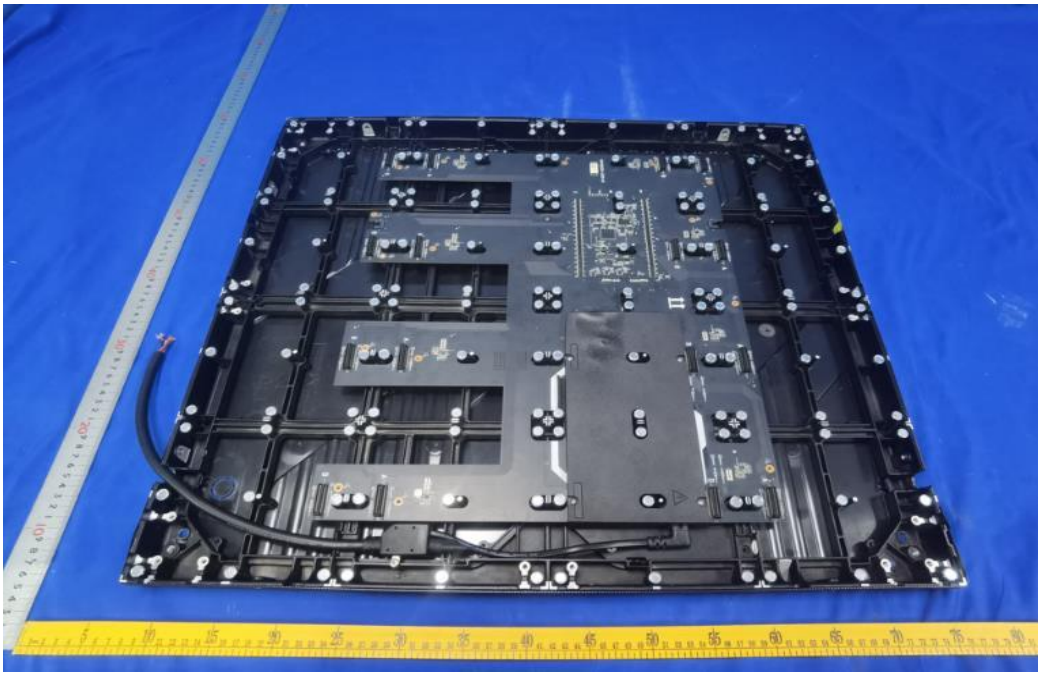


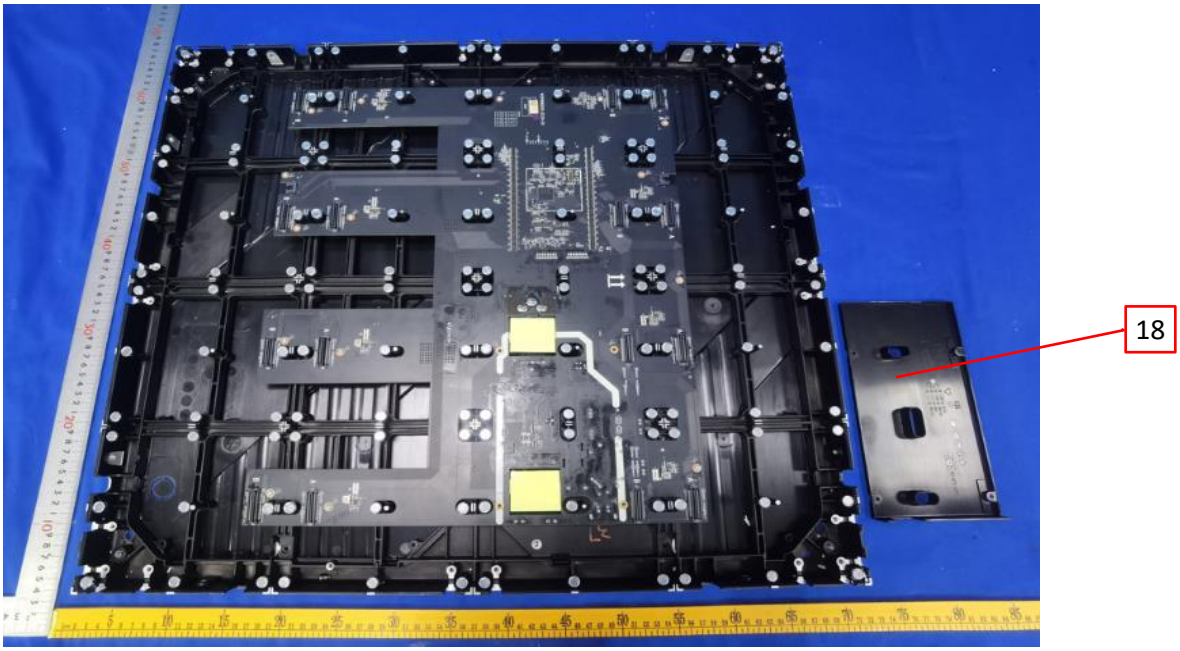
Photo 12 - Internal View_4 of equipment



3.0 Product Photographs

Photo 13 - Internal View_5 of equipment

Photo 14 - Internal View_6 of equipment



3.0 Product Photographs

Photo 15 - Internal View_7 of equipment

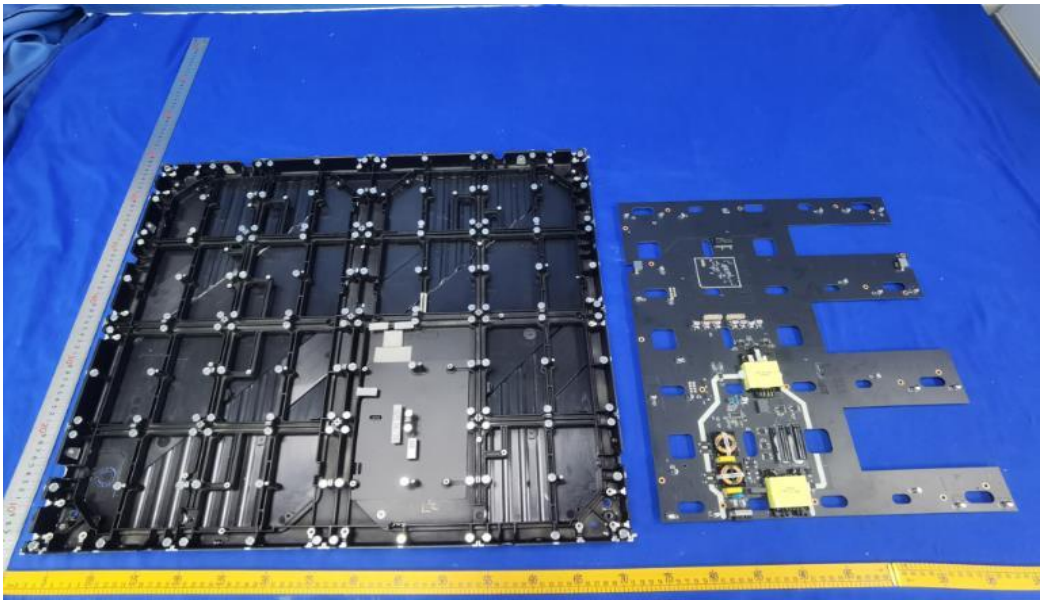
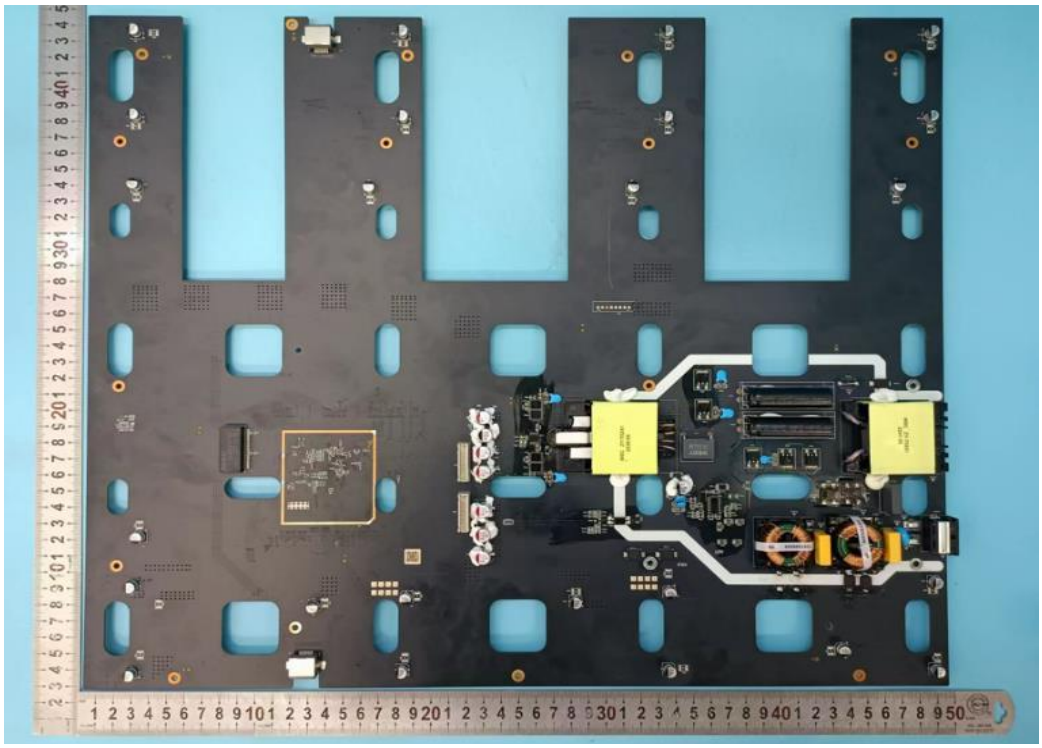


