



Test Report issued under the responsibility of:



TEST REPORT

IEC 62368-1

Audio/video, information and communication technology equipment

Part 1: Safety requirements

Report Number: E204356-A6252-CB-1

Date of issue.....: 2023-05-23

Total number of pages: 62

Name of Testing Laboratory: Underwriters Laboratories Taiwan Co., Ltd

preparing the Report: No. 260, Daye Rd., Beitou Dist., Taipei City, TW-112, Chinese Taipei

Applicant's name.....: AUO CORPORATION

Address: NO 1 LI-HSIN RD 2
HSINCHU SCIENCE PARK
HSINCHU
300094 TAIWAN

Test specification:

Standard: IEC 62368-1:2014

Test procedure: CB Scheme

Non-standard test method.....: N/A

TRF template used: IECEE OD-2020-F1:2021, Ed.1.4

Test Report Form No.....: IEC62368_1D

Test Report Form(s) Originator: UL(US)

Master TRF.....: Dated 2022-04-14

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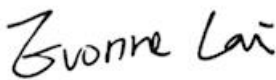
This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.

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Test Item description	LCD Panel (LED backlight)	
Trade Mark(s)	AUO or AU Optonics or AUO Corporation or ADP or AUO Display Plus 	
Manufacturer	AUO Corporation NO 1 LI-HSIN RD 2 HSINCHU SCIENCE PARK HSINCHU 300094 TAIWAN	
Model/Type reference	G156HANZZZZ, G156HTNZZZZ, G156XTNZZZZ, G156XTTZZZZ, G156HATZZZZ (where Z may be any alphanumeric character or a dot or blank for marketing purpose only, and no impact safety related constructions and critical components)	
Ratings	(Optional) 1. 12 Vdc, 0.8 A (with LED Driver Board, P/N.: 15G20-CXX or 15G19-CXX, X=0-9, A-Z) 2. 12 Vdc, 0.4 A (with LED Driver Board, P/N.: 15B61-CXX, X=0-9, A-Z) 3. 12 Vdc, 0.87 A (with LED Driver Board, P/N.: 15G25-CXX, X=0-9, A-Z) 4. 12 Vdc, 0.48 A (with LED Driver Board, P/N.: 15G18-CXX, X=0-9, A-Z, except for 04) 5. 12 Vdc, 0.48 A (with LED Driver Board, P/N.: 15G18-C04) 6. 24 Vdc, 1.25 A (with LED Driver Board, P/N.: 15G48-CXX, X may be 0-9, A-Z or blank) 7. 12 Vdc, 0.34 A (with LED Driver Board, P/N.: 15B57-CXX, X=0-9, A-Z or blank) 8. 12 Vdc, 1 A (with LED Driver Board, P/N.: 15G51-CXX, X=0-9, A-Z or blank)	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☐ CB Testing Laboratory:		
Testing location/ address		
Tested by (name, function, signature)		
Approved by (name, function, signature)		
Testing procedure: CTF Stage 1:		
Testing location/ address		
Tested by (name, function, signature)		
Approved by (name, function, signature)		
Testing procedure: CTF Stage 2:		
Testing location/ address	AUO Corporation	

		No 1 Li-Hsin Rd 2 Hsinchu Science Park Hsinchu 300094 Taiwan	
Tested by (name, function, signature)		Amber Hsu / Tester	
Witnessed by (name, function, signature) ...:		Evonne Lai / Project Handler	
Approved by (name, function, signature).....:		Scott Chen / Reviewer	
☐	Testing procedure: CTF Stage 3:		
☐	Testing procedure: CTF Stage 4:		
Testing location/ address			
Tested by (name, function, signature)			
Witnessed by (name, function, signature) ...:			
Approved by (name, function, signature).....:			
Supervised by (name, function, signature) ...:			

List of Attachments (including a total number of pages in each attachment):

National Differences (31 pages)

Enclosures (50 pages)

Summary of testing:**Tests performed (name of test and test clause):**

5.2.2.1-5.2.2.6 – CLASSIFICATION OF ELECTRICAL ENERGY SOURCES

B.2.5 – INPUT TEST: SINGLE PHASE

B.2.6, 5.4.1.4, 6.3, 9.2, B.1.6 – NORMAL OPERATING CONDITIONS TEMPERATURE MEASUREMENT

B.4 – SIMULATED SINGLE FAULT CONDITIONS

Testing Location:**CTF Stage 2: AUO Corporation****No 1 Li-Hsin Rd 2 Hsinchu Science Park Hsinchu 300094 Taiwan****Summary of compliance with National Differences:****List of countries addressed:** Australia / New Zealand, EU Group and National Differences, Japan, USA / Canada

United Kingdom (per customer's request shown separately)

☒ **The product fulfils the requirements of:** EN 62368-1:2014 + A11:2017, BS EN 62368-1:2014 + A11:2017, UL 62368-1 2nd Edition, Issued December 1, 2014, CSA CAN/CSA-C22.2 No. 62368-1 2nd Edition, Issued December 1, 2014, AS/NZS 62368.1:2018, J62368-1 (2020)

Use of uncertainty of measurement for decisions on conformity (decision rule) :

☒ No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").

☐ Other:... (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)

Information on uncertainty of measurement:

The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECCE. IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECCE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

Copy of Marking Plate - Refer to Enclosure titled Marking Plate for copy.

TEST ITEM PARTICULARS:	
Classification of use by	To be determined in end product
Supply Connection	External Circuit - not Mains connected ES1
Supply % Tolerance	None
Supply Connection – Type	To be determine in end product
Considered current rating of protective device as part of building or equipment installation	N/A
Equipment mobility	for building-in
Over voltage category (OVC)	other: No mains connection
Class of equipment	Not classified
Access location	N/A
Pollution degree (PD)	PD 2
Manufacturer's specified maximum operating ambient (°C)	85°C for all models, except for product equipped with below LED driver boards 70°C for product equipped with LED Driver Board P/N: 15G19-CXX, X=0 -9, A-Z or blank; product equipped with LED driver board P/N: 15G25-CXX, Where X=0-9, A-Z or blank 60°C for product equipped with LED Driver Board P/N: 15G20-CXX, X=0 -9, A-Z or blank; product equipped with LED driver board P/N: 15B61-CXX, Where X=0-9, A-Z or blank; product equipped with LED Driver Board P/N: 15G51-CXX, X=0 -9, A-Z or blank 50°C for product equipped with LED Driver Board P/N: 15B57-CXX, X=0 -9, A-Z or blank
IP protection class	IPX0
Power Systems	N/A
Altitude during operation (m)	5000 m
Altitude of test laboratory (m)	2000 m or less
Mass of equipment (kg)	Max. 1.3 kg
POSSIBLE TEST CASE VERDICTS:	
- test case does not apply to the test object..... :	N/A
- test object does meet the requirement :	P (Pass)
- test object does not meet the requirement :	F (Fail)
TESTING:	
Date of receipt of test item..... :	2023-05-10
Date (s) of performance of tests..... :	2023-05-11
GENERAL REMARKS:	

"(See Enclosure #)" refers to additional information appended to the report.

"(See appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IEC60060-2:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided

☒ **Yes**

☐ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies)	1. AUO Corporation 228 Longke St Longtan Dist Taoyuan City 325002 Taiwan 2. AUO (Suzhou) Co Ltd No. 398, Suhong Zhong Road, Suzhou Industrial Park, Suzhou, Jiangsu, 215021 China 3. AUO (Xiamen) Co Ltd No 1998 West of FangShan Road Xiang'An Branch Torch Hi-tech Industrial Development Zone Xiamen Fujian 361102 China 4. FORTECH ELECTRONICS SUZHOU CO LTD 399 JINHU RD, WUJIANG ECONOMIC DEVELOPMENT, WUJIANG JIANGSU, CHINA 5. QISDA ELECTRONICS (SUZHOU) CO LTD 169 ZHUJIANG RD, NEW DISTRICT, SUZHOU JIANGSU 215129, CHINA 6. RADIANT OPTO-ELECTRONICS (SUZHOU) CO LTD 1621 E JIANGXING RD, ECONOMIC DEVELOPMENT AREA, WUJIANG JIANGSU 215200, CHINA 7. DARWIN PRECISIONS (XIAMEN) CORP 3089 NORTH OF XIANG'AN RD, XIANG'AN BRANCH TORCH HI-TECH, INDUSTRIAL DEVELOPMENT ZONE, XIAMEN FUJIAN 361102, CHINA 8. CORETRONIC OPTICS (SUZHOU) CO LTD 808 PANGJIN RD WUJIANG ECONOMIC & TECHNOLOGICAL DEVELOPMENT ZONE, SUZHOU JIANGSU 215000, CHINA 9. SHENZHEN MILLIONBEST OPTOELECTRONICS CO LTD E OF 6TH FL BLDG 3, TANGWEI HUA-FENG TECHNOLOGY PARK, BAO'AN DISTRICT, SHENZHEN GUANGDONG 518103, CHINA 10. CPT TPV OPTICAL (FUJIAN) CO LTD SHANGZHENG YUANHONG RD, FUQING FUJIAN 350301, CHINA 11. AUO (Xiamen) Co Ltd No 1689 North of Xiang'An Road Xiang'An Branch Torch Hi-tech Industrial Development Zone Xiamen Fujian 361102 China
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	12. WISTRON INFOCOMM (ZHONGSHAN) CORP LINHAI BRANCH 23 WUGUI RD, TSUIHANG NEW DISTRICT, ZHONGSHAN GUANGDONG 528437, CHINA 13. TPV ELECTRONICS (FUJIAN) CO LTD Rongqiao Economic and Technological Development Zone Fuqing Fujian 350301 China 14. QISDA VIETNAM CO LTD Lot CN-12, Dong Van IV Industrial Park, Nhat Tan Commune,Dai Cuong Commune, Kim Bang District, Ha Nam Province, Vietnam
GENERAL PRODUCT INFORMATION:	
Report Summary All applicable tests according to the referenced standard(s) have been carried out.	
Product Description Report summary: The original report was reissued on 2023-05-23 to include the following changes/additions: (1) This report is a reissue of CBTR Ref. No.: E204356-4789251275-1 Amendment 4, CB Test Certificate Ref. No.: DK-95393-M3-UL. Based on the previously conducted testing and the review of product technical documentation including photos, schematics, wiring diagrams and similar, has been determined that the product continues to comply with the standard. (2) This test report has been reissued include the following changes/additions: - Add alternative construction with LED driver board 15G51-C00 rating 12Vdc, 1A Max. for model G156HAN05.0. See photos of details; - Add an alternative LED Driver Boards P/N.: 15G51-CXX (X=0-9, A-Z or blank) with input 12Vdc, 1A max. - Update input rating. - Add one factory. (QISDA VIETNAM CO LTD / Lot CN-12, Dong Van IV Industrial Park, Nhat Tan Commune,Dai Cuong Commune, Kim Bang District, Ha Nam Province, Vietnam) (3) Only limited tests were deemed to consider necessary based on the previous tests. Additional testing was conducted as reported under Summary of testing. - 5.2.2.1-5.2.2.6 – CLASSIFICATION OF ELECTRICAL ENERGY SOURCES - B.2.5 – INPUT TEST: SINGLE PHASE - B.2.6, 5.4.1.4, 6.3, 9.2, B.1.6 – NORMAL OPERATING CONDITIONS TEMPERATURE MEASUREMENT The equipment under test (EUT) is a Color TFT LCD module with LED type LCD Backlight unit, panel control board and LED driver board installed for backlight, intended to use in information technology equipment. Max. normal load condition: With screen full raster, maximum brightness and contrast and operated continuously.	
Model Differences - Models G156HTNZZZZ are similar to model G156HANZZZZ, except for LED Driver Board (Model G156HANZZZZ equipped with LED Driver Board, P/N.: 15G20-CXX or 15G25-CXX or 15G48-CXX or 15G51-	

CXX; Model G156HTNZZZZ equipped with LED Driver Board, P/N.: 15G19-CXX and 15B61-CXX), rating and model designation.

- Models G156XTNZZZZ are similar to models G156HANZZZZ except for model designation, LED driver board and rating.

- Models G156XTTZZZZ are similar to models G156XTNZZZZ except for model designation and with touch panel.

- Models G156HATZZZZ are same as models G156HANZZZZ except for model designation and with touch panel function.

Additional application considerations – (Considerations used to test a component or sub-assembly) -
N/A

Technical Considerations

- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of : 85°C for all models, except for product equipped with below LED driver boards, 70°C for product equipped with LED Driver Board P/N: 15G19-CXX, X=0 -9, A-Z or blank; product equipped with LED driver board P/N: 15G25-CXX, Where X=0-9, A-Z or blank, 60°C for product equipped with LED Driver Board P/N: 15G20-CXX, X=0 -9, A-Z or blank; product equipped with LED driver board P/N: 15B61-CXX, Where X=0-9, A-Z or blank; product equipped with LED Driver Board P/N: 15G51-CXX, X=0 -9, A-Z or blank, 50°C for product equipped with LED Driver Board P/N: 15B57-CXX, X=0 -9, A-Z or blank.
- The Risk Group of a lamp or lamp system (including LEDs) is : Exempt
- The following are available from the Applicant upon request : Product specification
- The product was investigated to the following additional standard : EN 62368-1:2014 + A11:2017, BS EN 62368-1: 2014 + A11: 2017, UL 62368-1 2ND Ed, Issued December 1, 2014, CSA CAN/CSA-C22.2 NO. 62368-1 2nd Ed, Issued December 1, 2014, AS/NZS 62368.1:2018, J62368-1 (2020), , CEI EN 62368-1: 2016

Engineering Conditions of Acceptability

When installed in an end-product, consideration must be given to the following:

- The following output circuits are at ES1 energy levels : Output of LED driver board
- The investigated Pollution Degree is : 2
- The following end-product enclosures are required : Fire, Mechanical
- The supply source shall be ES1.
- Classification of PIS has not been conducted. Therefore, all electrical components were assumed to be resistive PIS.
- This component has been evaluated in "control of fire spread" method assuming appropriate fire enclosure is provided in end product.
- The touch temperature for Panel Surface shall be evaluated in end product.
- The Class of equipment is to be determined in end product.

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:

(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.)

(Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.

Electrically-caused injury (Clause 5):

(Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification)

Example: +5 V dc input

ES1

Source of electrical energy	Corresponding classification (ES)
All circuits	ES1

Electrically-caused fire (Clause 6):

(Note: List sub-assembly or circuit designation and corresponding energy source classification)

Example: Battery pack (maximum 85 watts):

PS2

Source of power or PIS	Corresponding classification (PS)
Resistive PIS	To be determined in end product

Injury caused by hazardous substances (Clause 7)

(Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.)

Example: Liquid in filled component

Glycol

Source of hazardous substances	Corresponding chemical
N/A	--

Mechanically-caused injury (Clause 8)

(Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.)

Example: Wall mount unit

MS2

Source of kinetic/mechanical energy	Corresponding classification (MS)
Sharp edges and corners	MS1
Glass	MS3
Equipment mass (max. 1.3kg)	MS1

Thermal burn injury (Clause 9)

(Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.)

Example: Hand-held scanner – thermoplastic enclosure

TS1

Source of thermal energy	Corresponding classification (TS)
Panel surface	To be determined in end product
Parts other than panel surface	To be determined in end product

Radiation (Clause 10)

(Note: List the types of radiation present in the product and the corresponding energy source classification.)

Example: DVD – Class 1 Laser Product

RS1

Type of radiation	Corresponding classification (RS)
LCD panel	RS1

ENERGY SOURCE DIAGRAM

Indicate which energy sources are included in the energy source diagram. Insert diagram below

☐ **ES** ☐ **PS** ☐ **MS** ☐ **TS** ☐ **RS**

"See ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE";

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	Possible Hazard			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
To be determined in end product.	--	--	--	--
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
To be determined in end product.	--	--	--	--
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	--	--	--	--
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary	MS3: Laminated glass	Polarizer film	Light guide, metal chassis	--
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
To be determined in end product.	--	--	--	--
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	--	--	--	--
Supplementary Information:				
(1) See attached energy source diagram for additional details.				
(2) "N" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault				

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		Pass
4.1.1	Acceptance of materials, components and subassemblies		Pass
4.1.2	Use of components		Pass
4.1.3	Equipment design and construction		Pass
4.1.15	Markings and instructions	(See Annex F)	Pass
4.4.4	Safeguard robustness	Shall be evaluated in end product	N/A
4.4.4.2	Steady force tests		N/A
4.4.4.3	Drop tests		N/A
4.4.4.4	Impact tests		N/A
4.4.4.5	Internal accessible safeguard enclosure and barrier tests		N/A
4.4.4.6	Glass Impact tests	Glass has a construction such that glass particles do not separate from each other if the glass is broken.	N/A
4.4.4.7	Thermoplastic material tests		N/A
4.4.4.8	Air comprising a safeguard		N/A
4.4.4.9	Accessibility and safeguard effectiveness		N/A
4.5	Explosion		Pass
4.6	Fixing of conductors		N/A
4.6.1	Fix conductors not to defeat a safeguard		N/A
4.6.2	10 N force test applied to		N/A
4.7	Equipment for direct insertion into mains socket - outlets		N/A
4.7.2	Mains plug part complies with the relevant standard		N/A
4.7.3	Torque (Nm)		N/A
4.8	Products containing coin/button cell batteries		N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children removing the battery		—
4.8.4	Battery Compartment Mechanical Tests		N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5	ELECTRICALLY-CAUSED INJURY		Pass
5.2.1	Electrical energy source classifications	All circuits are classified as ES1	Pass
5.2.2	ES1, ES2 and ES3 limits		Pass
5.2.2.2	Steady-state voltage and current	See table 5.2.	Pass
5.2.2.3	Capacitance limits		N/A
5.2.2.4	Single pulse limits		N/A
5.2.2.5	Limits for repetitive pulses		N/A
5.2.2.6	Ring signals		N/A
5.2.2.7	Audio signals		N/A
5.3	Protection against electrical energy sources		N/A
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		N/A
5.3.2.1	Accessibility to electrical energy sources and safeguards		N/A
5.3.2.2	Contact requirements		N/A
	a) Test with test probe from Annex V		N/A
	b) Electric strength test potential (V)		N/A
	c) Air gap (mm)		N/A
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		Pass
5.4.1.2	Properties of insulating material	All insulations are used as functional insulation and properly used for the purpose.	Pass
5.4.1.3	Humidity conditioning		N/A
5.4.1.4	Maximum operating temperature for insulating materials	See table 5.4.1.4, 6.3.2, 9.0, B.2.6.	Pass
5.4.1.5	Pollution degree	2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage		N/A
5.4.1.9	Insulating surfaces		N/A
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		N/A
5.4.1.10.2	Vicat softening temperature		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.10.3	Ball pressure		N/A
5.4.2	Clearances		N/A
5.4.2.2	Determining clearance using peak working voltage		N/A
5.4.2.3	Determining clearance using required withstand voltage		N/A
	a) a.c. mains transient voltage		—
	b) d.c. mains transient voltage		—
	c) external circuit transient voltage		—
	d) transient voltage determined by measurement... :		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test		N/A
5.4.2.5	Multiplication factors for clearances and test voltages.....		N/A
5.4.3	Creepage distances		N/A
5.4.3.1	General		N/A
5.4.3.3	Material Group		—
5.4.4	Solid insulation		N/A
5.4.4.2	Minimum distance through insulation		N/A
5.4.4.3	Insulation compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices		N/A
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material		N/A
5.4.4.6.1	General requirements		N/A
5.4.4.6.2	Separable thin sheet material		N/A
	Number of layers (pcs)		N/A
5.4.4.6.3	Non-separable thin sheet material		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material..... :		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		N/A
5.4.4.9	Solid insulation at frequencies >30 kHz		N/A
5.4.5	Antenna terminal insulation		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (MΩ)		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		N/A
	Relative humidity (%)		—
	Temperature (°C)		—
	Duration (h)		—
5.4.9	Electric strength test.....		N/A
5.4.9.1	Test procedure for a solid insulation type test		N/A
5.4.9.2	Test procedure for routine tests		N/A
5.4.10	Protection against transient voltages between external circuit		N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test.....		N/A
5.4.10.2.3	Steady-state test		N/A
5.4.11	Insulation between external circuits and earthed circuitry		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage U_{op} (V)		—
	Nominal voltage U_{peak} (V)		—
	Max increase due to variation U_{sp}		—
	Max increase due to ageing ΔU_{sa}		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$		—
5.5	Components as safeguards		N/A
5.5.1	General	No such components provided.	N/A
5.5.2	Capacitors and RC units		N/A
5.5.2.1	General requirement		N/A
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector		N/A
5.5.3	Transformers		N/A
5.5.4	Optocouplers		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPD's		N/A
5.5.7.1	Use of an SPD connected to reliable earthing		N/A
5.5.7.2	Use of an SPD between mains and protective earth		N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable :		N/A
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors		N/A
5.6.2.1	General requirements		N/A
5.6.2.2	Colour of insulation		N/A
5.6.3	Requirement for protective earthing conductors		N/A
	Protective earthing conductor size (mm ²) :		—
5.6.4	Requirement for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm ²)..... :		—
	Protective current rating (A) :		—
5.6.4.3	Current limiting and overcurrent protective devices		N/A
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Requirement		N/A
	Conductor size (mm ²), nominal thread diameter (mm)..... :		N/A
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective system		N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method Resistance (Ω) :		N/A
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		N/A
5.7.2	Measuring devices and networks		N/A
5.7.2.1	Measurement of touch current..... :		N/A
5.7.2.2	Measurement of prospective touch voltage		N/A
5.7.3	Equipment set-up, supply connections and earth connections		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	System of interconnected equipment (separate connections/single connection).....:		—
	Multiple connections to mains (one connection at a time/simultaneous connections).....:		—
5.7.4	Earthed conductive accessible parts		N/A
5.7.5	Protective conductor current		N/A
	Supply Voltage (V)		—
	Measured current (mA)		—
	Instructional Safeguard		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits		N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits		N/A
	a) Equipment with earthed external circuits Measured current (mA)		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA)		N/A

6	ELECTRICALLY- CAUSED FIRE		Pass
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		Pass
6.2.2	Power source circuit classifications	The product is considered with resistive PIS.	Pass
6.2.2.1	General	See 6.2.2.	Pass
6.2.2.2	Power measurement for worst-case load fault.....:		N/A
6.2.2.3	Power measurement for worst-case power source fault		N/A
6.2.2.4	PS1		N/A
6.2.2.5	PS2		N/A
6.2.2.6	PS3		N/A
6.2.3	Classification of potential ignition sources		Pass
6.2.3.1	Arcing PIS		N/A
6.2.3.2	Resistive PIS	See 6.2.2.	Pass
6.3	Safeguards against fire under normal operating and abnormal operating conditions		N/A
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials.....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.3.1 (b)	Combustible materials outside fire enclosure		N/A
6.4	Safeguards against fire under single fault conditions		N/A
6.4.1	Safeguard Method		N/A
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions :		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits		N/A
6.4.5.2	Supplementary safeguards :		N/A
6.4.6	Control of fire spread in PS3 circuit		N/A
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.1	General :		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		N/A
6.4.8.1	Fire enclosure and fire barrier material properties		N/A
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure		N/A
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		N/A
6.4.8.3.1	Fire enclosure and fire barrier openings		N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm) :		N/A
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm) :		N/A
	Flammability tests for the bottom of a fire enclosure :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c)		N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating		N/A
6.5	Internal and external wiring		N/A
6.5.1	Requirements		N/A
6.5.2	Cross-sectional area (mm ²)		—
6.5.3	Requirements for interconnection to building wiring		N/A
6.6	Safeguards against fire due to connection to additional equipment		N/A
	External port limited to PS2 or complies with Clause Q.1		N/A
7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		N/A
7.2	Reduction of exposure to hazardous substances		N/A
7.3	Ozone exposure		N/A
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010)		—
7.6	Batteries		N/A
8	MECHANICALLY-CAUSED INJURY		Pass
8.1	General		Pass
8.2	Mechanical energy source classifications	See Energy source identification and classification table. Equipment mass, sharp edge and corners are classified as MS1. Laminated glass is considered without test.	Pass
8.3	Safeguards against mechanical energy sources	Unit for building-in. Shall be evaluated in end product.	N/A
8.4	Safeguards against parts with sharp edges and corners	Edges and corners are classified as MS1.	Pass
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts		N/A
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
8.5.2	Instructional Safeguard		—

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment		N/A
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks		N/A
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard		—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N)		N/A
8.5.5	High Pressure Lamps		N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test		N/A
8.6	Stability		N/A
8.6.1	Product classification		N/A
	Instructional Safeguard		—
8.6.2	Static stability		N/A
8.6.2.2	Static stability test		N/A
	Applied Force.....		—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt		—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force)		N/A
	Position of feet or movable parts		—
8.7	Equipment mounted to wall or ceiling		N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface)		N/A
8.7.2	Direction and applied force		N/A
8.8	Handles strength		N/A
8.8.1	Classification		N/A
8.8.2	Applied Force		N/A
8.9	Wheels or casters attachment requirements		N/A
8.9.1	Classification		N/A
8.9.2	Applied force.....		—

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Clause	Requirement + Test	Result - Remark	Verdict
8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard :		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force..... :		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N)..... :		—
8.10.6	Thermoplastic temperature stability (°C) :		N/A
8.11	Mounting means for rack mounted equipment		N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable N :		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas :		N/A
	Button/Ball diameter (mm) :		—

9	THERMAL BURN INJURY		Pass
9.2	Thermal energy source classifications	The surface of panel is TS1. However, the unit is for building-in and shall be evaluated in end product.	Pass
9.3	Safeguard against thermal energy sources		N/A
9.4	Requirements for safeguards		N/A
9.4.1	Equipment safeguard		N/A
9.4.2	Instructional safeguard :		N/A

10	RADIATION		Pass
10.2	Radiation energy source classification		Pass
10.2.1	General classification	RS1 for LCD panel due to the luminance of the source does not exceed 10^4 cd/m ² (typ. 450 cd/m ²).	Pass
10.3	Protection against laser radiation		N/A
	Laser radiation that exists in the equipment:		—
	Normal, abnormal, single-fault :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Instructional safeguard..... :		—
	Tool :		—
10.4	Protection against visible, infrared, and UV radiation	RS1 for LCD panel.	Pass
10.4.1	General		Pass
10.4.1.a)	RS3 for Ordinary and instructed persons :		N/A
10.4.1.b)	RS3 accessible to a skilled person :		N/A
	Personal safeguard (PPE) instructional safeguard :		—
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1 :	RS1 for LCD panel.	Pass
10.4.1.d)	Normal, abnormal, single-fault conditions :		N/A
10.4.1.e)	Enclosure material employed as safeguard is opaque :		N/A
10.4.1.f)	UV attenuation :		N/A
10.4.1.g)	Materials resistant to degradation UV..... :		N/A
10.4.1.h)	Enclosure containment of optical radiation :		N/A
10.4.1.i)	Exempt Group under normal operating conditions :		N/A
10.4.2	Instructional safeguard :		N/A
10.5	Protection against x-radiation		N/A
10.5.1	X- radiation energy source that exists equipment :		N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards :		N/A
	Instructional safeguard for skilled person :		N/A
10.5.3	Most unfavourable supply voltage to give maximum radiation..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Abnormal and single-fault condition.....:		N/A
	Maximum radiation (pA/kg)		N/A
10.6	Protection against acoustic energy sources		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A)		N/A
	Output voltage, unweighted r.m.s.:		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards		N/A
	Equipment safeguard prevent ordinary person to RS2		—
	Means to actively inform user of increase sound pressure		—
	Equipment safeguard prevent ordinary person to RS2		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analog input		N/A
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A)		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A)		—

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		Pass
B.2	Normal Operating Conditions		Pass
B.2.1	General requirements	(See Test Item Particulars and appended test tables)	Pass
	Audio Amplifiers and equipment with audio amplifiers.....:		N/A
B.2.3	Supply voltage and tolerances		N/A
B.2.5	Input test	(See appended table B.2.5)	Pass
B.3	Simulated abnormal operating conditions		N/A
B.3.1	General requirements		N/A
B.3.2	Covering of ventilation openings		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.3.3	D.C. mains polarity test		N/A
B.3.4	Setting of voltage selector.....:		N/A
B.3.5	Maximum load at output terminals.....:		N/A
B.3.6	Reverse battery polarity		N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions		N/A
B.4	Simulated single fault conditions		Pass
B.4.2	Temperature controlling device open or short-circuited.....:		N/A
B.4.3	Motor tests		N/A
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature		N/A
B.4.4	Short circuit of functional insulation		Pass
B.4.4.1	Short circuit of clearances for functional insulation		Pass
B.4.4.2	Short circuit of creepage distances for functional insulation		Pass
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors		N/A
B.4.6	Short circuit or disconnect of passive components		N/A
B.4.7	Continuous operation of components		N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions		Pass
B.4.9	Battery charging under single fault conditions.....:		N/A
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
D	TEST GENERATORS		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A
E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		N/A
E.1	Audio amplifier normal operating conditions		N/A
	Audio signal voltage (V)		—
	Rated load impedance (Ω)		—
E.2	Audio amplifier abnormal operating conditions		N/A
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		Pass
F.1	General requirements		Pass
	Instructions – Language	English	—
F.2	Letter symbols and graphical symbols		Pass
F.2.1	Letter symbols according to IEC60027-1		Pass
F.2.2	Graphic symbols IEC, ISO or manufacturer specific		Pass
F.3	Equipment markings		Pass
F.3.1	Equipment marking locations		Pass
F.3.2	Equipment identification markings		Pass
F.3.2.1	Manufacturer identification	AUO or AU Optronics or AUO Corporation or ADP or AUO Display Plus	—
F.3.2.2	Model identification	G156HANZZZZ, G156HTNZZZZ, G156XTNZZZZ, G156XTTZZZZ, G156HATZZZZ (where Z may be any alphanumeric character or a dot or blank for marketing purpose only, and no impact safety related constructions and critical components)	—
F.3.3	Equipment rating markings		Pass
F.3.3.1	Equipment with direct connection to mains		N/A
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of supply voltage	DC	—
F.3.3.4	Rated voltage	(Optional) 12Vdc	—
F.3.3.5	Rated frequency	N/A	—

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.3.6	Rated current or rated power	(Optional) 1. 12 Vdc, 0.8 A (with LED Driver Board, P/N.: 15G20-CXX or 15G19-CXX, X=0-9, A-Z) 2. 12 Vdc, 0.4 A (with LED Driver Board, P/N.: 15B61-CXX, X=0-9, A-Z) 3. 12 Vdc, 0.87 A (with LED Driver Board, P/N.: 15G25-CXX, X=0-9, A-Z) 4. 12 Vdc, 0.48 A (with LED Driver Board, P/N.: 15G18-CXX, X=0-9, A-Z, except for 04) 5. 12 Vdc, 0.48 A (with LED Driver Board, P/N.: 15G18-C04) 6. 24 Vdc, 1.25 A (with LED Driver Board, P/N.: 15G48-CXX, X may be 0-9, A-Z or blank) 7. 12 Vdc, 0.34 A (with LED Driver Board, P/N.: 15B57-CXX, X=0-9, A-Z or blank) 8. 12 Vdc, 1 A (with LED Driver Board, P/N.: 15G51-CXX, X=0-9, A-Z or blank)	—
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device		N/A
F.3.5	Terminals and operating devices		N/A
F.3.5.1	Mains appliance outlet and socket-outlet markings.....		N/A
F.3.5.2	Switch position identification marking		N/A
F.3.5.3	Replacement fuse identification and rating markings.....		N/A
F.3.5.4	Replacement battery identification marking		N/A
F.3.5.5	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification		N/A
F.3.6.1	Class I Equipment		N/A
F.3.6.1.1	Protective earthing conductor terminal		N/A
F.3.6.1.2	Neutral conductor terminal		N/A
F.3.6.1.3	Protective bonding conductor terminals		N/A
F.3.6.2	Class II equipment (IEC60417-5172)		N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking :		—
F.3.8	External power supply output marking		N/A
F.3.9	Durability, legibility and permanence of marking	All markings provided on UL Recognized Component labels suitable for surface they are applied upon.	Pass
F.3.10	Test for permanence of markings		Pass
F.4	Instructions		N/A
	a) Equipment for use in locations where children not likely to be present - marking	Unit for building-in. Shall be evaluated in end product.	N/A
	b) Instructions given for installation or initial use		N/A
	c) Equipment intended to be fastened in place		N/A
	d) Equipment intended for use only in restricted access area		N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1		N/A
	f) Protective earthing employed as safeguard		N/A
	g) Protective earthing conductor current exceeding ES 2 limits		N/A
	h) Symbols used on equipment		N/A
	i) Permanently connected equipment not provided with all-pole mains switch		N/A
	j) Replaceable components or modules providing safeguard function		N/A
F.5	Instructional safeguards		N/A
	Where “instructional safeguard” is referenced in the test report it specifies the required elements, location of marking and/or instruction		N/A
G	COMPONENTS		N/A
G.1	Switches		N/A
G.1.1	General requirements		N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.2	Relays		N/A
G.2.1	General requirements		N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supply power		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.2.4	Mains relay, modified as stated in G.2		N/A
G.3	Protection Devices		N/A
G.3.1	Thermal cut-offs		N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691		N/A
G.3.2.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H)		—
	Single Fault Condition		—
	Test Voltage (V) and Insulation Resistance (Ω) ..		—
G.3.3	PTC Thermistors		N/A
G.3.4	Overcurrent protection devices		N/A
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions		N/A
G.4	Connectors		N/A
G.4.1	Spacings		N/A
G.4.2	Mains connector configuration		N/A
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		N/A
G.5	Wound Components		N/A
G.5.1	Wire insulation in wound components		N/A
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°		N/A
G.5.1.2 b)	Construction subject to routine testing		N/A
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s)		—
	Temperature (°C)		—

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.2.3	Wound Components supplied by mains		N/A
G.5.3	Transformers		N/A
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1)		N/A
	Position		—
	Method of protection		—
G.5.3.2	Insulation		N/A
	Protection from displacement of windings		—
G.5.3.3	Overload test.....		N/A
G.5.3.3.1	Test conditions		N/A
G.5.3.3.2	Winding Temperatures testing in the unit		N/A
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	Motors		N/A
G.5.4.1	General requirements		N/A
	Position		—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days)		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V).....		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h)		N/A
	Electric strength test (V).....		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature		N/A
	Electric strength test (V)		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h)		N/A
	Electric strength test (V).....		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.9	Series motors		N/A
	Operating voltage		—
G.6	Wire Insulation		N/A
G.6.1	General		N/A
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements		N/A
	Type		—
	Rated current (A)		—
	Cross-sectional area (mm ²), (AWG)		—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N)		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm) ... :		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g)		—
	Diameter (m)		—
	Temperature (°C)		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	Varistors		N/A
G.8.1	General requirements		N/A
G.8.2	Safeguard against shock		N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test		N/A
G.8.3.3	Temporary overvoltage		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.9	Integrated Circuit (IC) Current Limiters		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.		N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA :		—
G.9.1 d)	IC limiter output current (max. 5A) :		—
G.9.1 e)	Manufacturers' defined drift :		—
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A
G.9.4	Test Program 3		N/A
G.10	Resistors		N/A
G.10.1	General requirements		N/A
G.10.2	Resistor test		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
G.11	Capacitor and RC units		N/A
G.11.1	General requirements		N/A
G.11.2	Conditioning of capacitors and RC units		N/A
G.11.3	Rules for selecting capacitors		N/A
G.12	Optocouplers		N/A
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results) :		N/A
	Type test voltage Vini :		—
	Routine test voltage, Vini,b :		—
G.13	Printed boards		N/A
G.13.1	General requirements		N/A
G.13.2	Uncoated printed boards		N/A
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction) :		—

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Clause	Requirement + Test	Result - Remark	Verdict
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation..... :		N/A
	Number of insulation layers (pcs) :		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements :		N/A
G.15	Liquid filled components		N/A
G.15.1	General requirements		N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
G.16 a)	Humidity treatment in accordance with sc 5.4.8 – 120 hours		N/A
G.16 b)	Impulse test using circuit 2 with $U_c =$ to transient voltage :		N/A
G.16 C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
G.16 C2)	Test voltage :		—
G.16 D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
G.16 D2)	Capacitance :		—
G.16 D3)	Resistance :		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringling signal		N/A
H.3.1.1	Frequency (Hz)		—
H.3.1.2	Voltage (V)		—
H.3.1.3	Cadence; time (s) and voltage (V)		—
H.3.1.4	Single fault current (mA):		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V).....		—
J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		N/A
	General requirements		N/A
K	SAFETY INTERLOCKS		N/A
K.1	General requirements		N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method.....		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location)		N/A
K.7.2	Overload test, Current (A).....		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A
L	DISCONNECT DEVICES		N/A
L.1	General requirements		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single phase equipment		N/A
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A
L.8	Multiple power sources		N/A
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		N/A
M.1	General requirements		N/A
M.2	Safety of batteries and their cells		N/A
M.2.1	Requirements		N/A
M.2.2	Compliance and test method (identify method) .. :		N/A
M.3	Protection circuits		N/A
M.3.1	Requirements		N/A
M.3.2	Tests		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
M.3.3	Compliance		N/A
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature		—
M.4.2.2 b)	Single faults in charging circuitry		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current		N/A
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method)		N/A
M.6.2	Leakage current (mA)		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A
M.8	Protection against internal ignition from external spark sources of lead acid batteries		N/A
M.8.1	General requirements		N/A
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume V_z (m ³ /s)		—
M.8.2.3	Correction factors		—
M.8.2.4	Calculation of distance d (mm)		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing)		N/A
N	ELECTROCHEMICAL POTENTIALS		N/A
	Metal(s) used		—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		Pass
	Figures O.1 to O.20 of this Annex applied.....	Pollution degree considered	—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		N/A
P.1	General requirements		N/A
P.2.2	Safeguards against entry of foreign object		N/A
	Location and Dimensions (mm) :		—
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment		N/A
	Transportable equipment with metalized plastic parts :		N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard) :		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts		N/A
P.4.2 a)	Conditioning testing		N/A
	Tc (°C)..... :		—
	Tr (°C) :		—
	Ta (°C) :		—
P.4.2 b)	Abrasion testing :		N/A
P.4.2 c)	Mechanical strength testing :		N/A
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		N/A
Q.1	Limited power sources		N/A
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		N/A
	- Regulating network limited output under normal operating and simulated single fault condition		N/A
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method		N/A
Q.2	Test for external circuits – paired conductor cable		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Maximum output current (A)		—
	Current limiting method.....		—
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General requirements		N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A).		N/A
S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (°C)		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Conditioning (°C)		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material		—
	Wall thickness (mm)		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosure materials of equipment with a steady-state power exceeding 4000 W		N/A
	Samples, material		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Wall thickness (mm)		—
	Conditioning (test condition), (°C).....		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A
T	MECHANICAL STRENGTH TESTS		N/A
T.1	General requirements		N/A
T.2	Steady force test, 10 N		N/A
T.3	Steady force test, 30 N		N/A
T.4	Steady force test, 100 N		N/A
T.5	Steady force test, 250 N		N/A
T.6	Enclosure impact test		N/A
	Fall test		N/A
	Swing test		N/A
T.7	Drop test		N/A
T.8	Stress relief test		N/A
T.9	Impact Test (glass)		N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J)		—
	Height (m).....		—
T.10	Glass fragmentation test.....		N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm)		—
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General requirements		N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen		N/A
V	DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)		N/A
V.1	Accessible parts of equipment		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
V.2	Accessible part criterion		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.1.2	TABLE: List of critical components					Pass
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	
LCD Panel	Interchangeable	Interchangeable	TFT-LCD Type, 15.6 inch	--	-- , --	
Metal Enclosure / Chassis	Interchangeable	Interchangeable	Steel Metal or Aluminum	--	-- , --	
PWB	Tripod (Wuxi) Electronic Co. Ltd.	2-9	V-0, 130 degree C	UL 796: 2009	UL , --	
PWB (Alternative)	Interchangeable	Interchangeable	Minimum V-1 or better, 130 degree C min,	UL 796: 2016	UL , --	
Label	Interchangeable	Interchangeable	Min. 85 degree C if maximum surface temperature not specified.	UL 969: 2017	UL , --	
LED driver board (Optional)	AU Optronics Corp.	15G20-CXX (X = 0-9, A-Z)	I/P: 12Vdc, 0.8A max.	--	-- , --	
LED driver board (Optional) (Alternative)	AU Optronics Corp.	15G19-CXX (X = 0-9, A-Z)	I/P: 12Vdc, 0.8A max.	--	-- , --	
LED driver board (Optional) (Alternative)	AU Optronics Corp.	15B61-CXX (X = 0-9, A-Z)	I/P: 12Vdc, 0.4A max.	--	-- , --	
LED driver board (Optional) (Alternative)	AU Optronics Corp.	15G25-CXX (X may be 0-9, A-Z or blank)	I/P: 12Vdc, 0.87A max.	--	-- , --	
LED driver board (Optional) (Alternative)	AU Optronics Corp.	15G18-CXX (X may be 0-9, A-Z or blank except for 04)	Rating: 12 Vdc, 0.48 A max.	--	-- , --	
LED driver board (Optional) (Alternative)	AU Optronics Corp.	15G18-C04	Rating: 12 Vdc, 0.48 A max.	--	-- , --	
LED driver board (Optional) (Alternative)	AU Optronics Corp.	15G48-CXX (X may be 0-9, A-Z or blank)	Rating: 24 Vdc, 1.25 A max.	--	-- , --	
LED driver board (Optional) (Alternative)	AUO	15B57-CXX (X=0- 9, A-Z or blank)	Rating: 12 Vdc, 0.34A max.	--	-- , --	

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾
LED driver board (Optional) (Alternative)	AUO	15G51-CXX (X=0-9, A-Z or blank)	Rating: 12 Vdc, 1A max.	--	-- , --
Mylar / Cover film for PCBA (Optional)	Interchangeable	Interchangeable	Rated V-2 minimum or VTM- 2 minimum	UL 94: 2018, UL 746C: 2018, UL 510: 2019	UL , --

Supplementary information:

- 1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.
- 2) The CBTL has verified the component information.