Photo 16 - Earthing terminal view of equipment

3.0 Product Photographs

Photo 17 - AC input terminal view of equipment

Photo 18 - Top view of PCB



3.0 Product Photographs

Photo 19 - Bottom view of PCB

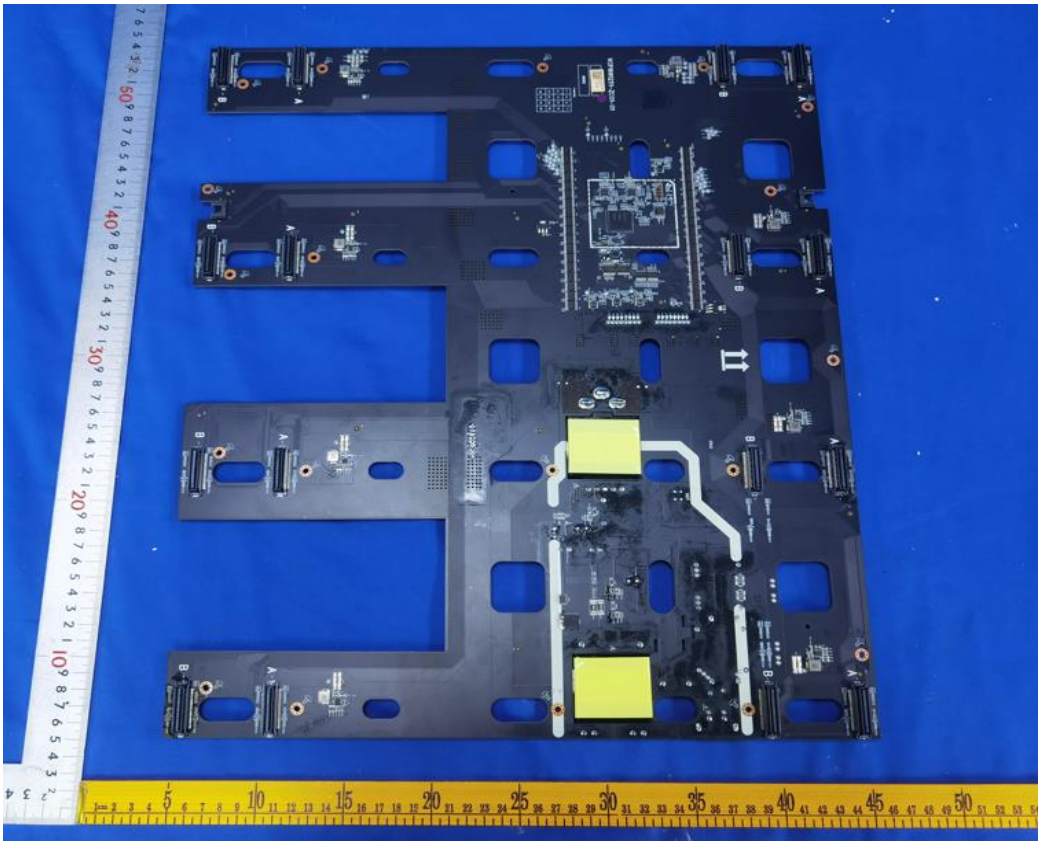
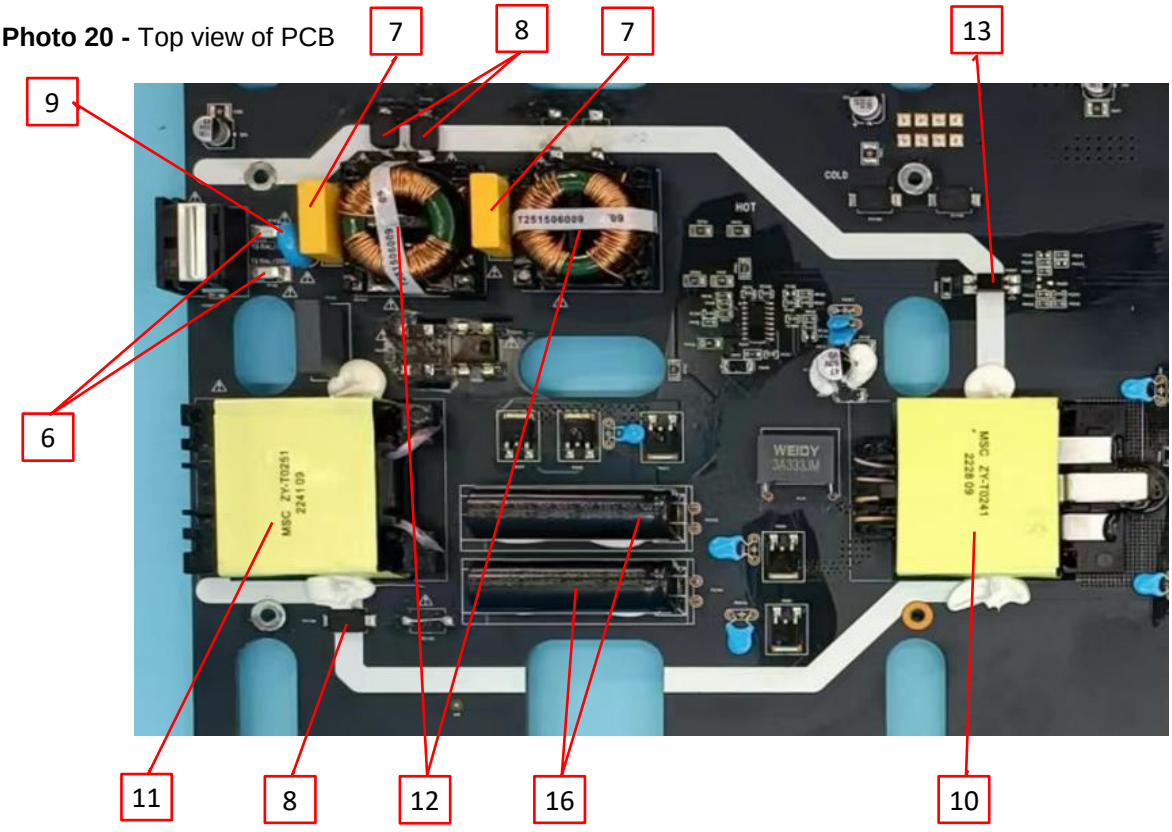


Photo 20 - Top view of PCB



3.0 Product Photographs

Photo 21 - LED board view

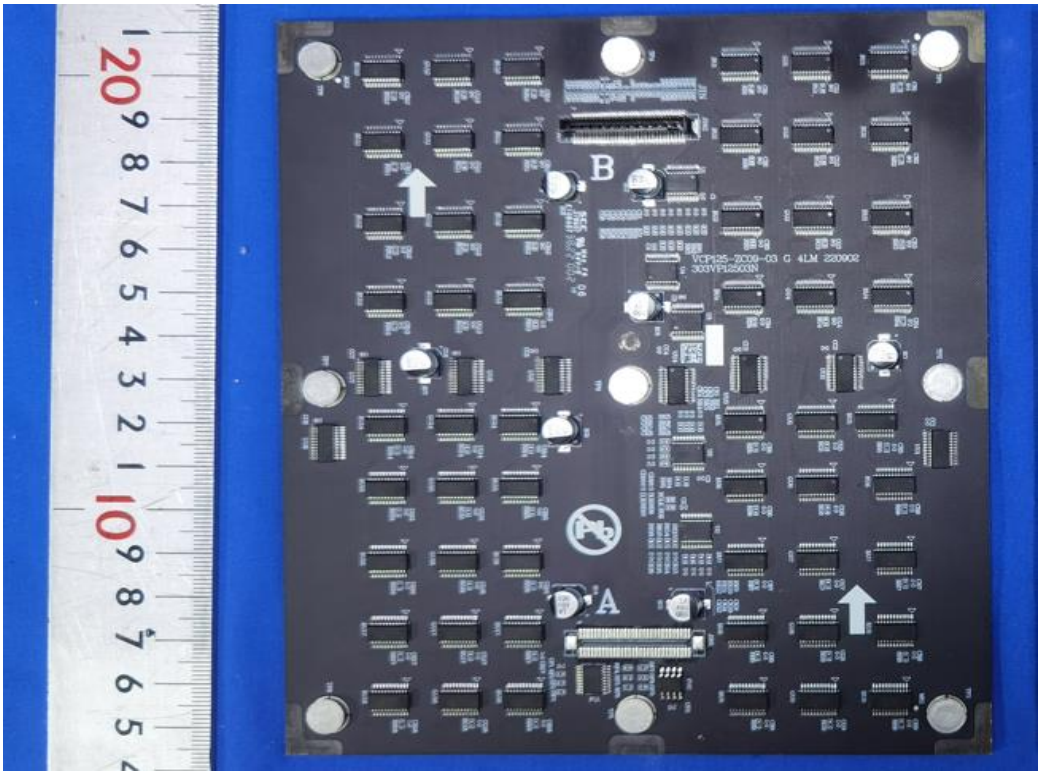
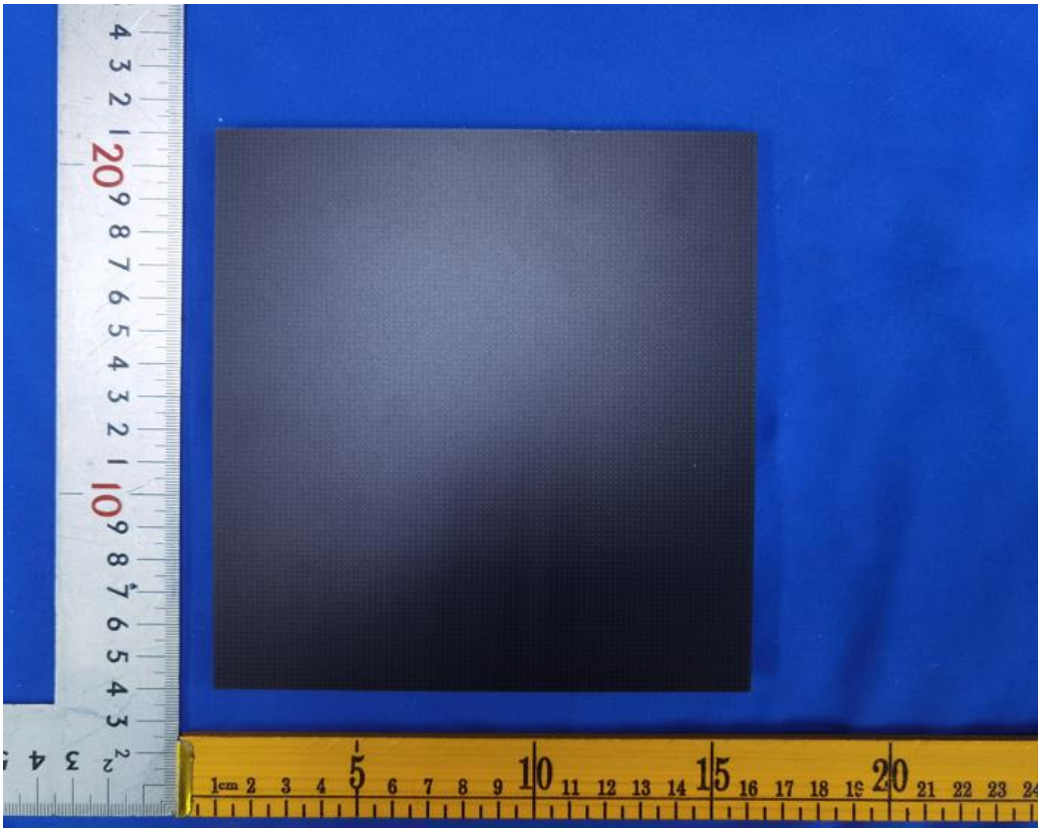


Photo 22 - LED board view



3.0 Product Photographs

Photo 23 - Top view of transformer ZY-T0241

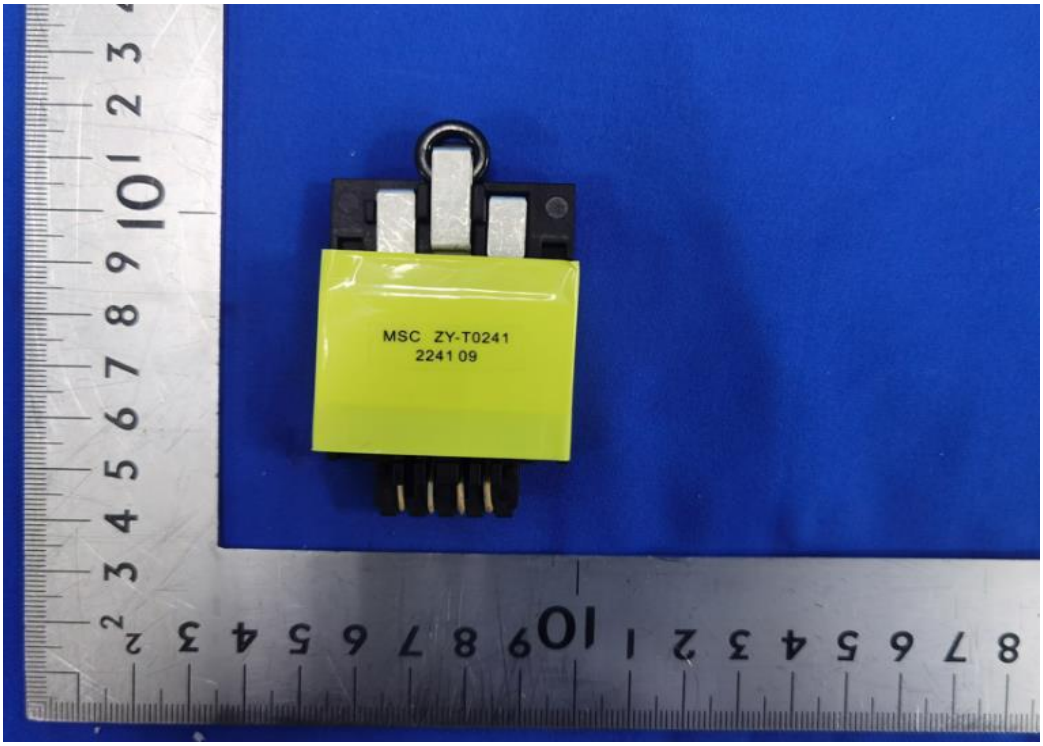
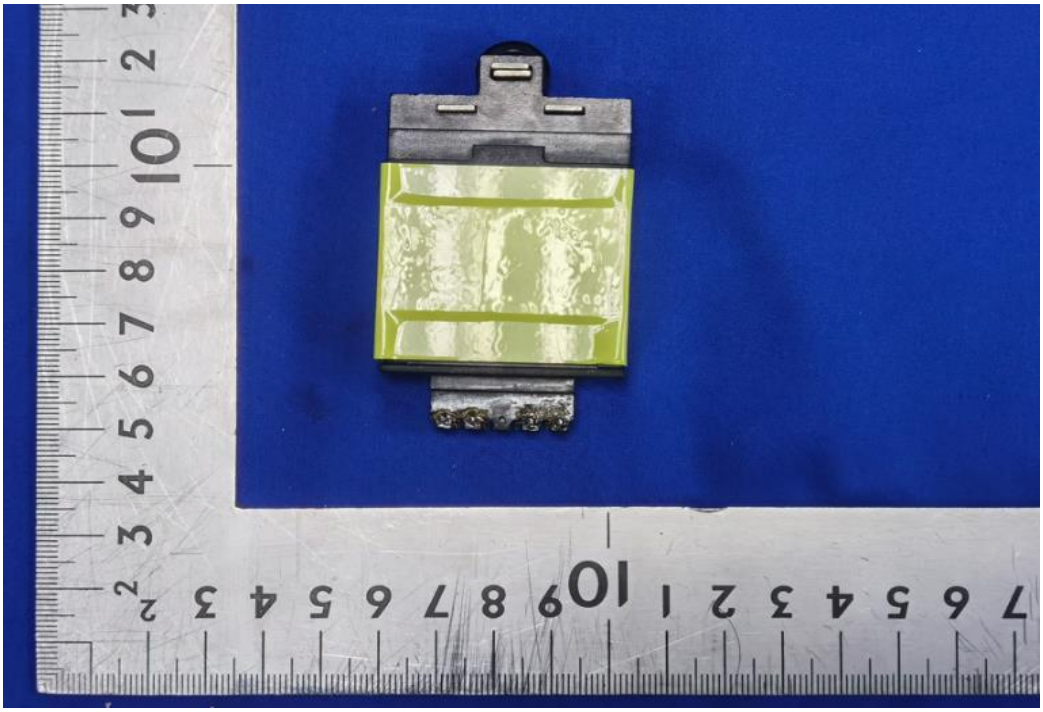


Photo 24 - Bottom view of transformer ZY-T0241



3.0 Product Photographs

Photo 25 - Side view of transformer ZY-T0241

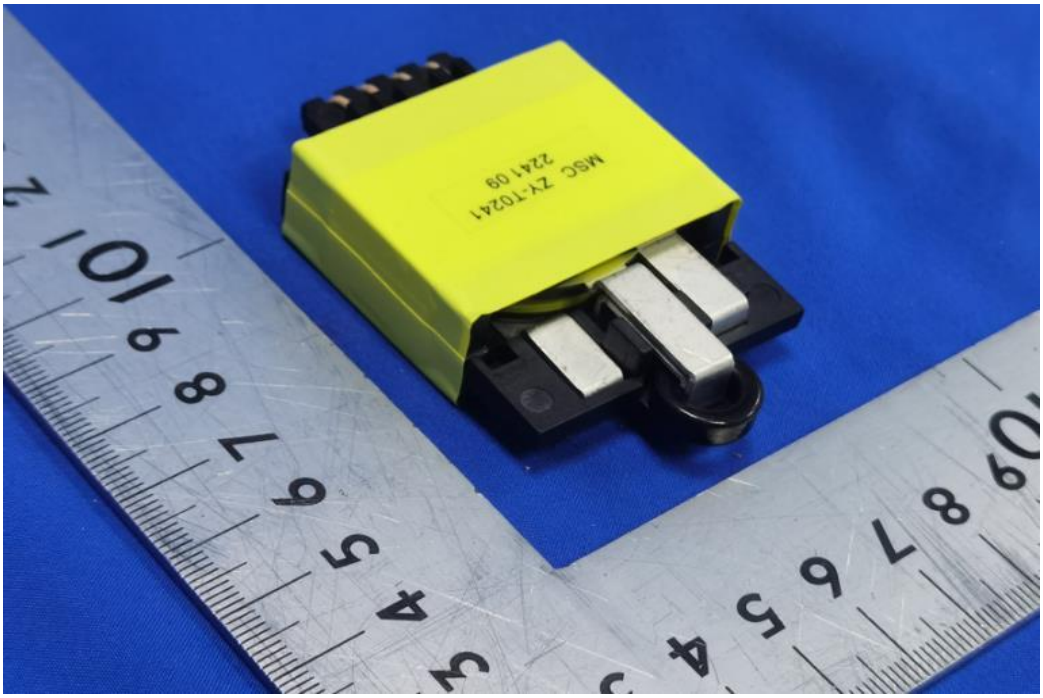
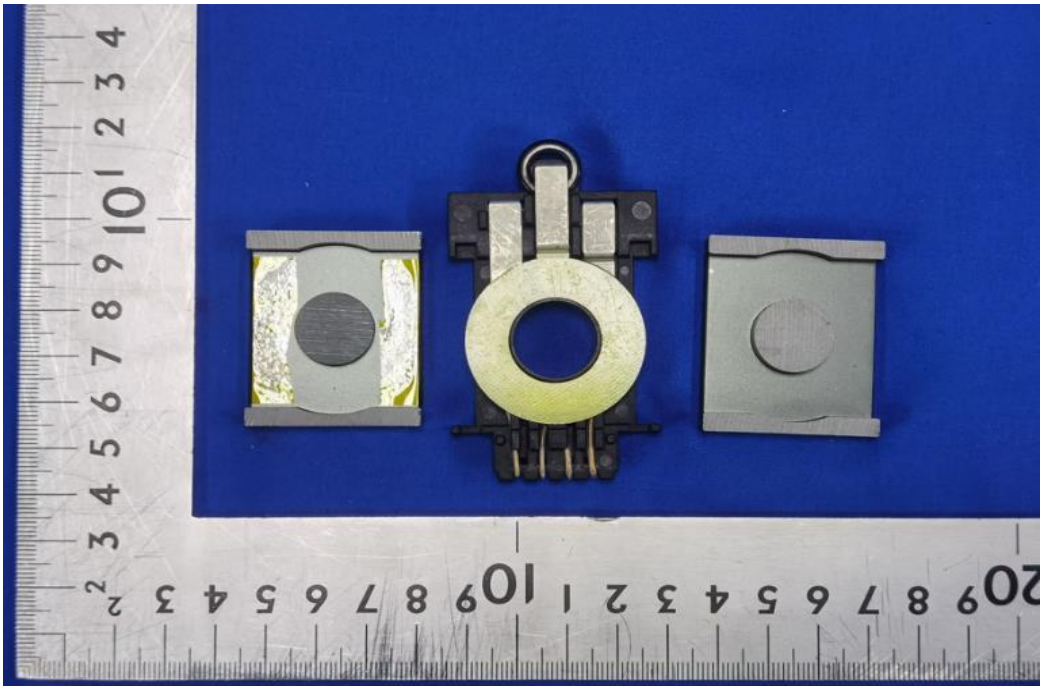