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests		N/A
(The following mechanical tests are conducted in the sequence noted.)			
4.8.4.2	TABLE: Stress Relief test		—
	Part	Material	Oven Temperature (°C)
4.8.4.3	TABLE: Battery replacement test		—
	Battery part no. :		—
	Battery Installation/withdrawal	Battery Installation/Removal Cycle	Comments
		1	
		2	
		3	
		4	
		5	
		6	
		8	
		9	
		10	
4.8.4.4	TABLE: Drop test		—
	Impact Area	Drop Distance	Drop No.
			1
			2
			3
4.8.4.5	TABLE: Impact		—
	Impacts per surface	Surface tested	Impact energy (Nm)
4.8.4.6	TABLE: Crush test		—
	Test position	Surface tested	Crushing Force (N)
			Duration force applied (s)
Supplementary information:			

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.8.5	TABLE: Lithium coin/button cell batteries mechanical test result			N/A
Test position	Surface tested	Force (N)	Duration force applied (s)	
Supplementary information:				

5.2	Table: Classification of electrical energy sources						Pass
5.2.2.2 – Steady State Voltage and Current conditions							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
LED driver board P/N: 15G20-C02	12 Vdc	1) Before L402 (VLED_IN) to GND	Normal	1) 12.0 Vdc 2) 36.2 Vpk 3) 28.0 Vdc	--	--	1
		2) After L402 (LED_LX) to GND	Abnormal	--	--	--	
		3) After D401 (V_OUT) to GND	Single fault – SC/OC	--	--	--	
LED driver board P/N: 15G19-C05	12 Vdc	1) Before LB2 (VLED_IN) to GND	Normal	1) 12.0 Vdc 2) 41.6 Vpk 3) 32.4 Vdc	--	--	1
		2) After LB2 (LED_LX) to GND	Abnormal	--	--	--	
		3) After DB1 (V_OUT) to GND	Single fault – SC/OC	--	--	--	
LED driver board P/N: 15B61-C0B	12 Vdc	1) Voltage before L401 to GND	Normal	1) 12.0 Vdc 2) 28.4 Vpk 3) 22.6 Vdc			1
		2) Voltage after L401 to GND	Abnormal	--	--	--	
		3) Voltage after D401 to GND (V_OUT to GND)	Single fault – SC/OC	--	--	--	
LED driver board	12 Vdc	1) VLED_IN to return	Normal	1) 12.2 Vdc 2) 24.2 Vpk 3) 33.6 Vpk	--	--	1

IEC 62368-1							
Clause	Requirement + Test			Result - Remark		Verdict	
P/N: 15G25-C01		2) After L4 to return 3) After L5 to return 4) After D10 (V_OUT) to return	Abnormal	4) 28.2 Vdc	--	--	
			Single fault – SC/OC	--	--	--	
LED driving board P/N 15G18-C02	12 Vdc	1) VLED_IN to return 2) After L402 to return 3) After D401 (V_OUT) to return	Normal	1) 12.1 Vdc 2) 27.2 Vpk 3) 24.6 Vdc	--	--	1
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
LED driving board P/N 15G18-C04	12 Vdc	1) Before L402 to GND 2) After L402 to GND 3) After D401 (V_OUT to GND)	Normal	1) 12 Vdc 2) 24.6 Vpk 3) 23.8 Vdc	--	--	1
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
EUT with LED driver board 15G48-C50	24 Vdc	1) VLED to return 2) After L501 to return 3) After D501 to return	Normal	1) 24.0 Vrms 2) 28.0 Vpk 3) 26.4 Vdc	--	--	1
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
EUT with LED driver board (15B57-C08)	12 Vdc	1) Before L401 to GND 2) After L401 Before D401 to GND 3) After D401 to GND	Normal	1) 12.3 Vdc 2) 29.8 Vpk 3) 25.4 Vdc		--	1
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
EUT with LED driver board (15G51-C00)	12 Vdc	1) Before L502 to GND 2) After L502 before L503 3) After L502 before D502 4) After D502 to GND	Normal	1) 12.2 Vdc 2) 28 Vpk 3) 34.8 Vpk 4) 29.2 Vdc	--	--	1
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
5.2.2.3 - Capacitance Limits							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class	
				Capacitance, nF	Upk (V)		

IEC 62368-1							
Clause	Requirement + Test			Result - Remark		Verdict	
--	--	--	Normal	--	--	--	
			Abnormal	--	--		
			Single fault – SC/OC	--	--		
5.2.2.4 - Single Pulses							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
5.2.2.5 - Repetitive Pulses							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	Ipk (mA)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	
Test Conditions: Normal – Abnormal -							
Supplementary information: SC=Short Circuit, OC=Open Circuit							
Test Conditions: Normal – N/A Abnormal – N/A							
Supplementary information: SC=Short Circuit, OC=Short Circuit							
*Unit shutdown, the measured voltage is the same as input voltage.							

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements						Pass
	Supply voltage (V)	See below	See below	--	--	--	—
	Ambient T _{min} (°C)	See below	See below	--	--	--	—
	Ambient T _{max} (°C)	See below	See below	--	--	--	—

IEC 62368-1						
Clause	Requirement + Test	Result - Remark			Verdict	
	Tma (°C) :	See below	See below	--	--	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T _{max} (°C)
EUT with LED driver board (15G20-C02)		--	--	--	--	--
Supply voltage (V)		12 Vdc	12 Vdc	--	--	--
L402		40.3	103	--	--	105
D401		33.4	96.1	--	--	105
U401		22.3	85	--	--	105
Panel rear metal part		33.3	96	--	--	--
Ambient		22.3	Shift to 85	--	--	--
Touch temperature		--	--	--	--	--
Panel front side (Central)		27.2	29.9	--	--	60
Ambient		22.3	Shift to 25	--	--	--
EUT with LED driver board (15G19-C05)		--	--	--	--	--
Supply voltage (V)		12 Vdc	12 Vdc	--	--	--
LB2		41.9	104.6	--	--	105
DB1		36.6	99.3	--	--	105
U1		22.3	85	--	--	105
Panel rear metal part		34.4	97.1	--	--	--
Ambient		22.3	Shift to 85	--	--	--
Touch temperature		--	--	--	--	--
Panel front side (Central)		27.0	29.7	--	--	60
Ambient		22.3	Shift to 25	--	--	--
EUT with LED driver board (15B61-C0B)		--	--	--	--	--
Supply voltage (V)		12 Vdc	12 Vdc	--	--	--
L401		36.4	99	--	--	105
U401		31.1	93.7	--	--	105
L201		30.4	93	--	--	105
U201		28.8	91.4	--	--	105
Panel rear metal part		24.0	86.6	--	--	--
Ambient		22.4	Shift to 85	--	--	--
Touch temperature		--	--	--	--	--
Panel front side (Central)		22.4	25.0	--	--	60
Ambient		22.4	Shift to 25	--	--	--
EUT with LED driver board (15G25-C01)		--	--	--	--	--

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Supply voltage (V)	12 Vdc	12 Vdc	--	--	--
L5	36.4	103	--	--	105
D10	34.5	101.1	--	--	105
Q7	33.7	100.3	--	--	105
U7	31.6	98.2	--	--	105
Internal Metal Part	31.9	98.5	--	--	--
Ambient	18.4	Shift to 85	--	--	--
Touch temperature	--	--	--	--	--
External Panel Surface	25.1	31.7	--	--	60
Ambient	18.4	Shift to 25	--	--	--
EUT with LED driver board (15G18-C02)	--	--	--	--	--
Supply voltage (V)	12 Vdc	12 Vdc	--	--	--
L402	42.5	100.0	--	--	105
U401	40.7	98.2	--	--	105
D401	39.6	97.1	--	--	105
Internal Metal Part	29.2	86.7	--	--	--
Ambient	27.5	Shift to 85	--	--	--
Touch temperature	--	--	--	--	--
External Panel Surface	33.2	--	--	--	60
Ambient	27.5	--	--	--	--
EUT with LED driver board (15G18-C04)	--	--	--	--	--
Supply voltage (V)	12 Vdc	12 Vdc	--	--	--
L401	39.3	100.4	--	--	105
D401	35.4	96.5	--	--	105
U401	37.6	98.7	--	--	105
Internal metal part	25.9	87.0	--	--	--
Ambient	23.9	Shift to 85	--	--	--
Touch temperature	--	--	--	--	--
External Panel Surface	31.6	32.7	--	--	60
Ambient	23.9	Shift to 25	--	--	--
EUT with LED driver board 15G48-C50	--	--	--	--	--
Supply voltage (V)	24 Vdc	24 Vdc	--	--	--
L502	39.7	102.8	--	--	130
D502	45.2	108.3	--	--	130
Q501	44.2	107.3	--	--	130

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
U502	59.2	122.3	--	--	130
L501	45.9	109.0	--	--	130
Q502	50.2	113.3	--	--	130
Panel rear metal chassis	34.2	97.3	--	--	--
Ambient	21.9	Shift to 85.0	--	--	--
Touch temperature	--	--	--	--	--
Panel external surface (Display area central)	30.5	33.6	--	--	60
Ambient	21.9	Shift to 25.0	--	--	--
EUT with LED driver board (15B57-C08)	--	--	--	--	--
Supply voltage (V)	12 Vdc	12 Vdc	--	--	--
U401	41.9	68.6	--	--	105
L401	43.6	70.3	--	--	105
D401	41.6	68.3	--	--	105
Internal Panel Part	24.6	51.3	--	--	--
Ambient	23.3	Shift to 50	--	--	--
Touch Temperature	--	--	--	--	--
External Panel Surface	31.7	33.4	--	--	60
Ambient	23.3	Shift to 25	--	--	--
EUT with LED driver board (15G51-C00)	--	--	--	--	--
Supply voltage (V)	12 Vdc	12 Vdc	--	--	--
L502	49.8	85.2	--	--	105
L503	54.3	89.7	--	--	105
Q501	49.2	84.6	--	--	105
D502	48.8	84.2	--	--	105
U501	48.8	84.2	--	--	105
Internal Metal Part	36.7	72.1	--	--	--
Ambient	24.6	Shift to 60.0	--	--	--
Touch Temperature	--	--	--	--	--
External Panel Surface	28.6	29	--	--	60
Ambient	24.6	Shift to 25.0	--	--	--
Supplementary information:					

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Clause	Requirement + Test	Result - Remark	Verdict

N/A

Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
--	--	--	--	--	--	--	--

Supplementary information:

Supplementary information:

Note 1: Tma should be considered as directed by applicable requirement

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)

- With a specified maximum ambient temperature and test temperature of 85°C, the maximum permitted temperatures are calculated.

- With a specified maximum ambient temperature and test temperature of 50°C for product equipped with LED Driver Board P/N: 15B57-CXX, X=0 -9, A-Z or blank, the maximum permitted temperatures are calculated.

- With a specified maximum ambient temperature and test temperature of 60°C for product equipped with LED Driver Board P/N: 15G51-CXX, X=0 -9, A-Z or blank, the maximum permitted temperatures are calculated.

During the test, the sealing compound did not soften or melt.

5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics			N/A
Penetration (mm).....:				—
Object/ Part No./Material		Manufacturer/t rademark	T softening (°C)	
Supplementary information:				

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics			N/A
Allowed impression diameter (mm)		≤ 2 mm		—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)	
Supplementary information:				

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance						N/A
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz) ¹	Required cl (mm)	cl (mm) ²	Required ³ cr (mm)	cr (mm)
Supplementary information:							

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

--

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage			N/A
	Overvoltage Category (OV):			
	Pollution Degree:			
Clearance distanced between:		Required withstand voltage	Required cl (mm)	Measured cl (mm)
Supplementary information:				

5.4.2.4	TABLE: Clearances based on electric strength test			N/A
Test voltage applied between:		Required cl (mm)	Test voltage (kV) peak/ r.m.s. / d.c.	Breakdown Yes / No
Supplementary information:				

5.4.4.2, 5.4.4.5 c) 5.4.4.9	TABLE: Distance through insulation measurements					N/A
Distance through insulation di at/of:	Peak voltage (V)	Frequency (kHz)	Material	Required DTI (mm)	DTI (mm)	
Supplementary information:						

5.4.9	TABLE: Electric strength tests			N/A
Test voltage applied between:		Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
Functional:				
Basic/supplementary:				
Reinforced:				
Routine Tests:				

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

5.5.2.2	TABLE: Stored discharge on capacitors					N/A
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification	
Supplementary information:						
X-capacitors installed for testing are: [] bleeding resistor rating: [] ICX: Notes: A. Test Location: Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth B. Operating condition abbreviations: N – Normal operating condition (e.g., normal operation, or open fuse); S –Single fault condition						

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Clause	Requirement + Test	Result - Remark	Verdict

5.6.6.2	TABLE: Resistance of protective conductors and terminations			N/A
Accessible part	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)
Supplementary information:				

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part		N/A
Supply voltage		—	
Location	Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)	
	1		
	2*		
	3		
	4		
	5		
	6		
	8		
Supplementary Information:			
Notes: [1] Supply voltage is the anticipated maximum Touch Voltage [2] Earthed neutral conductor [Voltage differences less than 1% or more] [3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3 [4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable. [5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided. [6] Tested by TN power system was considered to also represent the test condition by IT power system regarding to IEC 60950-1, Clause 5.1.3. If any further investigation considered necessarily, it may be performed during national approval.			

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Clause	Requirement + Test	Result - Remark	Verdict

6.2.2	Table: Electrical power sources (PS) measurements for classification				N/A
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s*)	PS Classification
		Power (W) :			
		V _A (V) :			
		I _A (A) :			
Supplementary Information:					
(*) Measurement taken only when limits at 3 seconds exceed PS1 limits.					
(**) For worst case power source fault results are shut down.					

6.2.3.1	Table: Determination of Potential Ignition Sources (Arcing PIS)				N/A
Location		Open circuit voltage After 3 s (V _p)	Measured r.m.s current (I _{rms})	Calculated value (V _p × I _{rms})	Arcing PIS? Yes / No
Supplementary information:					
An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V _p) and normal operating condition rms current (I _{rms}) is greater than 15.					

6.2.3.2	Table: Determination of Potential Ignition Sources (Resistive PIS)				N/A
Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No
Supplementary Information:					
A combination of voltmeter, VA and ammeter I _A may be used instead of a wattmeter.					
If a separate voltmeter and ammeter are used, the product of (V _A × I _A) is used to determine Resistive PIS classification.					
A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.					

8.5.5	TABLE: High Pressure Lamp		N/A
Description		Values	Energy Source Classification
Lamp type			—
Manufacturer			—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
Cat no.:			—
Pressure (cold) (MPa)			
Pressure (operating) (MPa)			
Operating time (minutes)			—
Explosion method			—
Max particle length escaping enclosure (mm) .:			
Max particle length beyond 1 m (mm).....:			
Overall result			
Supplementary information:			

B.2.5 TABLE: Input test								Pass
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
--	--	--	--	--	--	--	--	EUT with LED driver board (15G20-C02)
12 Vdc	--	0.64	0.8	7.68	--	--	--	Max. normal load. (For LED driver board)
--	--	--	--	--	--	--	--	EUT with LED driver board (15G19-C05)
12 Vdc	--	0.72	0.8	8.64	--	--	--	Max. normal load. (For LED driver board)
--	--	--	--	--	--	--	--	EUT with LED driver board (15B61-C0B)
12 Vdc	--	0.24	0.4	2.88	--	--	--	Max. normal load. (For LED driver board)
--	--	--	--	--	--	--	--	EUT with LED driver board (15G25-C01)
12 Vdc	--	0.69	0.87	8.28	--	--	--	Max. normal load. (For LED driver board)
--	--	--	--	--	--	--	--	EUT with LED driver board (15G18-C02)

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Clause	Requirement + Test				Result - Remark			Verdict
12 Vdc	--	0.4	0.48	4.8	--	--	--	Max. normal load. (For LED driver board)
--	--	--	--	--	--	--	--	EUT with LED driver board (15G18-C04)
12 Vdc	--	0.4	0.48	4.8	--	--	--	Max. normal load. (For LED driver board)
--	--	--	--	--	--	--	--	EUT with LED driver board 15G48-C50
24 Vdc	--	0.835	1.25	20.4	--	--	--	Maximum normal load
--	--	--	--	--	--	--	--	G185HAN01.3 with LED driver board 18G06-C01
12 Vdc	--	0.28	0.34	3.36	--	--	--	With maximum LED backlight load (Test on LED driver board 15B57-C08)
--	--	--	--	--	--	--	--	G156HAN05.0 with LED driver board 15G51-C00
12 Vdc	--	0.86	1	10.32	--	--	--	With maximum LED backlight load (Test on LED driver board 15G51-C00)
Supplementary information:								
Maximum normal load: With screen full raster, maximum brightness and contrast and operated continuously.								

B.3	TABLE: Abnormal operating condition tests								N/A
Ambient temperature (°C)									—
Power source for EUT: Manufacturer, model/type, output rating ...:									—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation	
Supplementary information:									
Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column "Abnormal/Fault." Specify if test condition by indicating "Abnormal" then the condition for a Clause B.3 test or "Single Fault" then the condition for Clause B.4.									
Results Key: NB=No indication of dielectric breakdown; NC=Cheesecloth remained intact; NT=Tissue paper remained intact; IP=Internal protection operated (list component); CD=Components damaged (list damaged									

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Clause	Requirement + Test	Result - Remark	Verdict

components); @ = Tests were repeated 2 more times (Totally 3 times) and get the same result; I/P = Input; O/P = Output; OL=Overload.

B.4	TABLE: Fault condition tests							Pass
Ambient temperature (°C)					See below			—
Power source for EUT: Manufacturer, model/type, output rating ...:					--			—
Component No.	Fault Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
--	--	--	--	--	--	--	--	EUT with LED driver board (15G20-C02)
L402	Short	12 Vdc	10 sec	--	--	--	--	LED backlight shutdown, NC. NT.
D401	Short	12 Vdc	10 sec	--	--	--	--	LED backlight shutdown, NC. NT.
R403	Short	12 Vdc	10 sec	--	--	--	--	LED backlight shutdown, NC. NT.
R405	Short	12 Vdc	10 sec	--	--	--	--	LED backlight shutdown, NC. NT.
--	--	--	--	--	--	--	--	EUT with LED driver board (15G19-C05)
LB2	Short	12 Vdc	10 sec	--	--	--	--	LED backlight shutdown, NC. NT.
DB1	Short	12 Vdc	10 sec	--	--	--	--	LED backlight shutdown, NC. NT.
RB3	Short	12 Vdc	10 sec	--	--	--	--	LED backlight shutdown, NC. NT.
RB5	Short	12 Vdc	10 sec	--	--	--	--	LED backlight shutdown, NC. NT.
Supplementary information:								
Results Key: NB=No indication of dielectric breakdown; NC=Cheesecloth remained intact; NT=Tissue paper remained intact; IP=Internal protection operated (list component); CD=Components damaged (list damaged components); @ = Tests were repeated 2 more times (Totally 3 times) and get the same result; I/P = Input; O/P = Output, NSF=No Ignition, TC=Touch Current measured. OL=Overload.								

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
Annex Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)					N/A
Note: Measured UOC (V) with all load circuits disconnected:						
Output Circuit	Components	U _{oc} (V)	I _{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
Supplementary Information:						
SC=Short circuit, OC=Open circuit						

T.2, T.3, T.4, T.5	TABLE: Steady force test					N/A
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	
Supplementary information:						

T.6, T.9	TABLE: Impact tests				N/A
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation	
Supplementary information:					

T.7	TABLE: Drop tests				N/A
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation	
Supplementary information:					

T.8	TABLE: Stress relief test					N/A
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation	

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

List of test equipment used:

A completed list of used test equipment shall be provided in the Test Reports when a Manufacturer Testing Laboratory according to CTF stage 1 or CTF stage 2 procedure has been used.

Clause	Measurement / testing	Testing / measuring equipment / material used	Range used	Calibration date
(Refer to Enclosure Miscellaneous ID 07-01)	--	--	--	--

Enclosure
National Differences

Australia / New Zealand

EU Group and National Differences

Japan

USA / Canada

IEC62368_1D – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT	
IEC 62368-1	
(AUSTRALIA / NEW ZEALAND) NATIONAL DIFFERENCES	
(Audio/video, information and communication technology equipment)	
Differences according to	AS/NZS 62368.1:2018
TRF template used	IECEE OD-2020-F3, Ed. 1.1
Attachment Form No.	AU_NZ_ND_IEC62368_1D
Attachment Originator	JAS-ANZ
Master Attachment	2022-05-01
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	NATIONAL DIFFERENCES	Pass
Appendix ZZ	Variations to IEC 62368-1:2014 (ED. 2.0) for Australia and New Zealand	Pass
ZZ1 Scope	This Appendix lists the normative variations to IEC 62368-1:2014 (ED. 2.0)	Pass
ZZ2 Variations	The following modifications are required for Australian/New Zealand conditions:	Pass
2	Add the following to the list of normative references: The following normative documents are referenced in Appendix ZZ: -AS/NZS 3112, <i>Approval and test specification—Plugs and socket-outlets</i> -AS/NZS 3123, <i>Approval and test specification—Plugs, socket-outlets and couplers for general industrial application</i> -AS/NZS 3191, <i>Electric flexible cords</i> -AS/NZS 60065, <i>Audio, video and similar electronic apparatus—Safety requirements (IEC 60065:2015 (ED.8.0) MOD)</i> -AS/NZS 60320.1, <i>Appliance couplers for household and similar general purposes, Part 1: General requirements (IEC 60320-1, Ed.2.1 (2007) MOD)</i> -AS/NZS 60320.2.2, <i>Appliance couplers for household and similar general purposes Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-2, Ed.2.0 (1998) MOD)</i> -AS/NZS 60695.2.11, <i>Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—</i>	N/A

IEC62368_1D – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<i>Glow-wire flammability test method for end-products</i> -AS/NZS 60695.11.5, <i>Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance</i> -AS/NZS 60695.11.10, <i>Fire hazard testing, Part 11.10: Test flames—50 W horizontal and vertical flame test methods</i> -AS/NZS 60884.1, <i>Plugs and socket-outlets for household and similar purposes, Part 1: General requirements</i> -AS/NZS 60950.1:2015, <i>Information technology equipment—Safety, Part 1: General requirements (IEC 60950-1, Ed.2.2 (2013), MOD)</i> IEC 61032:1997, <i>Protection of persons and equipment by enclosures—Probes for verification</i> -AS/NZS 61558.1:2008 (including Amendment 2:2015), <i>Safety of Power Transformers, Power Supplies, Reactors and Similar Products, Part 1: General requirements and tests (IEC 61558-1 Ed 2.1, MOD)</i> -AS/NZS 61558.2.16, <i>Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V, Part 2.16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units.</i>		
4.1.1	Application of requirements and acceptance of materials, components and subassemblies 1 Replace the text 'IEC 60950-1' with 'AS/NZS 60950.1:2015'. 2 Replace the text 'IEC 60065' with 'AS/NZS 60065'.		Pass
4.7	Equipment for direct insertion into mains socket-outlets		N/A
4.7.2	Requirements Delete the text of the second paragraph and replace with the following: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.		N/A
4.7.3	Compliance Criteria		N/A

IEC62368_1D – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Delete the first paragraph and Note 1 and Note 2 and replace with the following: Compliance is checked by inspection and, if necessary, by the tests in AS/NZS 3112.		
4.8	Delete existing clause title and replace with the following: 4.8 Products containing coin/button cell batteries		N/A
4.8.1	General 1 Second dashed point, delete the text and replace with the following: – include coin/button cell batteries with a diameter of 32 mm or less. 2 After the second dashed point, insert the following Note: NOTE 1: Batteries are specified in IEC 60086-2. 3 After the third dashed point, renumber the existing Note as 'NOTE 2'. 4 Fifth dashed point, delete the word 'lithium'.		N/A
4.8.2	Instructional Safeguard First line, delete the word 'lithium'.		N/A
4.8.3	Construction First line, after the word 'Equipment' insert the words 'containing one or more coin/button batteries and'		N/A
4.8.5	Compliance criteria Delete the first paragraph and replace with the following: Compliance is checked by applying a force of 30 N +/-1 N for 10 s to the battery compartment door/cover by a rigid test finger according to test probe 11 of IEC 61032:1997 at the most unfavourable place and in the most unfavourable direction. The force shall be applied in one direction at a time.		N/A
5.4.10.2	Test Methods		N/A
5.4.10.2.1	General Delete the first paragraph and replace with the following: In Australia only, the separation is checked by the test of both Clause 5.4.10.2.2 and Clause 5.4.10.2.3. In New Zealand, the separation is checked by the test of either Clause 5.4.10.2.2 or Clause 5.4.10.2.3.		N/A
Table 29	Replace the table with the following:		N/A

IEC62368_1D – ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict																																			
	<table><tr><td>Parts</td><td colspan="2">Impulse test</td><td colspan="2">Steady state test</td></tr><tr><td></td><td>New Zealand</td><td>Australia</td><td>New Zealand</td><td>Australia</td></tr><tr><td>Parts indicated in Clause 5.4.10.1 a) ^a</td><td>2.5 kV 10/700 µs</td><td>7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment, 10/700 µs</td><td>1.5 kV</td><td>3 kV</td></tr><tr><td>Parts indicated in Clause 5.4.10.1 b) and c) ^b</td><td colspan="2">1.5 kV 10/700 µs^c</td><td>1.0 kV</td><td>1.5 kV</td></tr><tr><td colspan="5">^a Surge suppressors shall not be removed.</td></tr><tr><td colspan="5">^b Surge suppressors may be removed, provided that such devices pass the impulse test of Clause 5.4.10.2.2 when tested as components outside the equipment.</td></tr><tr><td colspan="5">^c During this test, it is allowed for a surge suppressor to operate and for a sparkover to occur in a GDT.</td></tr></table>	Parts	Impulse test		Steady state test			New Zealand	Australia	New Zealand	Australia	Parts indicated in Clause 5.4.10.1 a) ^a	2.5 kV 10/700 µs	7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment, 10/700 µs	1.5 kV	3 kV	Parts indicated in Clause 5.4.10.1 b) and c) ^b	1.5 kV 10/700 µs ^c		1.0 kV	1.5 kV	^a Surge suppressors shall not be removed.					^b Surge suppressors may be removed, provided that such devices pass the impulse test of Clause 5.4.10.2.2 when tested as components outside the equipment.					^c During this test, it is allowed for a surge suppressor to operate and for a sparkover to occur in a GDT.						
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^c During this test, it is allowed for a surge suppressor to operate and for a sparkover to occur in a GDT.																																						
5.4.10.2.2	After the first paragraph, <i>insert</i> new Notes 201 and 202 as follows: NOTE 201 For Australia, the 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 For Australia, the value of 2.5 kV for Clause 5.4.10.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.		N/A																																			
5.4.10.2.3	After the first paragraph, <i>insert</i> new Notes 201 and 202 as follows: NOTE 201 For Australia, where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 The 3 kV and 1.5 kV values for Australia have been determined considering the low frequency induced voltages from the power supply distribution system.		N/A																																			
6	Electrically-caused fire		Pass																																			
6.1	General After the first paragraph, <i>insert</i> the following new paragraph: Alternatively, the requirements of Clauses 6.2 to 6.5.2 are considered to be fulfilled if the equipment complies with the requirements of Clause 6.202		Pass																																			
6.6	After Clause 6.6, add the new Clauses 6.201 and 6.202 as follows: 6.201 External power supplies, docking stations and other similar devices and 6.202 Resistance to fire—Alternative tests (see special national conditions)		N/A																																			
8.5.4	Special categories of equipment comprising moving parts		N/A																																			
8.5.4.1	Large data storage equipment In the first dashed row and the second dashed rows replace 'IEC 60950-1:2005' with 'AS/NZS 60950.1:2015'.		N/A																																			
8.6	Stability of equipment		N/A																																			
8.6.1 and Table 36	Requirements 1. Table 36, <i>insert</i> Footnote c at the end of the 'Glass slide' heading, and add a new Footnote c		N/A																																			

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Clause	Requirement + Test	Result - Remark	Verdict
	after the text of Footnote b in the last row of Table 36 as follows: c The glass slide test is not applicable to floor standing equipment, even though the equipment may have controls or a display. 2. Table 36, fifth row, <i>insert</i> '201' at the end of 'No stability requirements' 3. Table 36, ninth row, <i>insert</i> '201' at the end of 'No stability requirements' 4. Table 36, add the following new footnote: 201 MS2 and MS3 television sets and display devices, designed only for fixing to a wall, ceiling or equipment rack, are not subjected to stability requirements only if the instructional safeguard of Clause 8.6.1.201 is provided. Otherwise, the glass slide requirements of Clause 8.6.4 and horizontal force requirements of Clause 8.6.5 apply. 5. Second paragraph beneath Table 36, delete the words 'MS2 and MS3 television sets' and replace with 'MS2 and MS3 television sets and display devices'		
8.6.1	After Clause 8.6.1 <i>add</i> the following new clauses: 8.6.1.201 Instructional safeguard for fixed-mount television sets (see special national conditions)		N/A
Annex F Paragraph F.3.5.1	Mains appliance outlet and socket-outlet markings <i>Replace</i> 'IEC 60320-2-2' with 'AS/NZS 60320.2.2'.		N/A
Annex G Paragraph G.4.2	Mains connectors 1 In the second line <i>insert</i> 'or AS/NZS 3123' after 'IEC 60906-1'. 2 In the second line <i>insert</i> 'or AS/NZS 60320 series' after 'IEC 60320 series' 3 <i>Add</i> the following new paragraph: 10 A or 15 A 250 V flat pin plugs for the connection of equipment to mains-powered socket-outlets for household or similar general use shall comply with AS/NZS 3112 or AS/NZS 60884.1.		N/A
Paragraph G.5.3.1	Transformers, General 1 In the third dashed point replace 'IEC 61558-1 and the relevant parts of IEC 61558-2' with 'AS/NZS 61558-1 and the relevant parts of AS/NZS 61558.2' 2 In the fourth dashed point <i>replace</i> 'IEC 61558-2-16' with 'AS/NZS 61558.2.16'.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Paragraph G.7.1	Mains supply cords, General In the fourth dashed paragraph, <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A
Table G.5	Sizes of conductors 1 In the second row, first column, <i>delete</i> '6' and <i>replace</i> with '7.5' 2 In the second row, second column, <i>delete</i> '0,75' and <i>replace</i> with '0.75 ^b ' 3 <i>Delete</i> Note 1. 4 <i>Replace</i> 'NOTE 2' with 'NOTE:'. 5 <i>Delete</i> the text of 'Footnote b' and <i>replace</i> with the following: ^b This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm ² three-core supply flexible cords are not permitted; see AS/NZS 3191). 6 In Footnote c <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1' 7 In Footnote d <i>replace</i> 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A
Annex M Paragraph M.3.2	Protection circuits for batteries provided within the equipment, Test method After the first dashed point add the following Note: NOTE 201: In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of SELV may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.		N/A
	Special national conditions (if any)		Pass
6.201	External power supplies, docking stations and other similar devices For external power supplies, docking stations and other similar devices, during and after abnormal operating conditions and during single fault conditions the output voltage— – at all ES1 outlets or connectors shall not increase by more than 10% of its rated output voltage under normal operating condition; and		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	– of a USB outlet or connector shall not increase by more than 3 V or 10% of its rated output voltage under normal operating conditions, whichever is higher. For equipment with multiple rated output voltages, the requirements apply with the equipment configured for each rated output voltage in turn. NOTE: This is intended to reduce the possibility of battery fire or explosion in attached equipment or accessories when charging secondary lithium batteries. Compliance shall be checked by measurement, taking into account the abnormal operating conditions of Annex B.3 and the simulated single-fault conditions of Annex B.4		
6.202	Resistance to fire - Alternative tests		N/A
6.202.1	General Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the equipment, or the following: a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length. b) The following parts which would contribute negligible fuel to a fire: – small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; – small electrical components, such as capacitors with a volume not exceeding 1 750 mm³, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10. NOTE: In considering how to minimize propagation of fire and what ‘small parts’ are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another. <i>Compliance shall be checked by the tests of Clauses 6.202.2, 6.202.3 and 6.202.4.</i>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	For the base material of printed boards, compliance shall be checked by the test of Clause 6.202.5. The tests shall be carried out on parts of non-metallic material which have been removed from the equipment. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring.		
6.202.2	Testing of non-metallic materials Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C. Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the relevant part is not thinner than the sample tested.		N/A
6.202.3	Testing of insulating materials Parts of insulating material supporting Potential Ignition Sources shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C. The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection. NOTE: Contacts in components such as switch contacts are considered to be connections		N/A
	For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test need not be tested		N/A
	The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications		N/A

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Clause	Requirement + Test		Result - Remark	Verdict									
	<table><tr><td>Clause of AS/NZS 60695.11.5</td><td>Change</td></tr><tr><td>9 Test procedure</td><td></td></tr><tr><td>9.2 Application of needle-flame</td><td>Delete the first and second paragraphs and <i>replace</i> with the following: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner. The duration of application of the test flame shall be 30 s +1 s.</td></tr><tr><td>9.3 Number of test specimens</td><td>Replace with the following: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.</td></tr><tr><td>11 Evaluation of test results</td><td>Replace with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.</td></tr></table> The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the relevant part is not thinner than the sample tested.	Clause of AS/NZS 60695.11.5	Change	9 Test procedure		9.2 Application of needle-flame	Delete the first and second paragraphs and <i>replace</i> with the following: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner. The duration of application of the test flame shall be 30 s +1 s.	9.3 Number of test specimens	Replace with the following: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.	11 Evaluation of test results	Replace with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.		
Clause of AS/NZS 60695.11.5	Change												
9 Test procedure													
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11 Evaluation of test results	Replace with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.												
6.202.4	Testing in the event of non-extinguishing material If parts, other than enclosures, do not withstand the glow wire tests of Clause 6.202.3, by failure to extinguish within 30 s after the removal of the glow wire tip, the needle-flame test detailed in Clause 6.202.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of Clause 6.202.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested. NOTE 1: If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing. NOTE 2: If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing. NOTE 3: Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.			N/A									
6.202.5	Testing of printed boards The base material of printed boards shall be subjected to the needle-flame test of Clause			N/A									

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Clause	Requirement + Test	Result - Remark	Verdict
	6.202.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a potential ignition source. The test is not carried out if— – the printed board does not carry any potential ignition source; – the base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or – the base material of printed boards, on which the available equipment power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. <i>Conformance</i> shall be determined using the smallest thickness of the material. NOTE: Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximize the apparent power for more than 2 min when the circuit supplied is disconnected.		
6.202.6	For open circuit voltages greater than 4 kV Potential ignition sources with open circuit voltages exceeding 4 kV (peak) a.c. or d.c. under normal operating conditions shall be contained in a FIRE ENCLOSURE which shall comply with flammability category V-1 or better according to AS/NZS 60695.11.10.		N/A
8.6.1.201	8.6.1.201 Instructional safeguard for fixed-mount television sets		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	MS2 and MS3 television sets and display devices designed only for fixed mounting to a wall of ceiling or equipment rack shall, where required in Table 36, footnote 201, have an instructional safeguard in accordance with Clause F.5 which may be on the equipment or included in the installation instructions or equivalent document accompanying the equipment. The elements of the instructional safeguard shall be as follows: – element 1a: not available; – element 2: 'Stability Hazard' or equivalent wording; – element 3: 'The television set may fall, causing serious personal injury or death' or equivalent text; – element 4: the following or equivalent text: To prevent injury, this television set must be securely attached to the floor/wall in accordance with the installation instructions		
8.6.1.202	Restraining device MS2 and MS3 television sets and display devices that are not solely fixed-mounted should be provided with a restraining device such as a fixing point to facilitate restraining the equipment from toppling forward. The restraining device shall be capable of withstanding a pull of 100 N in all directions without damage. Where a restraining device is provided, instructions shall be provided in the instructions for installation or instructions for use to ensure correct and safe installation.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT AS_NZS_3112:2017_+A1:2021 Appendix J AUSTRALIAN / NEW ZEALAND NATIONAL DIFFERENCES (Approval and test specification—Plugs and socket-outlets)			
Differences according to	AS_NZS_3112:2017_Amendment 1:2021_Appendix J		
TRF template used	IECEE OD-2020-F3, Ed. 1.1		
Attachment Form No.	AS_NZS_3112:2017_Appendix J		
Attachment Originator	JAS-ANZ		
Master Attachment	2022-06		
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	Note: AS/NZS 3112 is NOT covered by IECEE Accreditation for Testing / Reporting Please State Laboratory Accreditation for this Standard		
	Accreditation		

J1 SCOPE	General: This Appendix specifies additional dimensional and constructional requirements for detachable plug portions, or equipment incorporating integral supply pins or equipment incorporating detachable plug portions. This Appendix shall be read in conjunction with Section 2 of this Standard. For the purposes of this Appendix, where the term 'plug' is used in Section 2 it shall be taken to mean the plug portion of equipment or the detachable plug portion. The equipment shall comply with the relevant product Standard. The tests and requirements specified in this Appendix are in addition to any test and requirements of the relevant product Standard for the equipment. (AS/NZS 3112:2017/A1:2021)	N/A
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ATTACHMENT TO TEST REPORT	
IEC 62368-1	
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES	
(Audio/video, information and communication technology equipment - Part 1: Safety requirements)	
Differences according to	EN 62368-1:2014+A11:2017
Attachment Form No.	EU_GD_IEC62368_1D_II
Attachment Originator	Nemko AS
Master Attachment	Date 2021-02-04
Copyright © 2021 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.	