Photo 26 - Internal view_1 of transformer ZY-T0241



3.0 Product Photographs

Photo 27 - Internal view_2 of transformer ZY-T0241

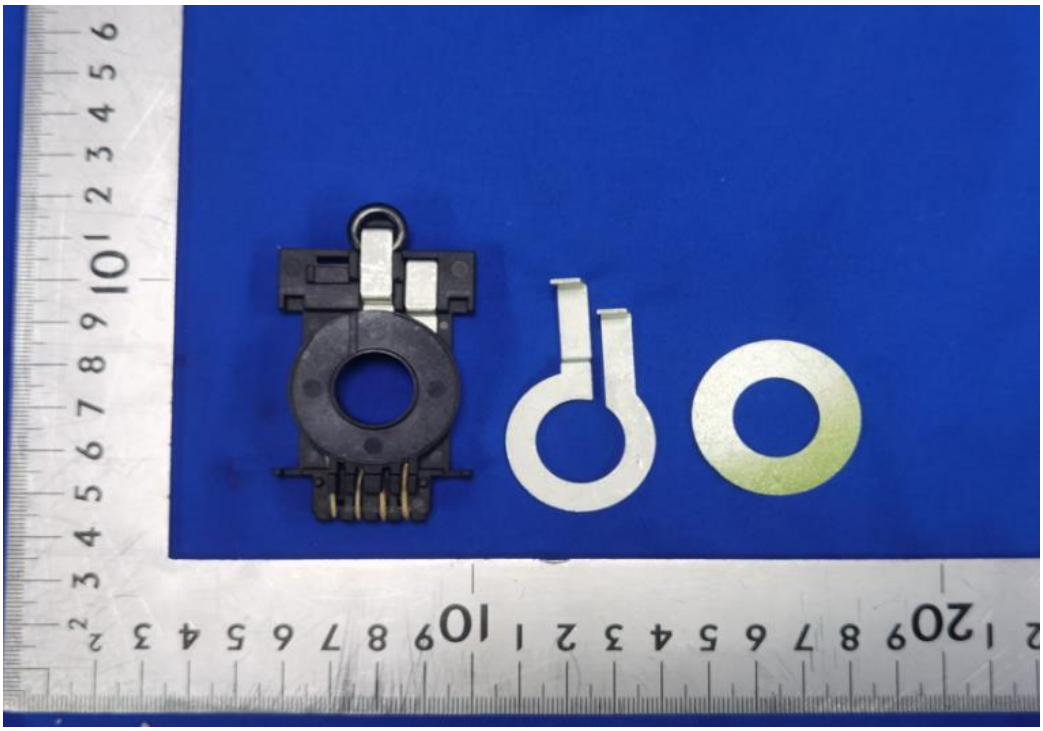
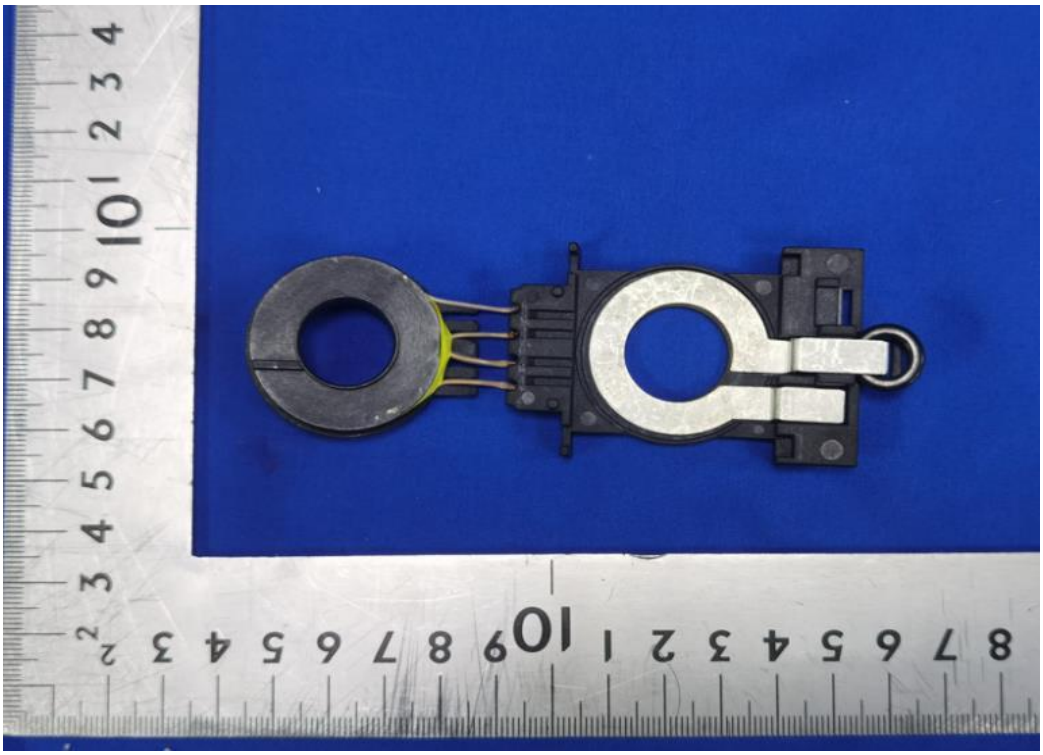


Photo 28 - Internal view_3 of transformer ZY-T0241



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, 4, 7	1	Metal enclosure of side frame	Various	Various	Aluminium enclosure, Min. 3.0mm thickness	NR
7	2	Plastic enclosure of bottom frame	SHENZHEN FUHENG NEW MATERIAL CO LTD	HIPS-R503	V-0, Min. 50 °C, Min. 2.1mm thickness Y - will be replaced by a-z, to denote different colo (XX) -Replaced by two digits from 00 to 50 to represent glass fiber content. (xx) - Denotes a two digit number, 01-99 inclusive, representing a customer code. (ys) - Denotes two digit letter by A-Z and two or three digit number.	UR
				PC-RG(XX)1		
				PC/ABS-205FR		
				PCA-(XX)2RG		
			GUANGDONG GUOLI SCIENCE AND TECHNOLOGY CO LTD	FRHIPS-620BK		
			QINGDAO HAIER NEW MATERIAL R & D CO LTD	FR-3007		
				FR-6003GX		
				NH-9012		
			QINGDAO GUOEN TECHNOLOGY CO LTD	PS3001Z-600A(Y)		
				PC40(xx)Z		
				PC/ABS40(xx)G-(ys)		
			LG Chemical Ltd.	LUPOY GN-5001RF(T)		
				LUPOY GN5001RF(T)		
			Chi Mei Corporation	PA-765A(+)		
			Dongguan BaoHua Plastic Raw Material Co., Ltd	BH-8114		
			DongGuan ZhiShang Plastics Technology Co Ltd	ZS960		
9, 10	3	All PCBs (not shown)	Various	Various	V-0, 130°C, and complied with UL 796.	UR
17	4	Appliance inlets	ZHE JIANG BEI ER JIA ELECTRONIC CO LTD	ST-A03-002	AC 250V~, 2.5A	cURus
				ST-A03-004		
				ST-A03-005		
			Zhejiang Yangkang Holding Co., Ltd.	AI-06 - Serie(s)		
			Shenzhen kangyongda electronics Cp., Ltd	DE-8		
				DE-6		
				DE-14		
			YUEQING LECI ELECTRONICS CO LTD	DB-8		
			Various	Various		

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]
1	5	LEDs (not shown)	Shenzhen MTC Visual Display Technology Co., Ltd	MTC-4R0408C	Dominant wavelength: 620-625nm, Forward current: 10mA Max. Reverse voltage: 50V Max.	NR
				MTC-RB0408B-ABA	Dominant wavelength: 460-480nm, Forward current: 3mA Max. Reverse voltage: -10V Max.	NR
				MTC-RG0408B-ACA	Dominant wavelength: 520-544nm, Forward current: 3mA Max. Reverse voltage: -10V Max.	NR
20	6	Mains fuse (PF101, PF102)	ZHONG SHAN LANBAO ELECTRICAL APPLIANCES CO LTD	6125SB	AC 250V~, T5AL	cURus
				6125FA		
			XC ELECTRONICS (SHENZHEN) CORP LTD	24T Series		
			Various	Various		
20	7	X-Capacitor (PCX101, PCX102)	Shenzhen Su Rong Capacitors Co., Ltd.	MPX/MKP	Min. AC 275V, 0.33uF X2, Min. 100°C	cURus
			Shenzhen Sincerity Technology Co., Ltd	MPX/MKP		
			Xiamen Wanming Electronics Co., Ltd.	MPX		
			Shenzhen Shenfeng Electronics Co., Ltd.	CBB62		
			SHENZHEN JINGHAO CAPACITOR CO LTD	CBB62B		
			Shenzhen Weidy Industrial Development Co., Ltd.	MKP		
			Dongguan Champion Electric Technology Co., Ltd	MPX Series		
			Shenzhen Shanrui Electronics Co., Ltd.	MPX		
			Fuxin Pan Ocean Electronic Ltd.	MPX-X2		