	CENELEC COMMON MODIFICATIONS (EN)					Pass																																				
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed “Z”.					Pass																																				
CONTENT S	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords					Pass																																				
	Delete all the “country” notes in the reference document (IEC 62368-1:2014) according to the following list: <table><tr><td>0.2.1</td><td>Note</td><td>1</td><td>Note 3</td><td>4.1.15</td><td>Note</td></tr><tr><td>4.7.3</td><td>Note 1 and 2</td><td>5.2.2.2</td><td>Note</td><td>5.4.2.3.2.2 Table 13</td><td>Note c</td></tr><tr><td>5.4.2.3.2.4</td><td>Note 1 and 3</td><td>5.4.2.5</td><td>Note 2</td><td>5.4.5.1</td><td>Note</td></tr><tr><td>5.5.2.1</td><td>Note</td><td>5.5.6</td><td>Note</td><td>5.6.4.2.1</td><td>Note 2 and 3</td></tr><tr><td>5.7.5</td><td>Note</td><td>5.7.6.1</td><td>Note 1 and 2</td><td>10.2.1 Table 39</td><td>Note 2, 3 and 4</td></tr><tr><td>10.5.3</td><td>Note 2</td><td>10.6.2.1</td><td>Note 3</td><td>F.3.3.6</td><td>Note 3</td></tr></table>					0.2.1	Note	1	Note 3	4.1.15	Note	4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c	5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3	5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4	10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3	Pass
0.2.1	Note	1	Note 3	4.1.15	Note																																					
4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c																																					
5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note																																					
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10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3																																					
	For special national conditions, see Annex ZB.					Pass																																				
1	Add the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.					Pass																																				
4.Z1	Protective devices included as integral parts of the equipment or as parts of the building installation:					N/A																																				
	a) Included as parts of the equipment					N/A																																				
	b) For components in series with the mains; by devices in the building installation					N/A																																				

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Clause	Requirement + Test	Result - Remark	Verdict
	c) For pluggable type B or permanently connected; by devices in the building installation		N/A
5.4.2.3.2.4	Add the following to the end of this subclause: The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.		N/A
10.2.1	Add the following to c) and d) in table 39: For additional requirements, see 10.5.1.		N/A
10.5.1	Add the following after the first paragraph: For RS 1 compliance is checked by measurement under the following conditions: In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or presets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made. NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm ² , at any point 10 cm from the outer surface of the apparatus. Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made. For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level. NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.		N/A
10.6.1	Add the following paragraph to the end of the subclause: EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.		N/A
10.Z1	Add the following new subclause after 10.6.5. 10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566		N/A
G.7.1	Add the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		N/A

IEC62368_1D – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Bibliography	Add the following standards: Add the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		Pass
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		N/A
4.1.15	Denmark, Finland, Norway and Sweden To the end of the subclause the following is added: Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Denmark: "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord." In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag"		N/A
4.7.3	United Kingdom To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex		N/A
5.2.2.2	Denmark After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.11.1 and Annex G	Finland and Sweden To the end of the subclause the following is added: For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		N/A
5.5.2.1	Norway After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A

IEC62368_1D – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.6	Finland, Norway and Sweden To the end of the subclause the following is added: Resistors used as basic safeguard or bridging basic insulation in class I pluggable equipment type A shall comply with G.10.1 and the test of G.10.2.		N/A
5.6.1	Denmark Add to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. <i>Justification:</i> In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		N/A
5.6.4.2.1	Ireland and United Kingdom After the indent for pluggable equipment type A , the following is added: – the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug .		N/A
5.6.5.1	Ireland and United Kingdom To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm ² to 1,5 mm ² in cross-sectional area.		N/A
5.7.5	Denmark To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A
5.7.6.1	Norway and Sweden To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Apparatus connected to the protective earthing of the building installation through the mains		N/A

IEC62368_1D – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.” Translation to Swedish: “Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.		
5.7.6.2	Denmark To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .		N/A
B.3.1 and B.4	Ireland and United Kingdom The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of direct plug-in equipment, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the direct plug-in equipment, until the requirements of Annexes B.3.1 and B.4 are met		N/A
G.4.2	Denmark To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011.		N/A

IEC62368_1D – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a <i>Justification:</i> Heavy Current Regulations, Section 6c		
G.4.2	United Kingdom To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
G.7.1	United Kingdom To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A

IEC62368_1D – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	Ireland To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard		N/A
G.7.2	Ireland and United Kingdom To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm ² is allowed for equipment which is rated over 10 A and up to and including 13 A.		N/A
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		N/A
10.5.2	Germany The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. <i>Justification:</i> German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. NOTE Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de		N/A

IEC62368_1D – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 62368-1 (JAPAN) NATIONAL DIFFERENCES (Audio/video, information and communication technology equipment – Part 1: Safety requirements)	
Differences according to	J62368-1 (2020)
TRF template used:	IECEE OD-2020-F3, Ed. 1.1
Attachment Form No.	JP_ND_IEC62368_1D
Attachment Originator	UL (JP)
Master Attachment	Date 2021-02-04
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	National Differences		—
4.1.2	Where the component, or a characteristic of a component, is a safeguard or a part of a safeguard, components shall comply with the requirements of this standard or, where specified in a requirements clause, with the safety aspects of the relevant JIS component standards or IEC component standards, or components shall have properties equivalent to or better than these.	Considered.	Pass
5.6.1	Mains socket-outlet and appliance outlet shall comply with Clause G.4.2A if they are incorporated as part of the equipment.		N/A
5.6.2.1	Mains connection of class 0I equipment: Instructional safeguard in accordance with Clause F.3.6.1A; Mains plug having a lead wire for protective earthing connection of class 0I equipment; Independent main protective earthing terminal installed by ordinary person.		N/A
5.6.2.2	This requirement does not apply to internal conductor of the cord set that is covered by the sheath of mains cord and is formed together with mains plug and appliance connector.		N/A

IEC62368_1D – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.3	In case of class 0I equipment using power supply cord having two conductors (no earthing conductor), the conductor of protective earthing lead wire shall comply with either of the following: – use of annealed copper wire with 1.6 mm diameter or corrosion-inhibiting metal wire having size and strength that are equivalent to or more than the above copper wire – single core cord or single core cable with 1.25 mm² or more cross-sectional area		N/A
5.7.3	For class 0I equipment that is provided with mains socket-outlet in the configuration as specified in JIS C 8282 series or JIS C 8303, or otherwise being considered to comply with relevant regulations, or that is provided with mains appliance outlet as specified in JIS C 8283-2-2 for the purpose of interconnection, the measurement is conducted on the system of the interconnected equipment having a single connection to the mains.		N/A
5.7.4	In case of class 0I equipment, touch current shall not exceed 1.41 mA peak or for sinusoidal wave, 1.0 mA r.m.s. when measured using the network specified in Figure 4 of IEC 60990.		N/A
6.4.3.3	A fuse complying with JIS C 6575 series or a fuse having equivalent characteristics shall open within 1 s. For Class A fuse of JIS C 6575, replace “2.1 times” by “1.35 times” and in case of Class B fuse of JIS C 6575, replace “2.1 times” by “1.6 times”. A fuse not complying with JIS C 6575 series shall be tested with the breaking capacity taken into account.		N/A
8.5.4.2.1	Only three-phase stationary equipment rated more than 200 V ac can be considered as being for use in locations where children are not likely to be present, when complying with Clause F.4.		N/A
8.5.4.2.2	For equipment installed where children may be present, an instructional safeguard shall be provided by easily understandable wording in		N/A

IEC62368_1D – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	accordance with Clause F.5, except that element 3 is optional.		
8.5.4.2.4	The media destruction device is tested according to Clause V.1.2 with applicable jointed test probes to the opening. And then the wedge probe per Figure V.4 shall not contact any moving part.		N/A
8.5.4.2.5	The wedge probe of Figure V.4 and applicable jointed test probes specified in Clause V.1.2 shall not contact any moving part. Instructional safeguard shall not be used instead of equipment safeguard for preventing access to hazardous moving parts.		N/A
9.2.6, Table 38	Handles, Knobs, grips, etc. and external surfaces either held, touched or worn against the body in normal use (> 1 min) ^{b,c}		N/A
F.3.5.1	Instructional safeguard of class 0I equipment in accordance with Clause F.5 when a mains socket-outlet as specified in JIS C 8282 series, JIS C 8303 or relevant regulation to which class I equipment can be connected is provided in accordance with Clause G.4.2A except for the cases where the socket-outlet is accessible only to skilled persons.		N/A
F.3.5.3	If the fuse is necessary for the safeguard function, the symbols indicating pre-arcing time-current characteristic.		N/A
F.3.6.1A	Marking for class 0I equipment The requirements of Clauses F.3.6.1.1 and F.3.6.1.3 shall be applied to class 0I equipment. For class 0I equipment, a marking of instructions and instructional safeguard shall be provided regarding the earthing connection.		N/A
F.3.6.2.1	Symbols, IEC 60417-5172 (2003-02) or IEC 60417-6092 (2011-10), shall not be used for class I equipment or class 0I equipment.		N/A
F.4	Instruction for audio equipment with terminals classified as ES3 in accordance with Table E.1, and for other equipment with terminals marked in accordance with F.3.6.1 and F.3.6.1A.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Installation instruction for the protective earthing connection for class 0I equipment provided with independent main protective earthing terminal, where the cord for the protective earthing connection is not provided within the package for the equipment.		
G.3.2.1	The thermal link when tested as a separate component, shall comply with the requirements of JIS C 6691 or have properties equivalent to or better than that.		N/A
G.3.4	Except for devices covered by Clause G.3.5, overcurrent protective devices used as a safeguard shall comply with the relevant part of JIS C 6575 (corresponding to IEC60127) or shall have equivalent characteristics. If there are no applicable IEC standards, overcurrent protective devices used as a safeguard shall comply with their applicable IEC standards.		N/A
G.4.1	This requirement is not applicable to Clauses G.4.2 and G.4.2A.		N/A
G.4.2	Mains connector shall comply with JIS C 8282 series, JIS C 8283 series, JIS C 8285, JIS C 8303 or IEC 60309 series. Mains plugs and socket-outlets shall comply with JIS C 8282 series, JIS C 8303, IEC 60309 series, or have equivalent or better performance. A power supply cord set provided with appliance connector that can fit appliance inlet complying with JIS C 8283-1 shall comply with JIS C 8286. Construction preventing mechanical stress not to transmit to the soldering part of inlet terminal. Consideration for an equipment rated not more than 125 V provided with Type C14 and C18 appliance coupler complying with JIS C 8283 series.		N/A

IEC62368_1D – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2A	Mains socket-outlet and interconnection coupler provided with the class II, class I and class 0I equipment respectively.		N/A
G.7.1	A mains supply cord need not include the protective earthing conductor for class 0I equipment provided with independent protective earthing conductor.		N/A
G.8.3.3	Withstand $1,71 \times 1.1 \times U_0$ for 5 s.		N/A

IEC62368_1D – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT	
IEC 62368-1	
U.S.A. AND CANADA NATIONAL DIFFERENCES	
(Audio/video, information and communication technology equipment – Part 1: Safety requirements)	
Differences according to.....:	CSA/UL 62368-1:2014
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IEC 62368-1 - US and Canada National Differences			
Special National Conditions based on Regulations and Other National Differences			
1.1	All equipment is to be designed to allow installation according to the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, for such equipment marked or otherwise identified, installation is allowed per the Standard for the Protection of Information Technology Equipment, ANSI/NFPA 75.	Considered.	Pass
1.4	Additional requirements apply to some forms of power distribution equipment, including sub-assemblies.		N/A
4.1.17	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the NEC.		N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC generally are required to have special construction features and identification markings.		N/A
4.8	Lithium coin / button cell batteries have modified special construction and performance requirements.		N/A
5.6.3	Protective earthing conductors comply with the minimum conductor sizes in Table G.5, except as required by Table G.7ADV.1 for cord connected equipment, or Annex DVH for permanently connected equipment		N/A

IEC62368_1D – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.7	Equipment intended to receive telecommunication ringing signals complies with a special touch current measurement tests.		N/A
6.5.1	PS3 wiring outside a fire enclosure complies with single fault testing in B.4, or be current limited per one of the permitted methods.		N/A
Annex F (F.3.3.8)	Output terminals provided for supply of other equipment, except mains, supply are marked with a maximum rating or references to which equipment it is permitted to be connected.		N/A
Annex G (G.7.1)	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A
Annex G (G.7.3)	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		N/A
	Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
Annex G (G.7.5)	Minimum cord length is required to be 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement. Power supply cords are required to be no longer than 4.5 m in length if used in ITE Rooms.		N/A
Annex H.2	Continuous ringing signals under normal operating conditions up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex H.4	For circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V d.c., the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.		N/A
Annex M	Battery packs for stationary applications comply with special component requirements.		N/A
Annex DVA (1)	Equipment intended for use in spaces used for environmental air are subjected to special flammability requirements for heat and visible smoke release.		N/A
	For ITE room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A

IEC62368_1D – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Consumer products designed or intended primarily for children 12 years of age or younger are subject to additional requirements in accordance with U.S. & Canadian Regulations.		N/A
	Baby monitors additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.		N/A
Annex DVA (5.6.3)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		N/A
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.		N/A
Annex DVA (6.4.8)	For ITE room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less. For equipment with the same dimensions for other applications, an external surface that is not a fire enclosure requires a min. flammability classification of V-1.		N/A
Annex DVA (10.3.1)	Equipment with lasers meets the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
Annex DVA (10.5.1)	Equipment that produces ionizing radiation complies with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
Annex DVA (F.3.3.3)	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. Additional considerations apply for voltage ratings that exceed the attachment cap rating or are lower than the "Normal Operating Condition" in Table 2 of CAN/CSA C22.2 No. 235."		N/A
Annex DVA (F.3.3.5)	Equipment identified for ITE (computer) room installation is marked with the rated current		N/A
Annex DVA (G.1)	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position		N/A
Annex DVA (G.3.4)	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.		N/A
Annex DVA (G.4.2)	Equipment with isolated ground (earthing) receptacles complies with NEC 250.146(D) and CEC 10-112 and 10-906(8).		N/A

IEC62368_1D – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (G.4.3)	Where a fuse is used to provide Class 2 or Class 3 current limiting, it is not operator-accessible unless it is non- interchangeable.		N/A
Annex DVA (G.5.3)	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.		N/A
Annex DVA (G.5.4)	Motor control devices are required for cord-connected equipment with a mains-connected motor if the equipment is rated more than 12 A, or if the equipment has a nominal voltage rating greater than 120 V, or if the motor is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
Annex DVA (Annex M)	For ITE room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the ITE room remote power-off circuit.		N/A
Annex DVA (Q)	Wiring terminals intended to supply Class 2 outputs according to the NEC or CEC Part 1 are marked with the voltage rating and “Class 2” or equivalent; marking is located adjacent to the terminals and visible during wiring.		N/A
Annex DVB (1)	Additional requirements apply for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities.		N/A
Annex DVC (1)	Additional requirements apply for equipment intended for mounting under kitchen cabinets.		N/A
Annex DVE (4.1.1)	Some equipment, components, sub-assemblies and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. Components required to comply include: appliance couplers, attachment plugs, battery back-up systems, battery packs, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), power supply cords, direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultra-capacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), ground-fault current interrupters, interconnecting cables, data storage equipment, printed wiring, protectors for communications circuits, receptacles, surge protective devices, vehicle battery adapters, wire connectors, and wire and cables.	Considered.	Pass

IEC62368_1D – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVH	Equipment for permanent connection to the mains supply is subjected to additional requirements.		N/A
Annex DVH (DVH.1)	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains are in accordance with the NEC/CEC.		N/A
Annex DVH (DVH.3.2)	Terminals for permanent wiring, including protective earthing terminals, are suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and are specially marked when specified.		N/A
Annex DVH (DVH.3.2)	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).		N/A
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
Annex DVH (DVH 5.5)	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, complies with special earthing, wiring, marking and installation instruction requirements.		N/A
Annex DVI (6.7)	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.		N/A
Annex DVJ (10.6.1)	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A

Enclosures

Enclosures

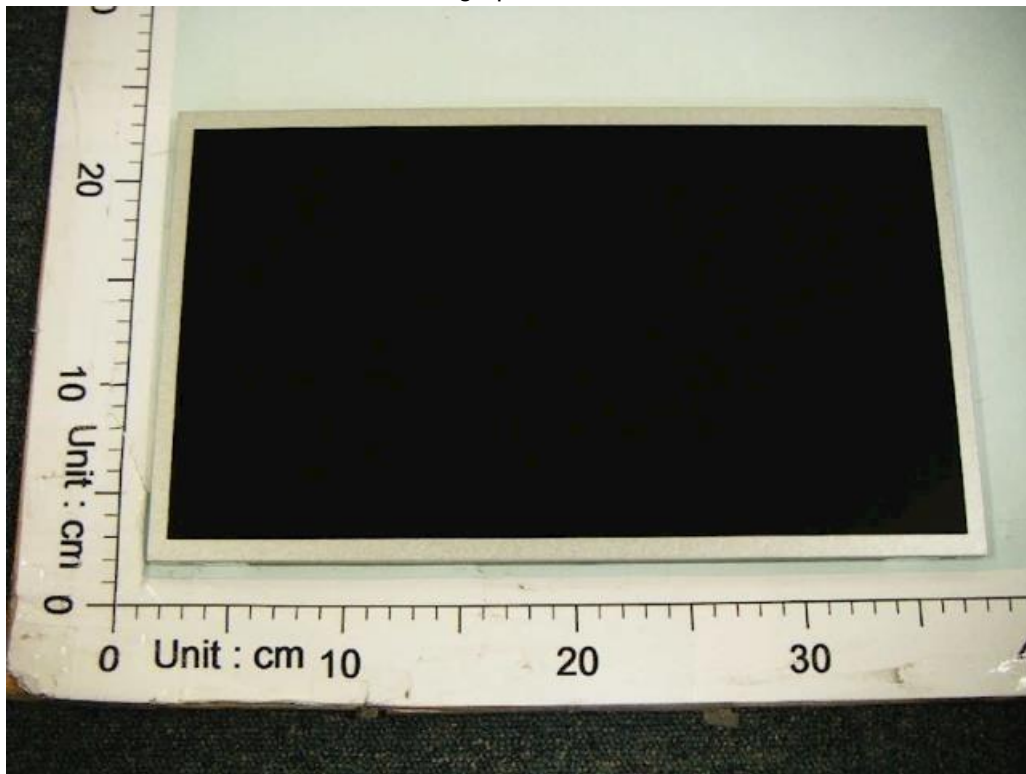
Type	Supplement Id	Description
Photographs	03-01	Model G156HANZZZZ, front view with LED driver board P/N: 15G20-C02
Photographs	03-02	Model G156HANZZZZ, rear view with LED driver board P/N: 15G20-C02 – 1
Photographs	03-03	Model G156HANZZZZ, rear view with LED driver board P/N: 15G20-C02 – 2
Photographs	03-04	LED driver board P/N: 15G20-C02
Photographs	03-05	Model G156HTNZZZZ, rear view with LED driver board P/N: 15G19-C05 – 1
Photographs	03-06	Model G156HTNZZZZ, rear view with LED driver board P/N: 15G19-C05 – 2
Photographs	03-07	LED driver board P/N: 15G19-C05
Photographs	03-08	Model G156HANZZZZ, front view with LED driver board P/N: 15B61-C0B
Photographs	03-09	Model G156HANZZZZ, rear view with LED driver board P/N: 15B61-C0B
Photographs	03-10	LED driver board P/N: 15B61-C0B
Photographs	03-11	Model G156HANZZZZ, front View with LED driver board P/N: 15G25-C01
Photographs	03-12	Model G156HANZZZZ, rear View with LED driver board P/N: 15G25-C01 – 1
Photographs	03-13	Model G156HANZZZZ, rear View with LED driver board P/N: 15G25-C01 – 2
Photographs	03-14	LED driver board P/N: 15G25-C01
Photographs	03-15	Model G156HANZZZZ, front view with LED driver board P/N: 15G25-C04
Photographs	03-16	Model G156HANZZZZ, rear view with LED driver board P/N: 15G25-C04 – 1
Photographs	03-17	Model G156HANZZZZ, rear view with LED driver board P/N: 15G25-C04 – 2
Photographs	03-18	LED Driver Board P/N: 15G25-C04
Photographs	03-19	Model G156XTNZZZZ, Front View with LED driver board P/N: 15G18-C02
Photographs	03-20	Model G156HANZZZZ, rear View with LED driver board P/N: 15G18-C02 – 1
Photographs	03-21	Model G156HANZZZZ, rear View with LED driver board P/N: 15G18-C02 – 2
Photographs	03-22	LED Driver Board P/N: 15G18-C02
Photographs	03-23	Model G156XTNZZZZ, Front view with LED driver board 15G18-C04
Photographs	03-24	Model G156XTNZZZZ, Rear view with LED driver board 15G18-C04 - 1

Enclosures

Photographs	03-25	Model G156XTNZZZZ, Rear view with LED driver board 15G18-C04 – 2
Photographs	03-26	Model G156XTTZZZZ, Front view with LED driver board 15G18-C04
Photographs	03-27	Model G156XTTZZZZ, Rear view with LED driver board 15G18-C04 - 1
Photographs	03-28	Model G156XTTZZZZ, Rear view with LED driver board 15G18-C04 - 2
Photographs	03-29	LED driver board 15G18-C04
Photographs	03-30	Model G156HATZZZZ, Front view with LED driver board 15G25-C01 and touch panel function
Photographs	03-31	Model G156HATZZZZ, Rear view-1 with LED driver board 15G25-C01 and touch panel function
Photographs	03-32	Model G156HATZZZZ, Rear view-2 with LED driver board 15G25-C01 and touch panel function
Photographs	03-33	Model G156HATZZZZ, Rear view-3 with LED driver board 15G25-C01 and touch panel function
Photographs	03-34	Front view for model G156HANZZZZ (G156HAN04.0)
Photographs	03-35	Rear view-1 for model G156HANZZZZ (G156HAN04.0) with LED driver board 15G48-C50 and Mylar / Cover film
Photographs	03-36	Rear view-2 for model G156HANZZZZ (G156HAN04.0) with LED driver board 15G48-C50
Photographs	03-37	LED driver board P/N 15G48-C50
Photographs	03-38	Front view -1 for model G156HANZZZZ (G156HAN03.0) with LED driver board 15B57-C08 and Mylar / Cover film
Photographs	03-39	Front view -2 for model G156HANZZZZ (G156HAN03.0) with LED driver board 15B57-C08
Photographs	03-40	Rear view-1 for model G156HANZZZZ (G156HAN03.0) with LED driver board 15B57-C08 and Mylar / Cover film
Photographs	03-41	Rear view-2 for model G156HANZZZZ (G156HAN03.0) with LED driver board 15B57-C08
Photographs	03-42	Front view -1 for model G156HANZZZZ (G156HAN05.0) with LED driver board 15G51-C00 and Mylar / Cover film
Photographs	03-43	Rear view -1 for model G156HANZZZZ (G156HAN05.0) with LED driver board 15G51-C00 and Mylar / Cover film
Photographs	03-44	Rear view -2 for model G156HANZZZZ (G156HAN05.0) with LED driver board 15G51-C00
Photographs	03-45	LED driver board P/N 15G51-C00
Miscellaneous	07-01	Test equipment list
Marking Plate	13-01	Label