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]
20	7A	X-Capacitor (PCX101, PCX102)	Hongzhi Enterprises Ltd.	MPX	Min. AC 275V, 0.33uF X2, Min. 100°C	cURus
			Winday Electronic Industrial Co., Ltd.	MPX		
			DONGGUAN CITY DAFU ELECTRONICS CO LTD	MPX		
			Various	Various		
20	8	Y-Capacitor (PCY103, PCY104, PCY106)	Shenzhen Weidy Industrial Development Co., Ltd.	WYS - Series	Min. AC 250V, 1000pF for PCY106, 220pF for PCY103 and PCY104, 125°C, Y1	cURus
			Y-Capacitor (PCY103, PCY104, PCY106)	TRX - Series		
			Guangdong South Hongming Electronic Science and Technology Co., Ltd.	F		
			Xiamen Sino Faith Electronic Technology Co. Ltd.	HCY		
			Various	Various		
20	9	VARISTOR (PRV101)	Centra Science Corp.	CNR-10D681K	Min.300V, 6kV/3kA, coating: V-0, 40/85/56 (10D681K marked on the body)	cURus
			Shaanxi Huaxing Electronic Group Co., Ltd.	MYG20G10K681	Min.300V, 6kV/3kA, coating: V-0, 40/85/56 (10K681 marked on the body)	cURus
			BestBright Electronics Co. Ltd	10D681K	Min.300V, 6kV/3kA, coating: V-0, 40/85/56 (681KD10 marked on the body)	cURus
			Guangdong South Hongming Electronic Science and Technology Co., Ltd.	ZVR10D681	Min.300V, 6kV/3kA, coating: V-0, 40/85/56 (10D681K marked on the body)	cURus
			GUIZHOU KAILI ECONOMIC ZONE ZHONGHAO ELECTRONICS CO.,LTD.	WLR-10D681KH	Min.300V, 6kV/3kA, coating: V-0, 40/85/56 (10D681K or 10D681KH marked on the body)	cURus
			Dongguan City Dafu Electronics Co. Ltd.	10D681K	Min.300V, 6kV/3kA, coating: V-0, 40/85/56	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]
20	9A	VARISTOR (PRV101)	Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd	10D681K	Min.300V, 6kV/3kA, coating: V-0, 40/85/56	cURus
			Shenzhen Weidy IndustrialDevelopment Co., Ltd.	WZV10D681KX@	Min.300V, 6kV/3kA, coating: V-0, 40/85/56	cURus
				WZV10D681KG@	Min.300V, 6kV/3kA, coating: V-0, 40/85/56	cURus
			Huizhou Derui Electrical Appliance Co., Ltd	COV-10D681K@	Min.300V, 6kV/3kA, coating: V-0, 40/85/56	cURus
			Cerglass MFG Inc	10D681K	Min.300V, 6kV/3kA, coating: V-0, 40/85/56	cURus
			Guangxi New Future Information Industry Co., Ltd.	10D681K	Min.300V, 6kV/3kA, coating: V-0, 40/85/56	cURus
			Thinking Electronic Industrial Co.,Ltd	TVR10681	Min.300V, 6kV/3kA, coating: V-0, 40/85/56 (10681 marked on the body)	cURus
20	10	Transformer (PT101)	HuizhouMVT New Power Technology CO., LTD	ZY-T0241	Class B, Rated input: 100-240V~, 50/60Hz Construction details see Illustration 8-9 in section 7.0 Consisted of following items: 10A-10F:	NR
20	10A	Insulation system (not shown)	HUIZHOU MVT NEW POWER TECHNOLOGY CO LTD	ZY-T	Class B	UR
20	10B	Bobbin material (not shown)	CHANGCHUN PLASTICS CO., LTD	T200HF	V-0, 150°C.	UR
				T220NA		
			SUMIDUREZ SINGAPORE PTE LTD	PM9820		
				PM9825		
20	10C	Insulation tape (not shown)	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT* (b)(g)	Rated 130°C, flame retardant.	UR
			CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-19-02-15b		
				LY-19-02-18b		
			DONGGUAN SHIN YAHUA ELECTRONIC MATERIAL CO LTD	CT* (b)(g)		
				CT* (c)(g)		

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]
20	10D	Triple insulated wire (not shown)	FURUKAWA ELECTRIC CO., LTD.	TEX-E	Triple insulated Wire, at least 130°C N1 (1-2): TRW (B) Φ 0.55mm * 1, 50TS N2 (4-5): TRW (B) Φ 0.30mm * 1, 4TS	UR
				TEX-EA		
			HUIZHOU DONGJU FLUO TECH PLASTIC CO LTD	TIW-FXX		
			TOTOKU ELECTRIC CO LTD	TIW-3LZX@@@%$		
				TIW-3X$		
20	10E	Insulation tube (not shown)	CHANGYUAN ELECTRONICS GROUP CO LTD	CB-TT-L	Rated: 200 °C,VW-1.	UR
			HUIZHOU DONGJU FLUO TECH PLASTIC CO LTD	TFL		
			GREAT HOLDING INDUSRLAL CO LTD	TFL		
20	10F	Varnish (not shown)	ZHUHAI CHANGXIAN CHEMICAL TECHNOLOGY CO LTD	E 962	130 °C	UR
			SUZHOU TAIHU ELECTRIC ADVANCED MATERIAL CO LTD	T-4260(a)		
20	11	Line filter (PL101)	Huizhou MVT New Power Technology Co., LTD	ZY-T0251	130 °C, Min. 150uH. Consists of following items: 11A-11E:	NR
20	11A	Bobbin material (not shown)	CHANGCHUN PLASTICS CO., LTD	T200HF	V-0, 150°C.	UR
				T220NA		
			SUMIDUREZ SINGAPORE PTE LTD	PM9820		
				PM9825		
20	11B	Magnet wire (not shown)	HOI LUEN ELECTRICAL MFR CO LTD	xUEW	Polyurethane Copper Wires used as windings. at least 130°C. N1 (1-2): 2UEW Φ 0.10mm * 66P *1, 36Ts	UR
				xUEW-F		
			ZHEJIANG HONGBO TECHNOLOGY CO LTD	xUEW		
			Various	Various		

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]
20	11C	Varnish (not shown)	ZHUHAI CHANGXIAN CHEMICAL TECHNOLOGY CO LTD	E 962	130 °C	UR
			SUZHOU TAIHU ELECTRIC ADVANCED MATERIAL CO LTD	T-4260(a)		
20	11D	Insulation tape (not shown)	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT* (b)(g)	Rated 130°C, flame retardant.	UR
			CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-19-02-15b		
				LY-19-02-18b		
			DONGGUAN SHIN YAHUA ELECTRONIC MATERIAL CO LTD	CT* (b)(g)		
				CT* (c)(g)		
20	11E	Insulation tube (not shown)	CHANGYUAN ELECTRONICS GROUP CO LTD	CB-TT-L	Rated: 200 °C,VW-1.	UR
			HUIZHOU DONGJU FLUO TECH PLASTIC CO LTD	TFL		
			GREAT HOLDING INDUSRLAL CO LTD	TFL		
20	12	Line filter (PLF101, PLF103)	Huizhou MVT New Power Technology Co., LTD	T251506009	130°C, Min. 12 Mh. Consists of following items: 12A-12C:	NR
20	12A	Bobbin material (not shown)	CHANGCHUN PLASTICS CO., LTD	T200HF	V-0, 150°C.	UR
				T220NA		
			SUMIDUREZ SINGAPORE PTE LTD	PM9820		
				PM9825		
20	12B	Magnet wire (not shown)	HOI LUEN ELECTRICAL MFR CO LTD	xUEW	Polyurethane Copper Wires used as windings. at least 130°C. N1 (1-4): 2UEW Φ 0.60mm * 1, 45Ts N2 (2-3): 2UEW Φ 0.60mm * 1, 45Ts	UR
				xUEW-F		
			ZHEJIANG HONGBO TECHNOLOGY CO LTD	xUEW		
			Various	Various		

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]
20	12C	Varnish (not shown)	ZHUHAI CHANGXIAN CHEMICAL TECHNOLOGY CO LTD	E 962	130 °C	UR
			SUZHOU TAIHU ELECTRIC ADVANCED MATERIAL CO LTD	T-4260(a)		
20	13	Optocoupler (PU204)	Everlight Electronics Co., Ltd.	EL817	Double protection isolation, bridging primary circuit and secondary circuit on power supply PCB. (# can be one character)	cURus
				EL817V		
			Bright Led Electronics Corp	BPC-817#		
				BPC-817M		
				BPC-817 S		
			Changzhou Galaxy Century Micro-electronics Co., Ltd.	BL817#		
				BL817M#		
				BL817S		
				BL817S#		
			China Resources Semiconductor (ShenZhen) Ltd.	PC817 #		
				817 #		
			RENESAS ELECTRONICS CORPORATION	PS2561-1		
				PS2561AL1-1		
			Lite-On Technology Corporation	LTV-817		
			COSMO Electronics Corporation	K1010		
			Shenzhen Orient Components Co. Ltd.	ORPC-817 #		
				ORPC-817M #		
			CRM ICBG (Wuxi) Co., Ltd.	PC817#		

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]
15	14	Insulating sheet (not shown)	SICHUAN LONGHUA FILM CO LTD	PP-BK15V	V-0, Min. 65°C, Min. thickness 0.4mm	UR
				PP-WT16		
				PC-870		
			Sichuan Dongfang Insulating Material Co., Ltd	DFR-WT (c)		
				DFR-BK(b)		
				DFR117ECOB		
				DFR700		
				DFR3738A		
				DFR3732A		
			Chengdu Kanglongxin Plastics Co., Ltd	KLX PP WT-10		
				KLX PP BK-10		
				KLX FRPC -1880B		
				KLX FRPC-1860B		
				KLX FRPC-870B		
				KLX PP WT-10-NTC		
			Sichuan Longhua Film Co Ltd	PC-1811A	V-2, Min. 65°C, Min thickness 0.4mm	
				PC-6(a)(c)		
				LonghuaEPC-(h)		
				EPC-(h)(f)		
				LonghuaL-(d)		
				L-(d)(f)		
				L-(d)(f)(g)		
				LonghuaPP-HF(d)		
			Chengdu Kanglongxin Plastics Co., Ltd	KLX PC-811A		
				KLX PC-813A		
				KLX PC-813AF		
				KLX PC-812A		
				KLX PC-815A		
				KLX PC-816A		
				KLX PC-832B		
				KLX PC-835B		
				KLX PC-835BG		
				KLX PC-863B		
				KLX PC-832BF		
				KLX PC-835BF		
			Sichuan Dongfang Insulating Material Co., Ltd	DF8D(a)	V-2, Min. 75°C, Min thickness 0.4mm	
				DF8D10		
				DF8D13		
				DF8D15		
				DF8D16		
				DF8D32		
				DF8D35		

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]
19	15	Bleeder resistors (PR126, PR127, PR128, PR129) (not shown)	Various	Various	1MΩ, 1/4W	NR
20	16	Electrolytic capacitor (PEC101, PEC102)	Various	Various	Min. 450V, Max. 68uF, 105°C	NR
15	17	Gel materials (not shown)	DONGGUAN NANJU POLYMER MATERIAL CO LTD	NJ-352H/N-40 NJ-352H/N-60 (#) NJ-352H/N-80	V-0, Min. 1.0mm, 150°C (#) – NC product appearance color is white (WT)	UR
14	18	Internal plastic enclosure above power board	DongGuan ZhiShang Plastics Technology Co Ltd	ZS660	V-0, Min. 1.6mm, 80°C	UR
			Various	Various		
11	19	Power cord (For input wire)	SHENZHEN G-CINDA POWER SOLUTION CO LTD	SJT	Min. 3 x 14AWG, VW-1	cURus
			Various	Various		
11	20	Connector (For output wire)	SHENZHEN G-CINDA POWER SOLUTION CO LTD	GXD-033	Min. 7A, 125V~	cURus
			Various	Various		
11	21	Power cord (For output wire)	SHENZHEN G-CINDA POWER SOLUTION CO LTD	NISPT-2 SPT-1 SPT-2	Min. 2 x 18AWG, VW-1	cURus
			Various	Various		

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 periodically refer to section 5.0 for details.