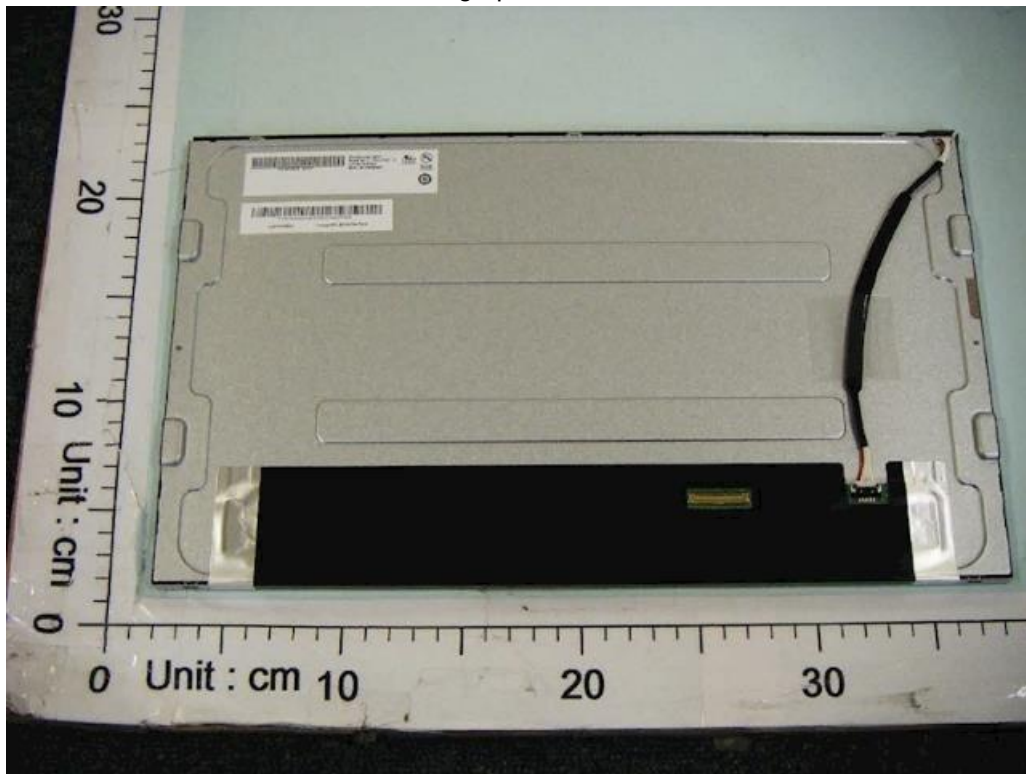
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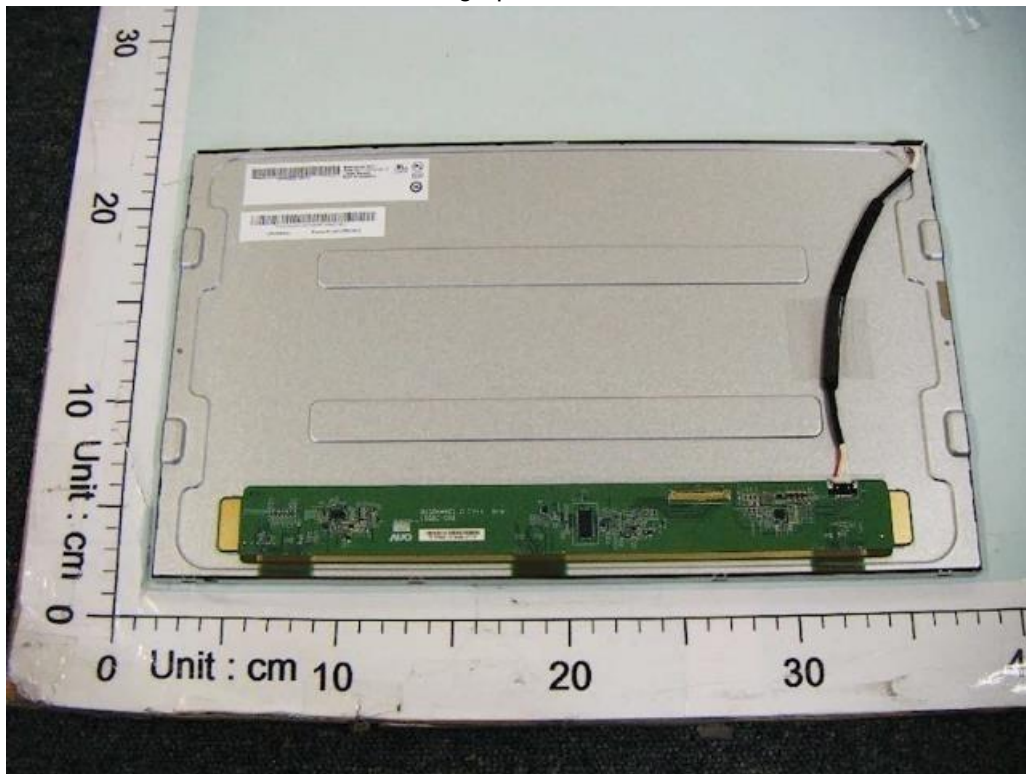
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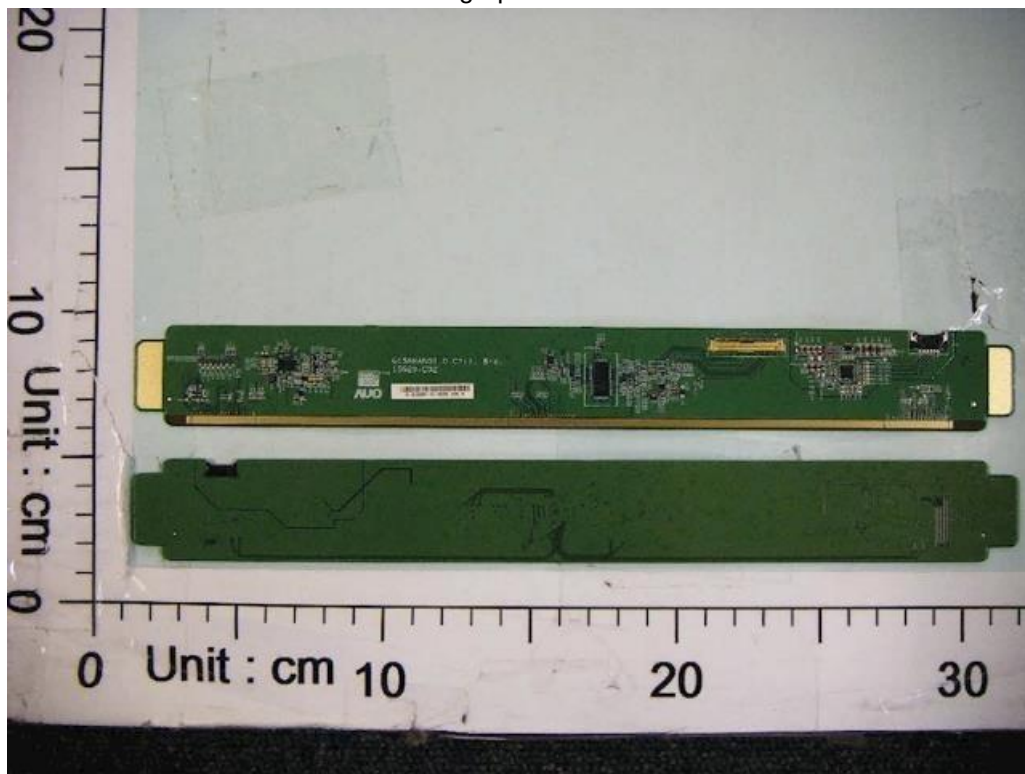
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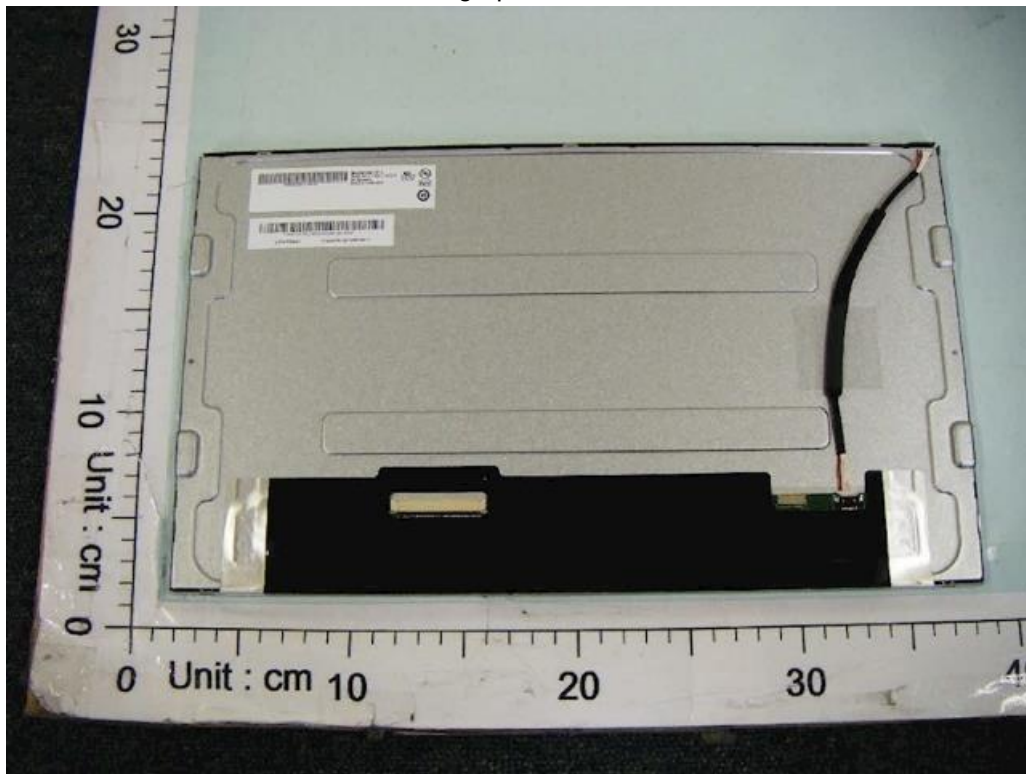
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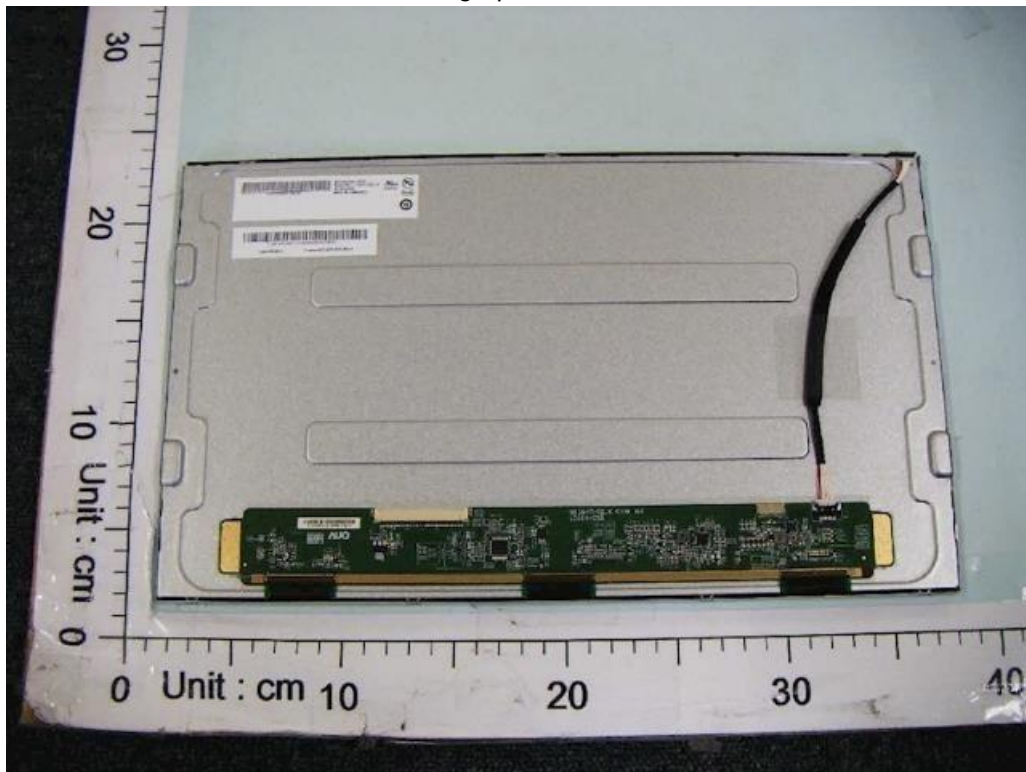
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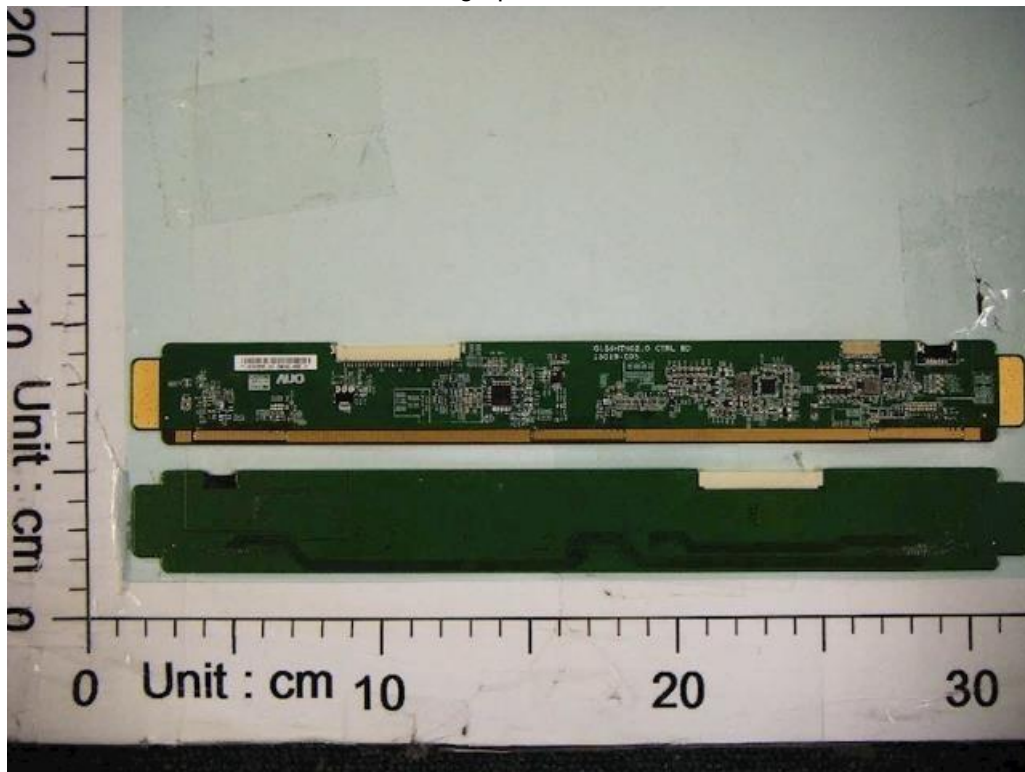
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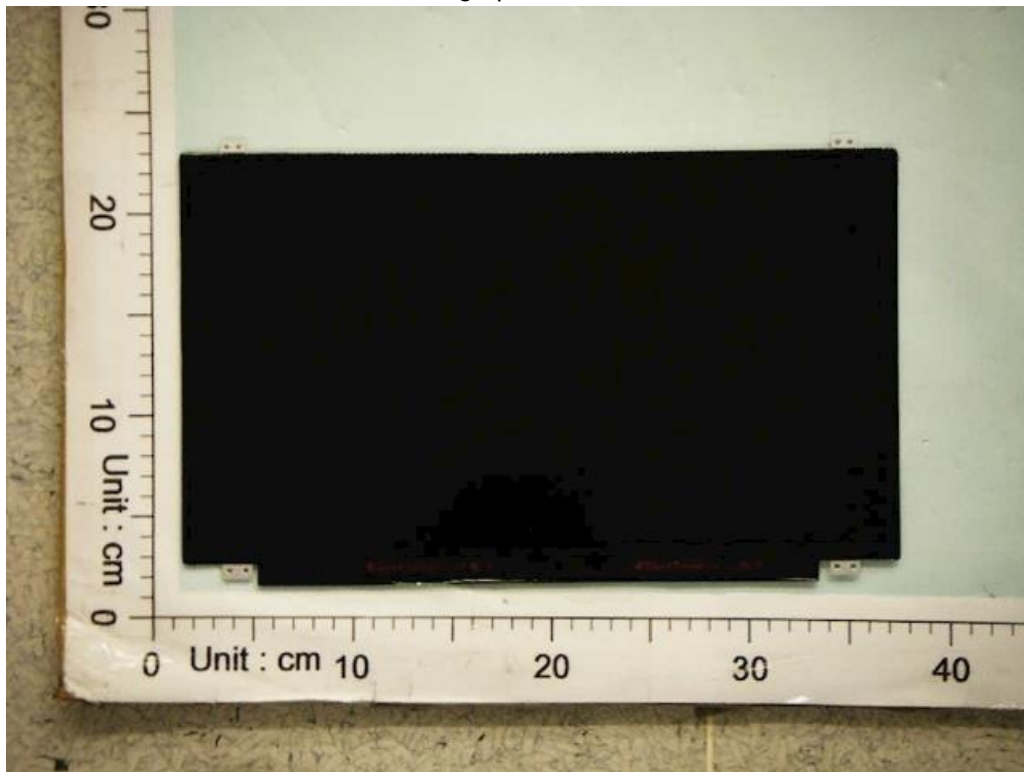
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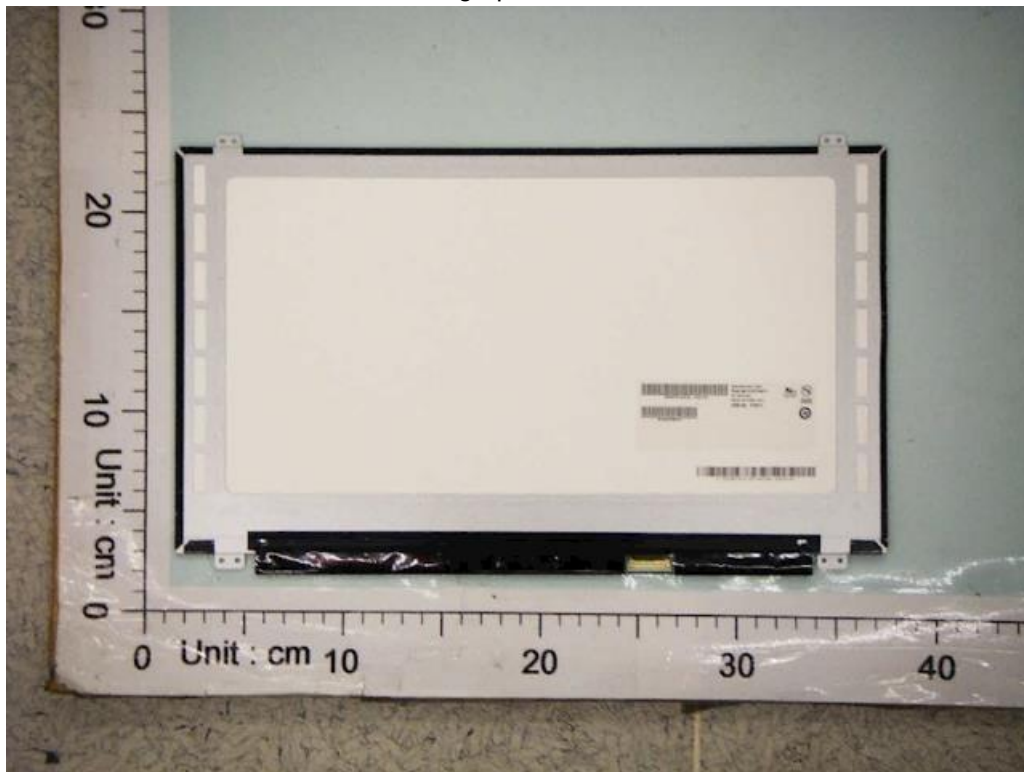
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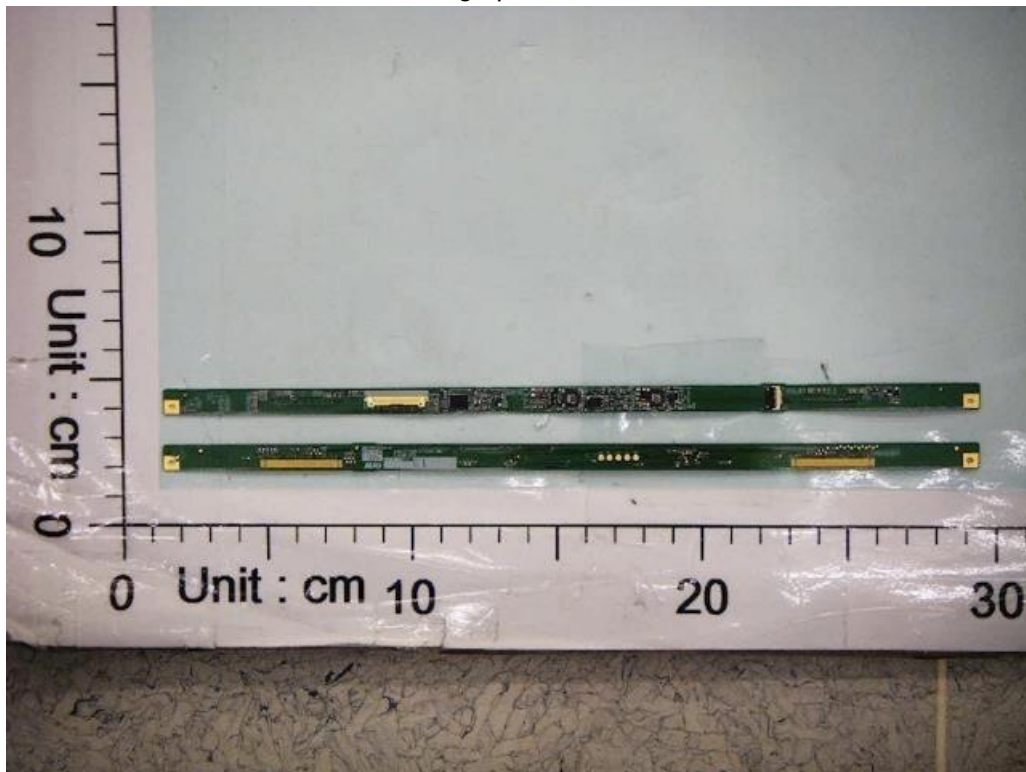
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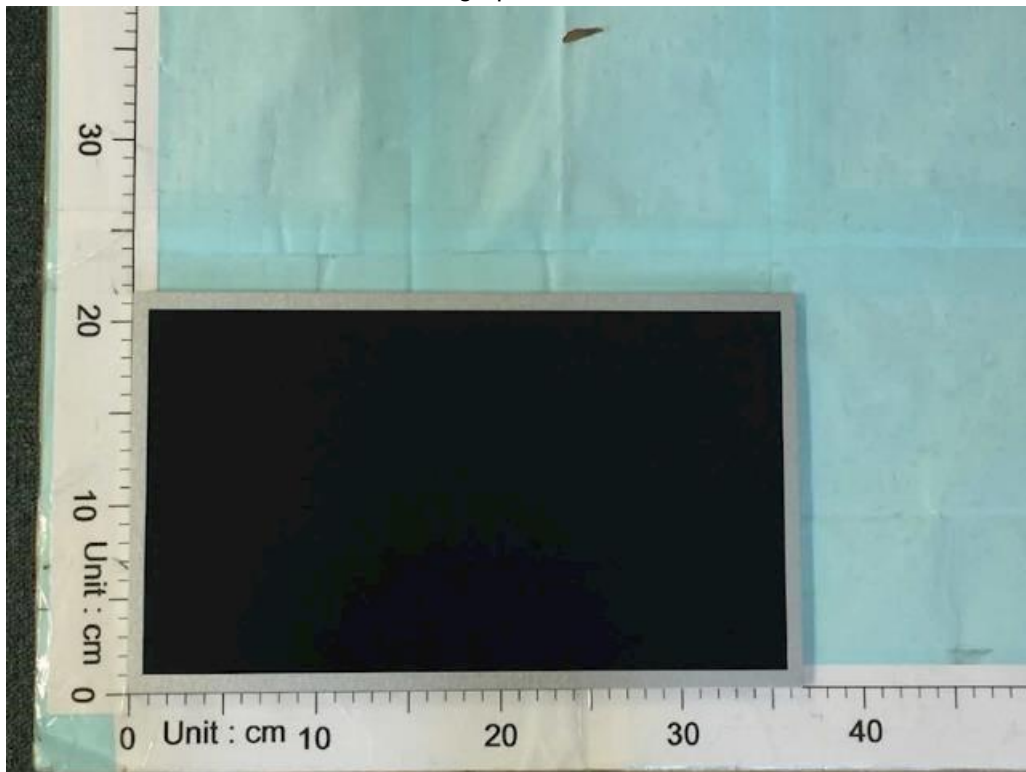
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Photographs ID 03-11