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.

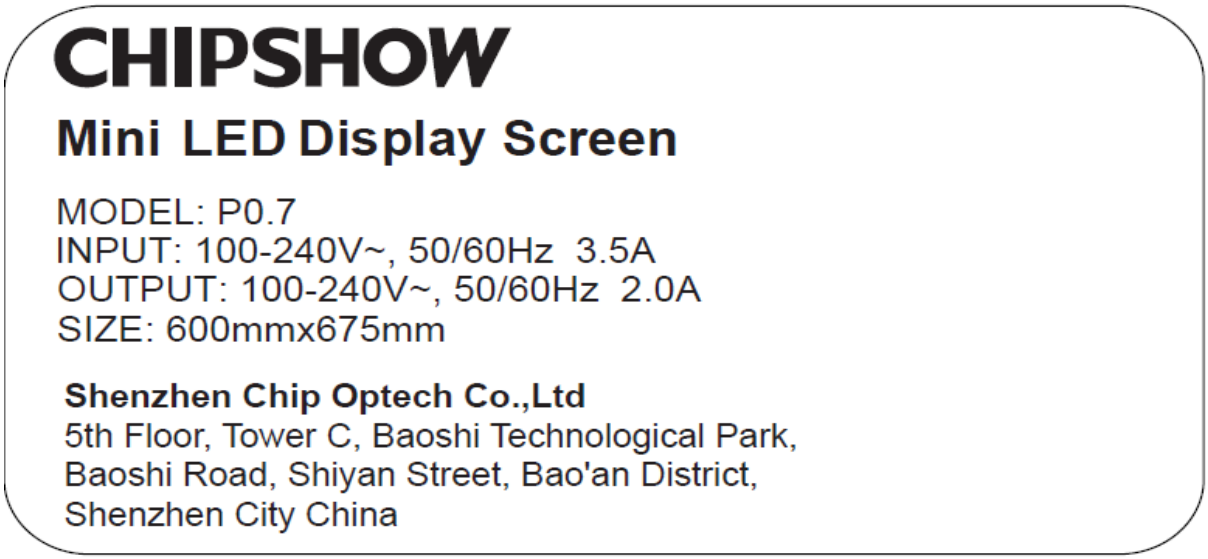
Critical Features/Components - An essential part, material, subassembly, system, software, or accessory of a product that has a direct bearing on the product's conformance to applicable requirements of the product standard.

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, minimum spacing are maintained through air and over surfaces of insulating material between current-carrying parts of opposite polarity and minimum between such current-carrying parts and dead-metal parts or low voltage isolated circuits.
   (Without considering approved switching power supply unit inside)
   Between different polarity of Line and Neutral before fuse: Cl = 2.3 mm; Cr = 2.4 mm.
   Between Line/Neutral and earthed accessible parts: Cl = 2.3 mm; Cr = 2.4 mm.
   Between live parts and unearthed accessible parts: Cl = 4.5 mm; Cr = 4.8 mm.
   Primary and secondary copper track of power supply board for swithing transformer ZY-T0241: Cl = 4.5 mm; Cr = 4.9 mm.
   Promary and secondary windings / ferrite core / pins of swithing transformer ZY-T0241: Cl = 4.5 mm; Cr = 4.9mm.
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 metal and non-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 lead of the power supply cord or the equipment grounding terminal.
6. Polarized Connection - This product is provided with a polarized power supply connection. All single pole switches and fuses are connected only to the ungrounded supply circuit conductor.
7. 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.
8. Schematics - Refer to Illustration 3 for schematics requiring verification during Field Representative Inspection Audits.
9. Markings - The product is marked as follows:
   - Applicant's name or brand name
   - model number
   - electrical ratings (input & output voltages, frequency, input & output current)
   Refer to illustration 1 of Section 7.0 for details.
10. Cautionary Markings - Refer to illustration 2 of Section 7.0 for details.
11. Installation, Operating and Safety Instructions - Instructions for installation and use of this product are provided by the manufacturer. Refer to illustrations 4-7 of Section 7.0 for details.
12. Transformer - Supplier records must be provided that indicate the received shipment of transformers (section 4.0, item 10) was constructed as indicated in Illustrations 8-9. These records must be available at the factory for inspection on every received shipment.

7.0 Illustrations

Illustration 1 - Marking label



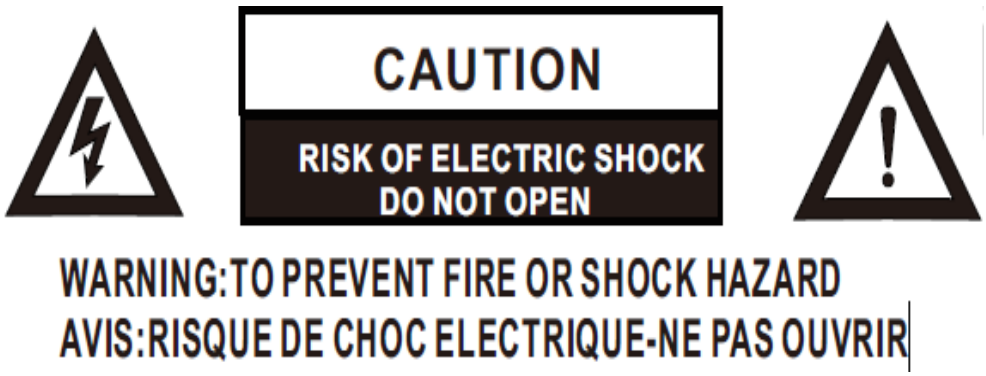
Note:

1. Wiring terminal intended for connection of protective earthing terminal indicated by the symbol

2. for other models (refer to Section 2.0 of Report), the marking is same as above except the model number, which would be changed accordingly.

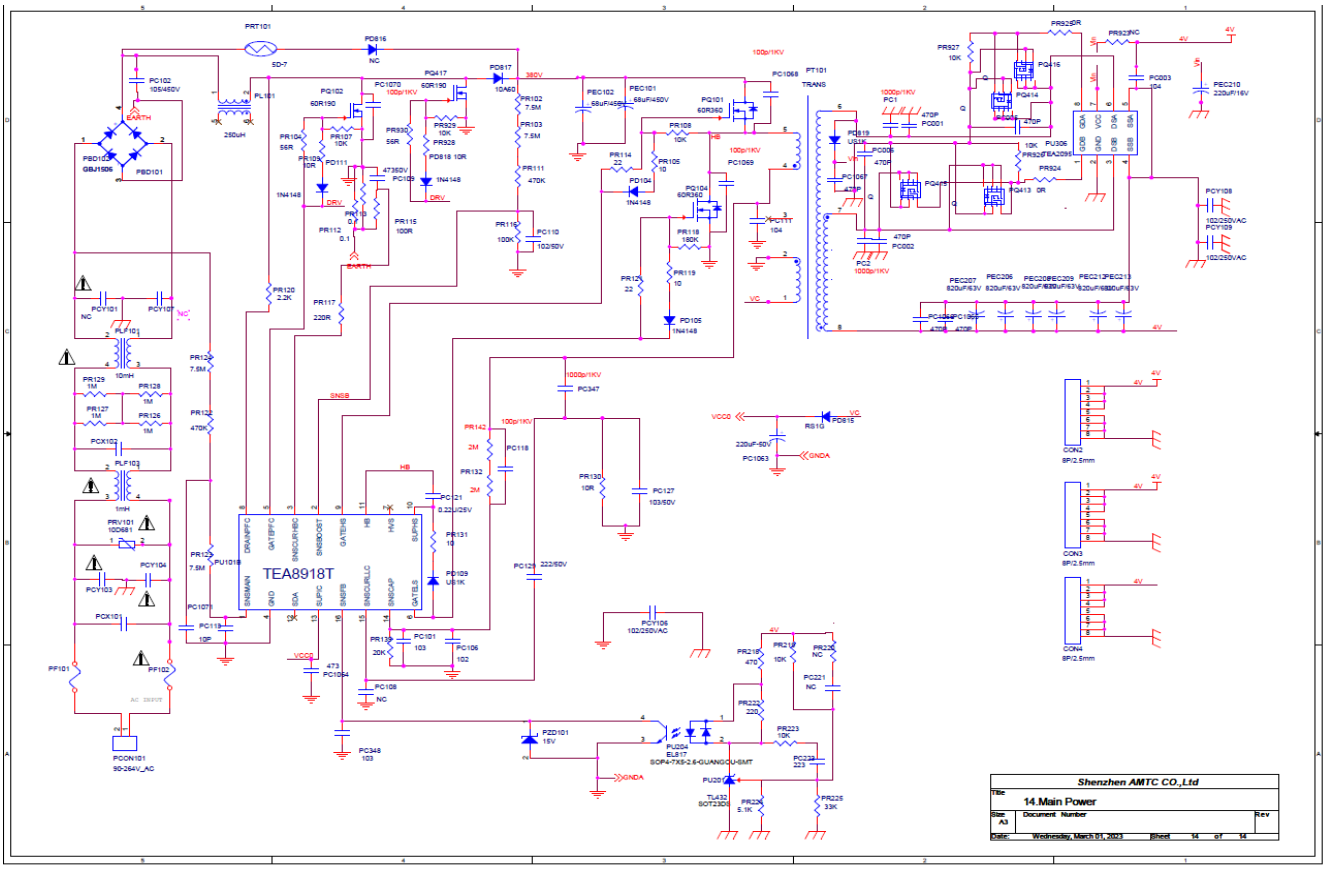
3. The above markings are the minimum requirements required by the safety standard. For the final production samples, the additional markings which do not give rise to misunderstanding may be added.