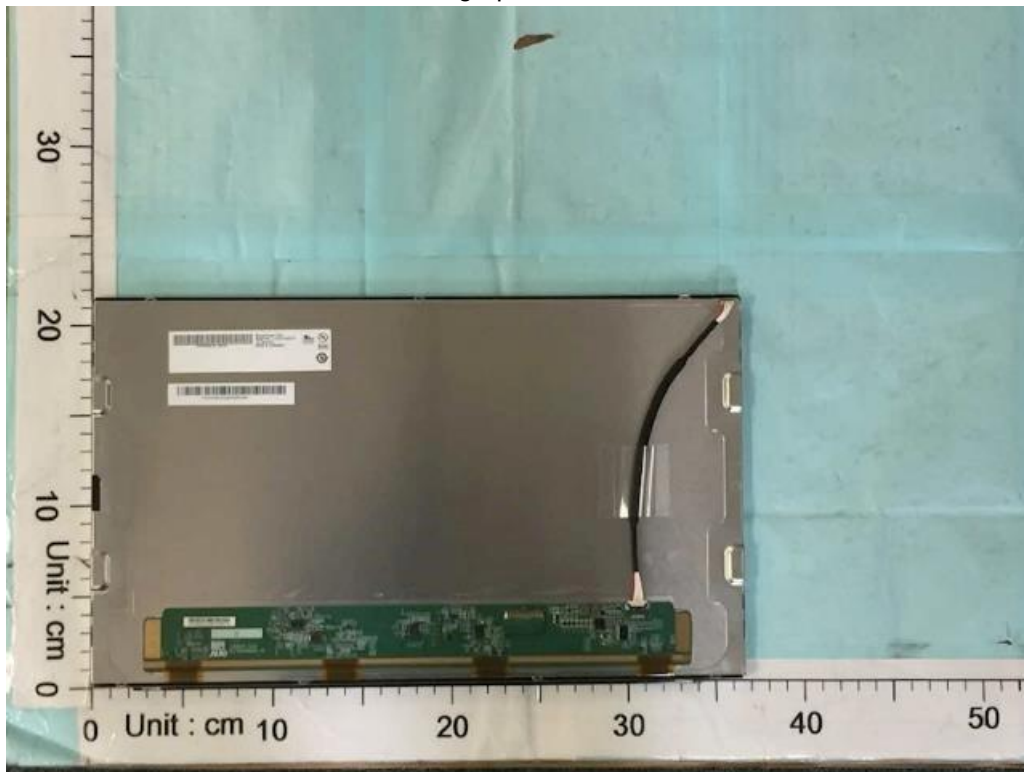
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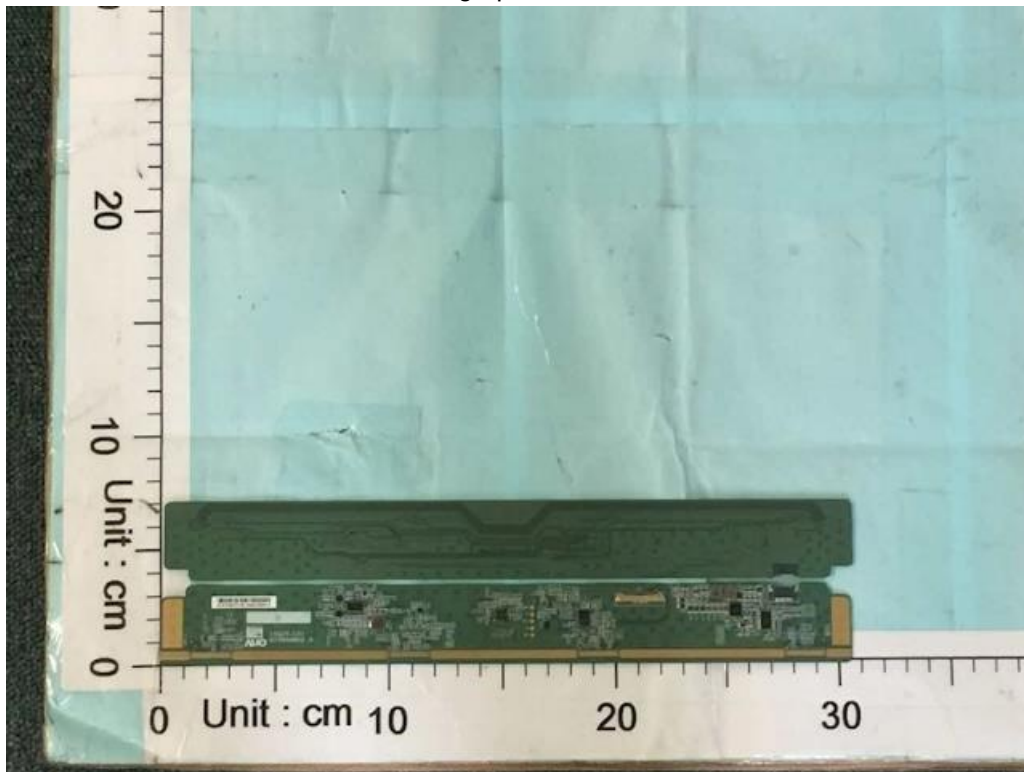
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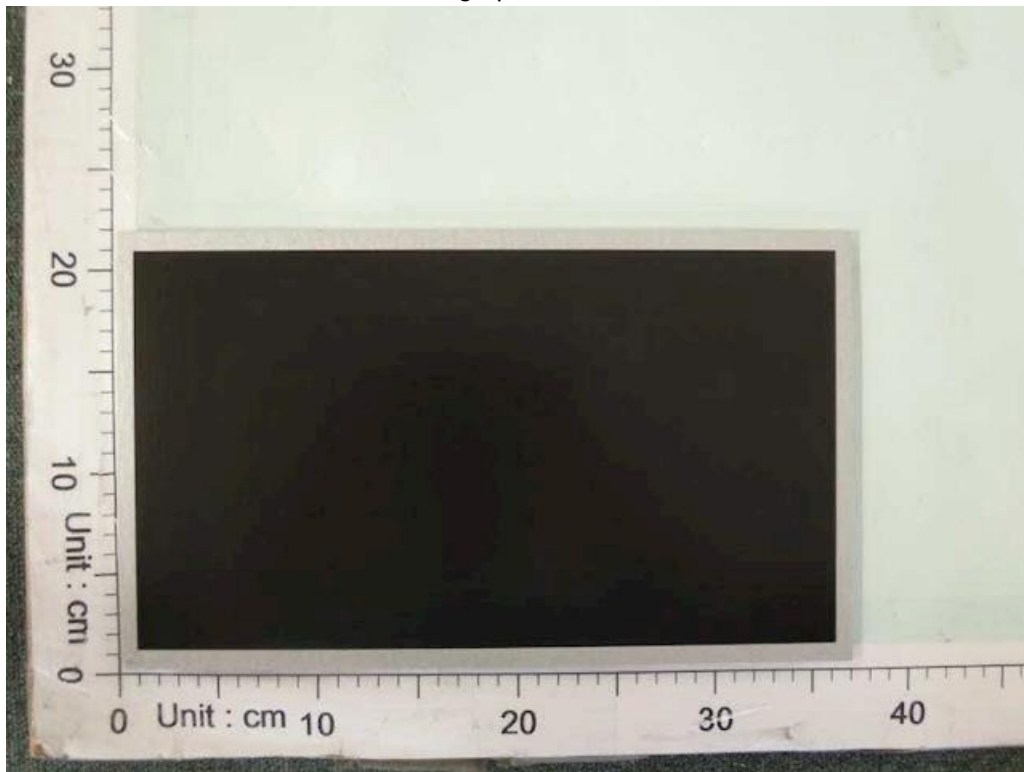
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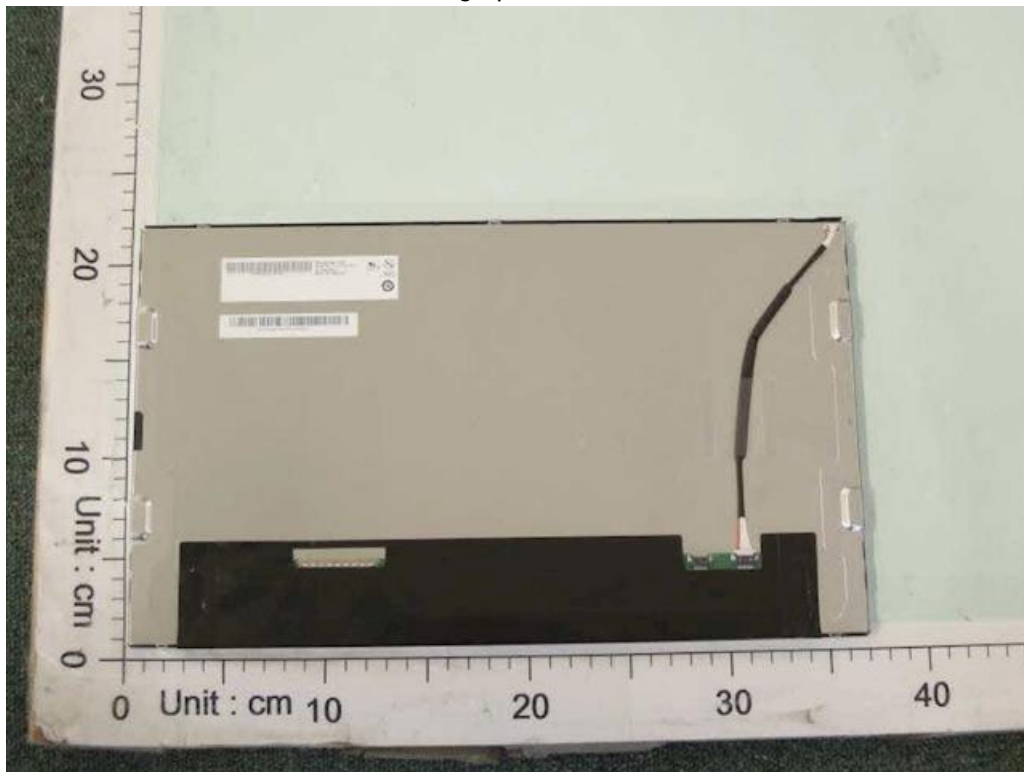
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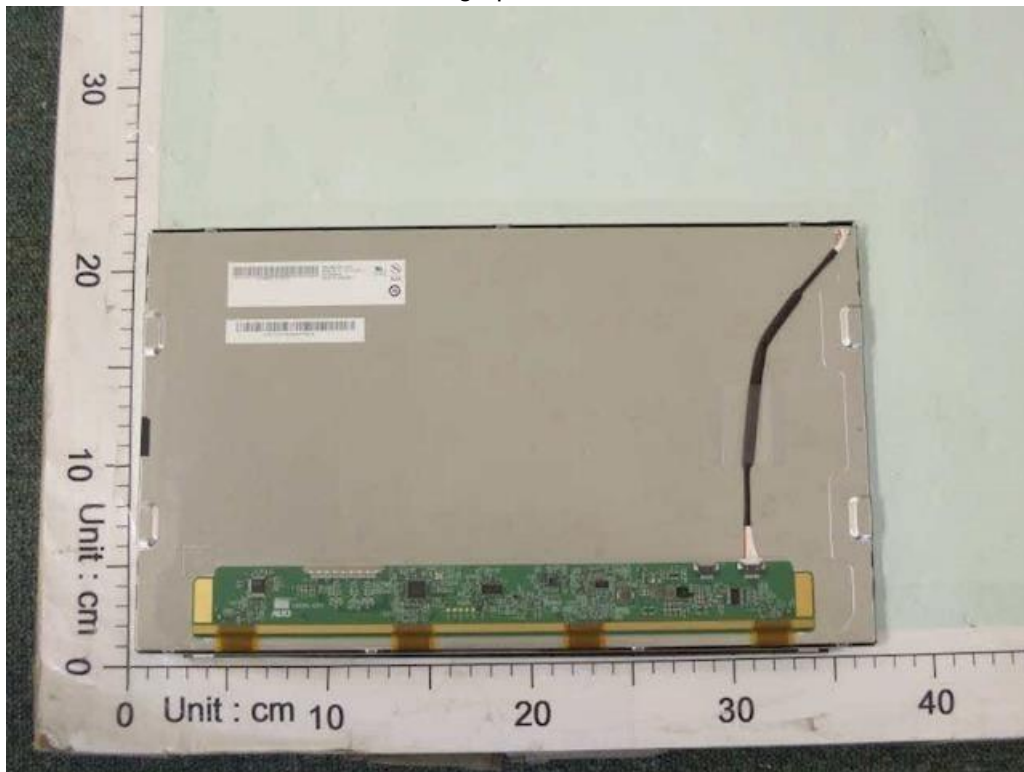
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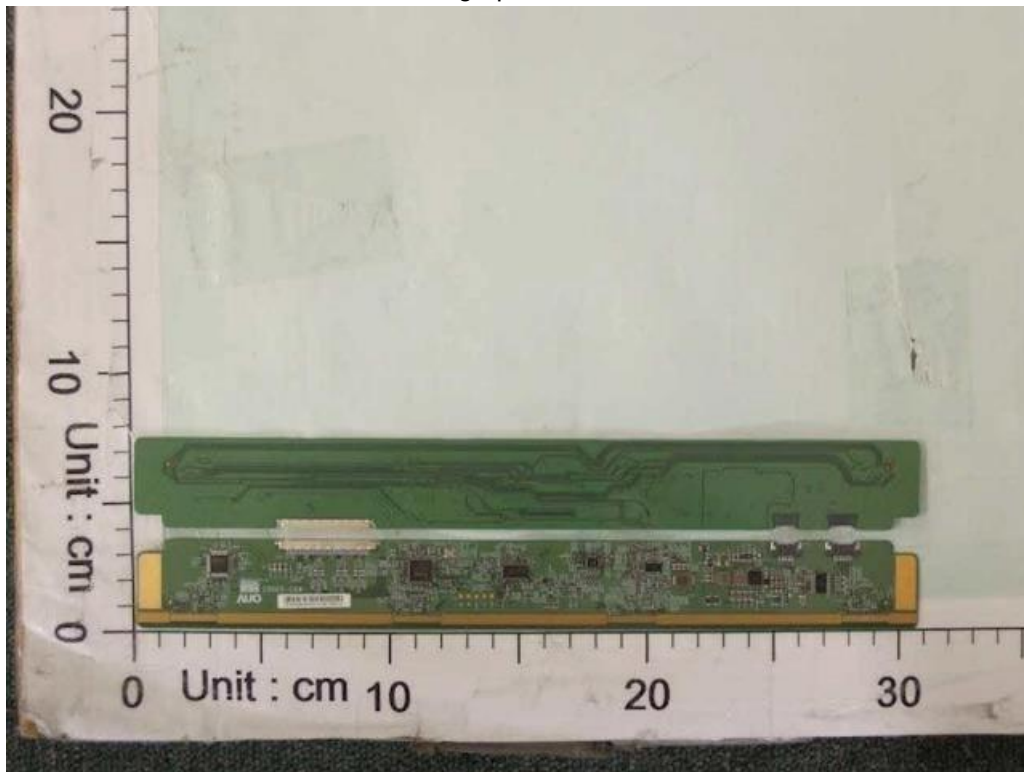
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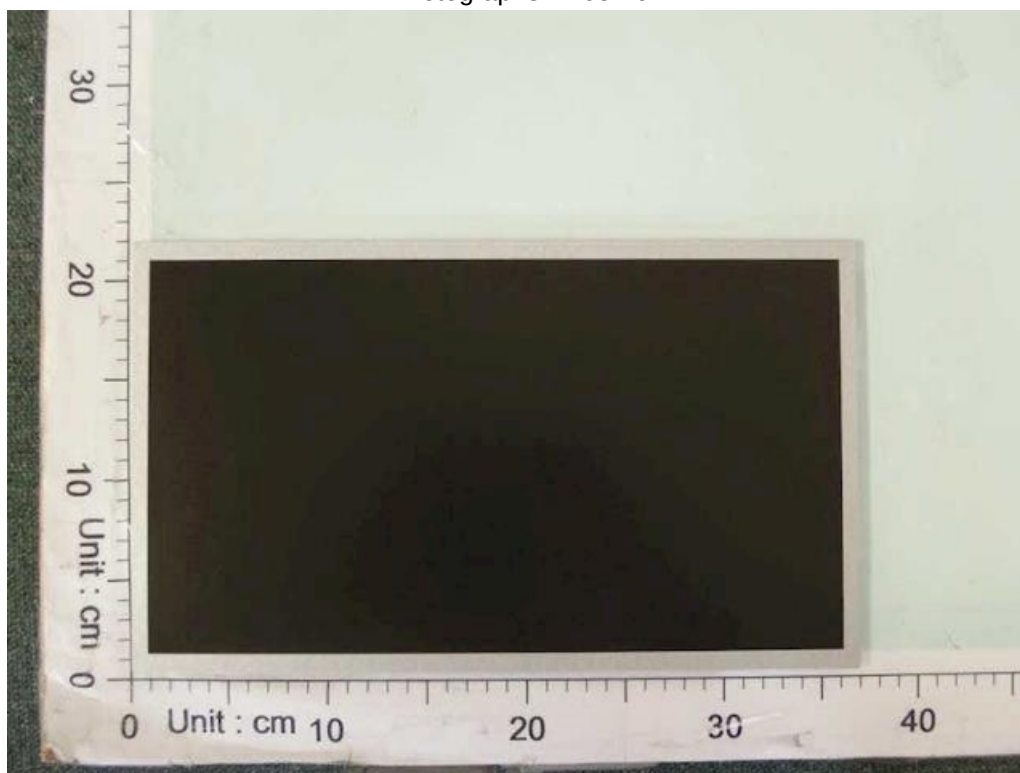
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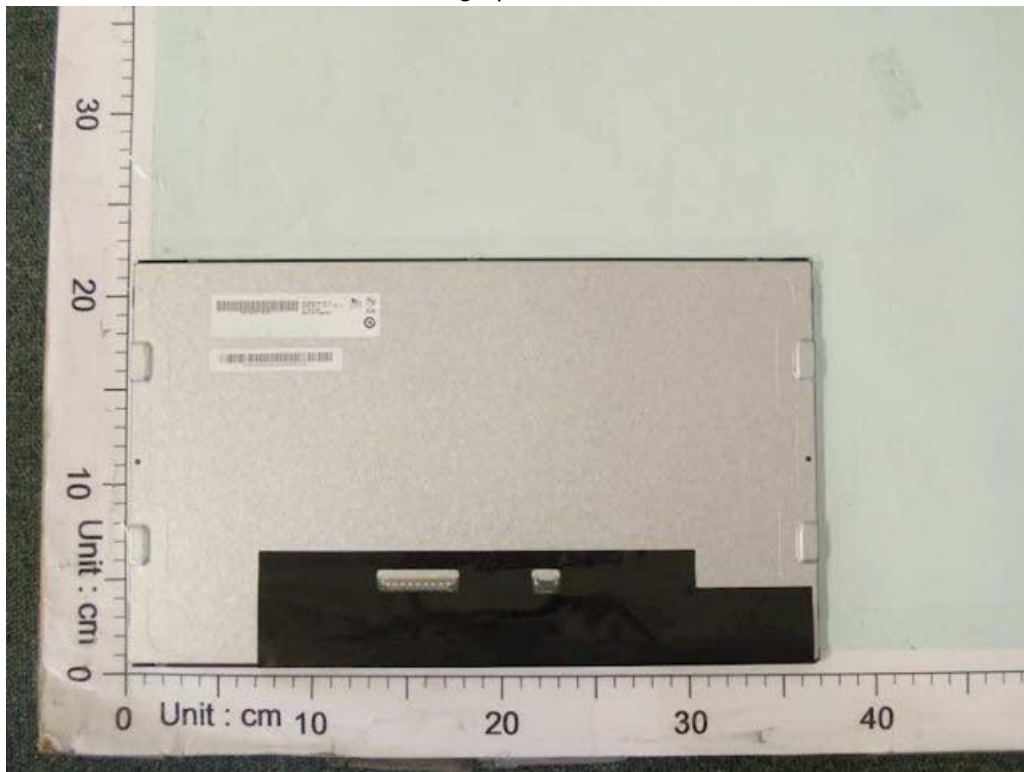
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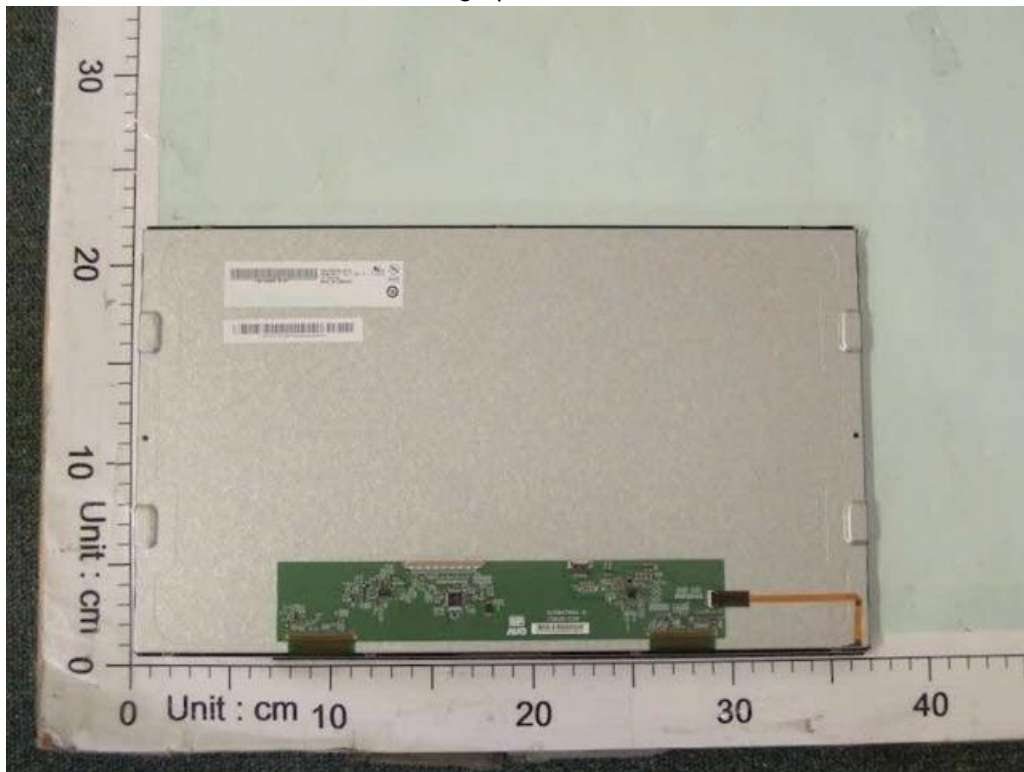
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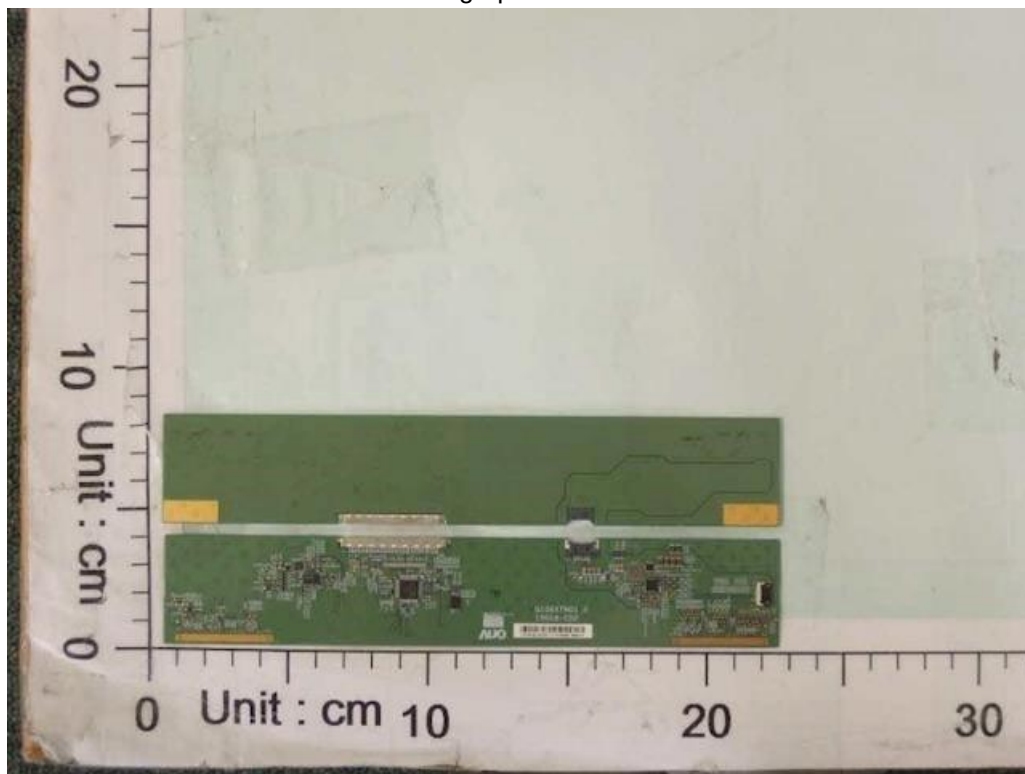
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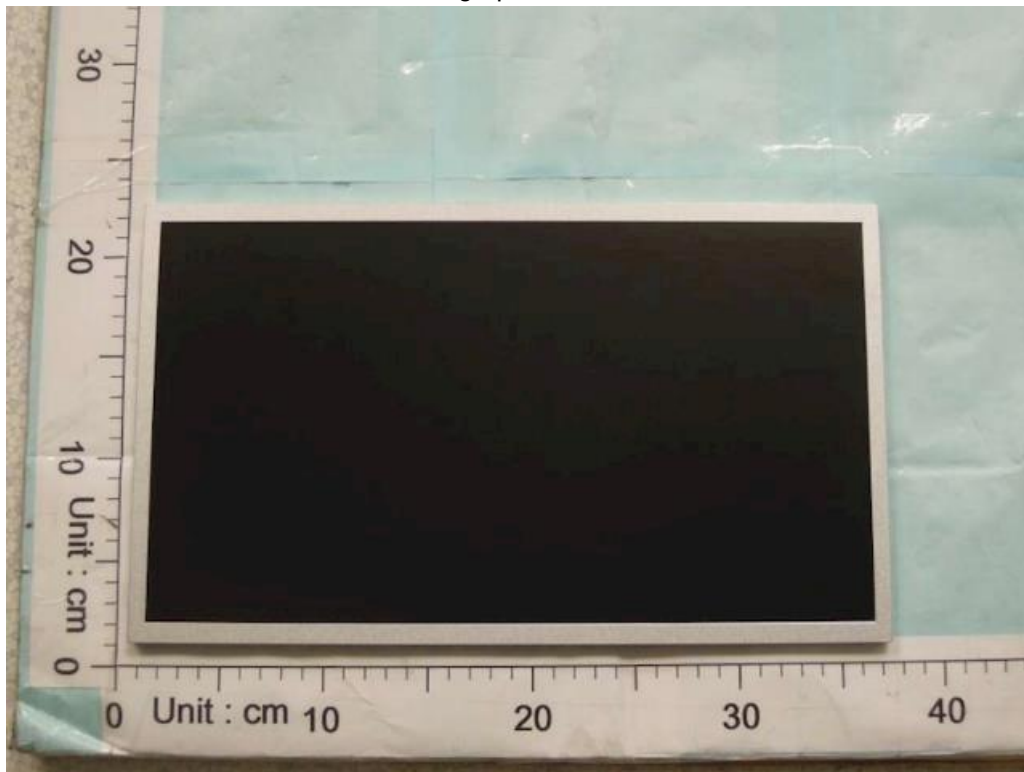
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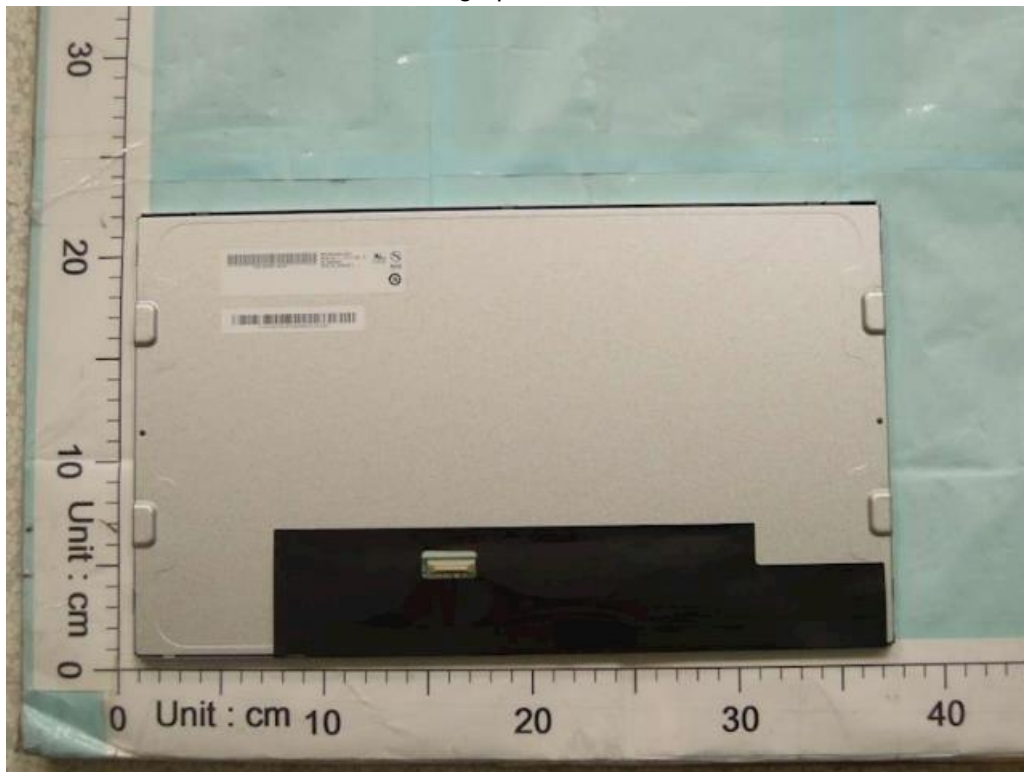
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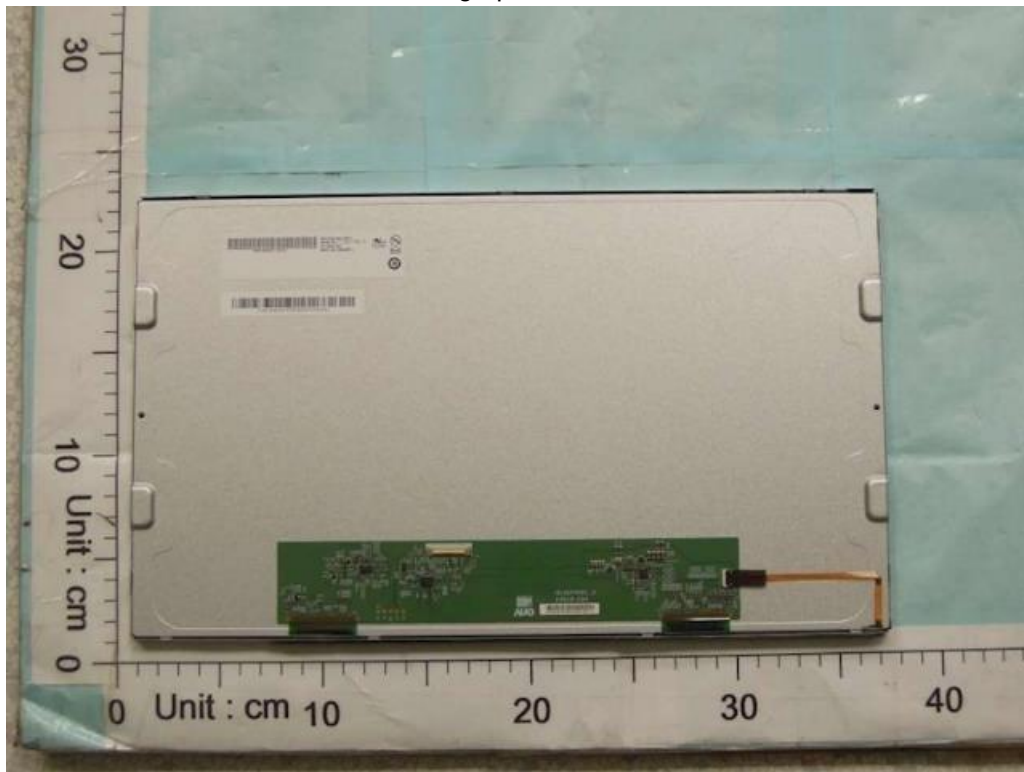
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Photographs ID 03-24