Illustration 2 - Cautionary Markings



7.0 Illustrations

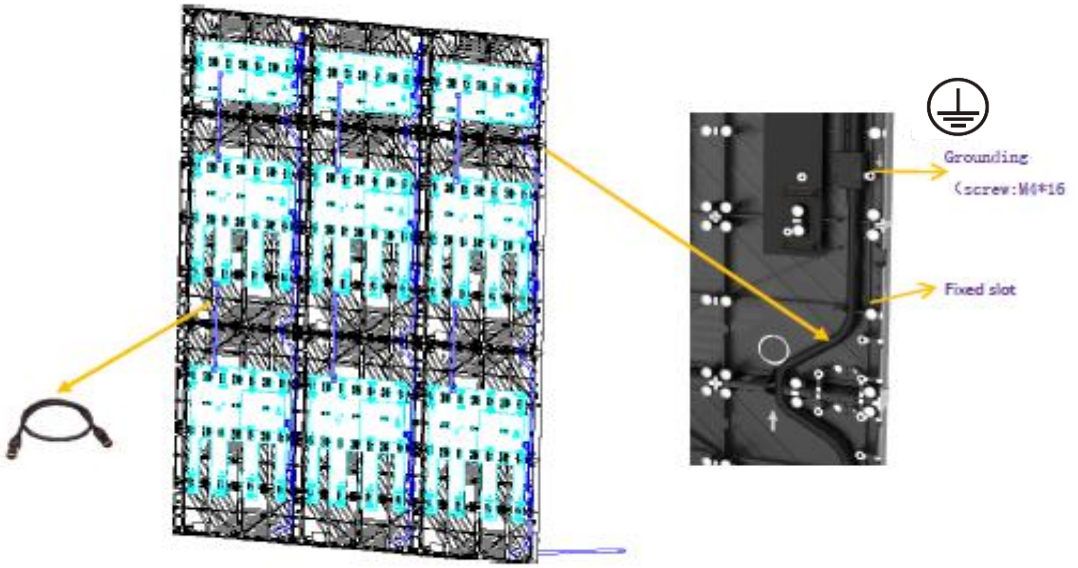
Illustration 3 - Circuit diagram_1 of power board



7.0 Illustrations

Illustration 4 - Installation, Operating and Safety Instructions_1

Assembly and connection diagram



Signal cable AC wire

Power connection

Mini LED Display Screen **Permanent connection**

Notice:

① There if no plug in AC wires which are used to transfer power for the products, so you need to make the ac wire connect to the power supply facility by yourself.

② The product must be permanently installed by technical/professional personnel, and corresponding disconnecting devices (such as air switch, etc.) shall be provided. The switch shall be disconnected during maintenance.

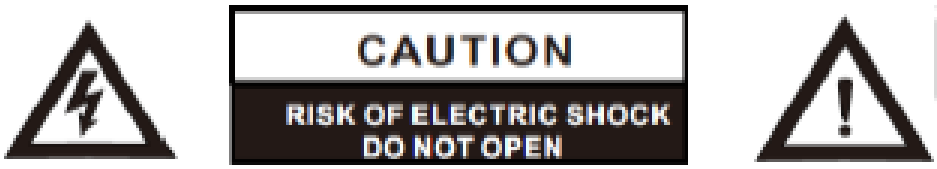
③Model SPT-2/NISPT-2(Min 2x18AWG) or SJT(Min 3x14AWG) power cord , connector use Min 2.5A 250V~, type C7,and NEMA 1-15P plug is required for sales in the United States.

④ Sales in other countries should use Min 2 x 0.75mm2 power cord and plug should be comply local standards.

⑤ The product needs to be supplied with a suitable power cord set for the countries where the product will be sold.

7.0 Illustrations

Illustration 5 - Installation, Operating and Safety Instructions_2



WARNING:TO PREVENT FIRE OR SHOCK HAZARD
AVIS:RISQUE DE CHOC ELECTRIQUE-NE PAS OUVRIR

WARNING: TO REDUCETHE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK).

NO USER SERVICEABLE PARTS INSIDE REFER TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead Symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

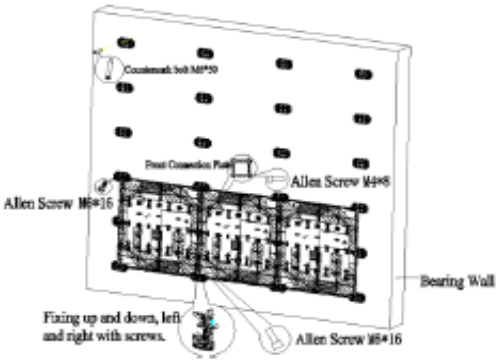
This equipment is not suitable for use in locations
Where children are likely to be present.

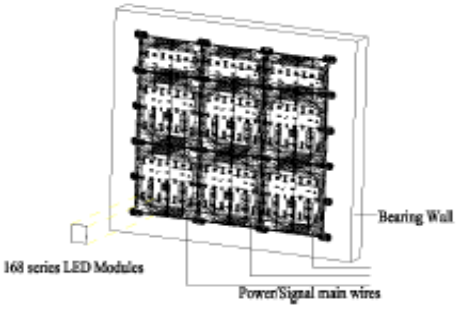
7.0 Illustrations

Illustration 6 - Installation, Operating and Safety Instructions_3

VI Engineering Installation Instructions

1、 Front Installation Instructions





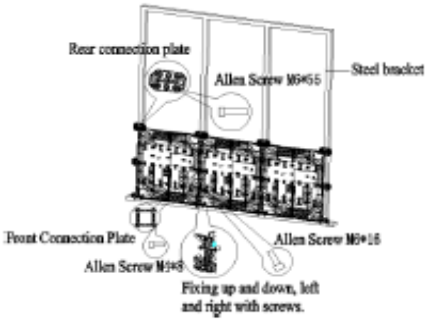
A. Fixing Cabinet: Fix the connection plate to the bearing wall with expansion bolt, and fix the cabinet from front with screw to the rear connection plate;

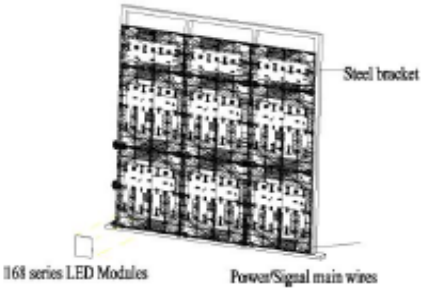
B. Cabinet Assembly: Firstly to install the shoulder screw without tighten it, then install the front connection plate.

C. Wire Connection: Tighten all screws, and connect power and internet wires;

D. Panel Installation: Install the LED modules to the cabinet by using vacuum chuck tools。

2、Rear Installation Instructions





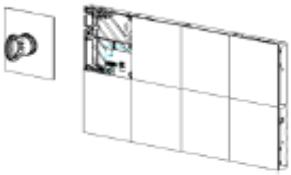
A. Fixing Cabinet: Fix the cabinet to the bracket by the rear connection plate from rear;

B. Cabinet Assembly: Firstly to install the shoulder screw without tighten it, then install the front connection plate;

C. All the rest steps refers to the Front Installation Instructions。

Note: Above installation instructions are for reference only, the specific installation steps based on the installation environment which may need to be adjusted.

3、LED module Maintenance Tool:



Maintenance Instruction

Chuck Tool

7.0 Illustrations

Illustration 7 - Installation, Operating and Safety Instructions_4

IMPORTANT SAFETY INSTRUCTIONS

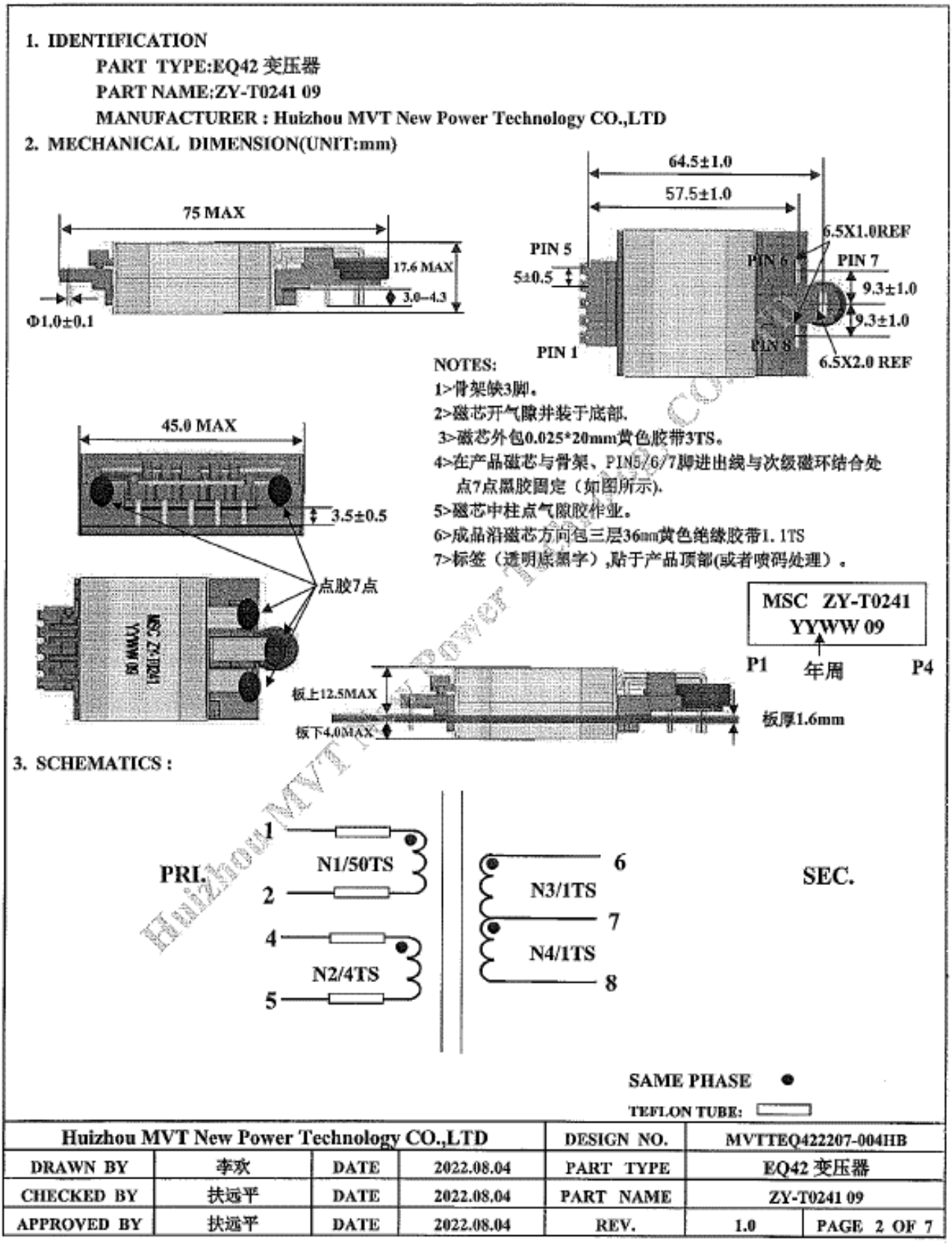
1) Read these instructions.
2) Keep these instructions.
3) Heed all warnings.
4) Follow all instructions.
5) Do not use this apparatus near water.
6) Clean only with dry cloth.
7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into our outlet, consult an electrician for replacement of the obsolete outlet.
10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11) Only use attachments/accessories specified by the manufacturer.
12) Use only with cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13) Unplug this apparatus during lightning storms or when unused for long periods of time.
14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15) To prevent the spread of fie, keep candles or other open flames way from this product at all times.
16) The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, tablecloths, curtains, etc
17) Apparatus should not be exposed to dripping or splashing, and objects filled with liquids, such as vases, should not be placed on the apparatus.

18) When you install your TV, maintain a distance of at least 4 inches between the TV and other objects (walls, cabinet sides, etc.) to ensure proper ventilation. Failing to maintain proper ventilation may result in a fire or a problem with the product caused by an increase in its internal temperature.
19) Do not overload wall outlets and extension cords, as this can result in a risk of fie or electric shock.
20) Do not push objects through any openings in this unit, as they may touch dangerous voltage points or short out parts that could result in fie or electric shock. Never spill or spray any type of liquid into the unit.
21) If an outside antenna or cable system is connected to the unit, be sure the antenna or cable system is grounded to provide some protection against voltage surges and built-up static charges, Section 810 of the National Electrical Code, ANSI/NFPA 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
22) When replacement parts are required, be sure the service technician uses replacement parts specified y the manufacturer or those that have the same characteristics as the original part.
Unauthorized substitutions may result in fie, electric shock or other hazards.
23) Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.
24) When you connect the product to other equipment, turn off the power and unplug all of the equipment from the wall outlet. Failure to do so may cause an electric shock and serious personal injury. Read the owner's manual of the other equipment carefully and follow the instructions when making any connections.
25) The mains plug is used as the disconnect and shall remain readily operable.
26) The batteries (battery pack or batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.
27) The use of apparatus in moderate climates.

Operating Temperature: -10° C to 40° C Operating Humidity: ≤80% Storage Temperature: -20° C to 50° C Storage Humidity: ≤90%

7.0 Illustrations

Illustration 8 - Specification_1 of transformer ZY-T0241

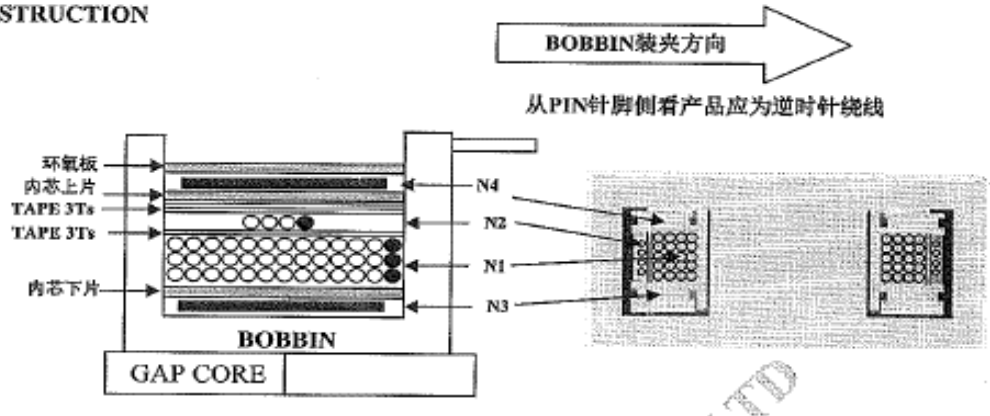


Huizhou MVT New Power Technology CO.,LTD				DESIGN NO.	MVTTEQ422207-004HB	
DRAWN BY	李欢	DATE	2022.08.04	PART TYPE	EQ42 变压器	
CHECKED BY	扶远平	DATE	2022.08.04	PART NAME	ZY-T0241 09	
APPROVED BY	扶远平	DATE	2022.08.04	REV.	1.0	PAGE 2 OF 7

7.0 Illustrations

Illustration 9 - Specification_2 of transformer ZY-T0241

4. WINDING CONSTRUCTION



5. WINDING	TERMINAL	WIRE SIZE	TURNS	TAPE LAYERS 0.025*5.0mm
N1	1-----2	TRW(B)Φ0.55mm*1	50TS	3TS
N2	4-----5	TRW(B)Φ0.30mm*1	4TS	3TS
N3	6-----7	镀锡铜片6.5*1.0mm*1	1TS	
N4	7----8	镀锡铜片6.5*1.0mm*1	1TS	

备注:

6. ELECTRICAL CHARACTERISTICS (At25°C)
   1) INDUCTANCE:(100KHz,1.0V,内阻 100Ω，串联测试)
   L(1~2)=600uH±10%
   2)DC SUPERPOSITION:(100KHz,1.0V,内阻 100Ω，串联测试) (抽检)
   L(4.3A)≥L*80% (25℃); L(4.3A)≥L*80% (110℃)
   3) LEAKAGE INDUCTANCE:(100KHz,1.0V)
   Ls(1~2)=40---55uH (短路次级脚位)
7. HI-POT TEST
   APPLY AC/3600V,3mA BETWEEN PRI. TO SEC. FOR ONE MINUTE.
   APPLY AC/500V,3mA BETWEEN SEC TO CORE FOR ONE MINUTE.
   APPLY AC/2500V,3mA BETWEEN PRI. TO CORE FOR ONE MINUTE.
8. INSULATION RESISTANCE
   APPLY DC/500V, BETWEEN PRI TO SEC FOR 100MOHM MIN
9. DC.RESISTANCE(25 ℃)
   R(1-2)=360mΩ MAX R(4-5)=155mΩ MAX R(6-7)=1.0mΩ MAX R(7-8)=1.0mΩ MAX

Bright Power Technology CO.,LTD

DRAWN BY	李欢	DATE	2022.08.04	PART NO.	MVTTEQ422207-004HB	
CHECKED BY	扶远平	DATE	2022.08.04	PART NAME	ZY-T0241 09	
APPROVED BY	扶远平	DATE	2022.08.04	REV	1.0	PAGE 3 OF 7

8.0 Test Summary			
Evaluation Period	18-May-2023 to 26-May-2023	Project No.	230518036SZN
Due to the previous testing performed under Intertek Report 230105046SZN-001 no additional testing was necessary.			

Evaluation Period	27-May-2024			Project No.	HK24050874
Sample Rec. Date	NA	Condition	Prototype	Sample ID.	NA
Test Location	Intertek Testing Services Hong Kong Ltd. 2/F, Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong				
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.					
No tests were considered for the below revisions employed for the report amendment: - Revise the Manufactruer name from "Huizhou Chip Optech Co., Ltd." to "Huizhou Mepro Optech Co., Ltd."					

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:	Aline Li	Reviewed by:	Jacky Chen
Title:	Engineer	Title:	Sr. Project Engineer
Signature:	*Signature on file*	Signature:	*Signature on file*

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 Chip Optech Co., Ltd.
Address	5th Floor, Tower C, Baoshi Technological Park, Baoshi Road, Shiyan Street, Bao'an District, Shenzhen Guangdong 518108
Country	China
Product	Mini LED Display Screen

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 issued 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.

If all standards on the ATM have the same standard title, the shared title or its abbreviation may be used in place of the examples above. Example: "Medical Electrical Equipment" or "MEE"; "Information Technology Equipment" or "ITE"; "Audio/Video Information And Communication Technology Equipment" or "A/V ICTE".

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.

The Applicant will be notified, in writing, via the applicable contact methods, as defined in Section 1.0, when these components must be selected and sent to Component Evaluation Center (CEC) for re-evaluation.

Due to particular testing requirements, some components may be requested to be shipped to specific labs. Thus, specific shipment destination(s) for each sample will be provided in the written notification.

Managing CEC Location:
Intertek Testing Services Shenzhen Ltd. Longhua Branch
ETL Component Evaluation Center
101, 201, Building B, No. 308 Wuhe Avenue, Zhangkengjing Community, GuanHu Subdistrict, LongHua District
Shenzhen, China
Attn: Joey Kuang
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
Grounding Continuity 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**
All products covered by this Report.		
Between L&N of mains plug and output terminals	3600Vdc or 2546Vac	1s
Product - One sample from each shipment of Section 4.0 item 10:	**Test Voltage**	**Test Time**
Between Pri. to Sec. output	4000Vpeak	1 min
Between Pri. to Core	4000Vpeak	1 min

11.2 Grounding Continuity Test

Method

Each product listed below shall be subjected to a test to determine that there is continuity between accessible dead-metal parts of the product and the grounding pin or blade of the attachment plug.

If all accessible dead metal is connected, only a single test need be performed. A visual or audible device (ohmmeter, buzzer, etc.) may be used to indicate grounding continuity.

Products Requiring Grounding Continuity Test:

Product	**Test Current**	**Test Time**
All products covered by this Report.		
Between connect earth of AC input connector and accessible metal enclosure	10A	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
27-May-2024 HK24050874 HKG	Raymond Ma Henry Ho 	1.0	Standard(s)	Revise from "[CSA C22.2#62368-1:2019 Ed.3]" to "[CSA C22.2#62368-1:2019 Ed.3+U1]"
			Manufacturer 1	Revise the Manufactruer name from "Huizhou Chip Optech Co., Ltd." to "Huizhou Mepro Optech Co., Ltd."
		8.0	--	New test block added.