Enclosures

Photographs ID 03-25



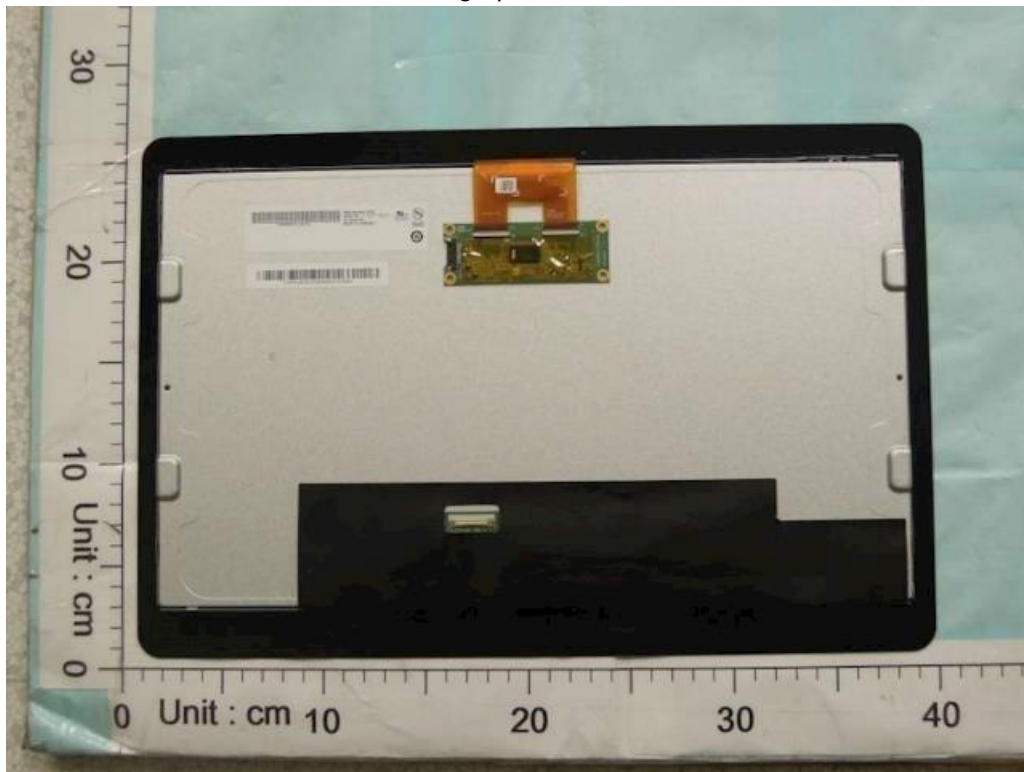
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Enclosures

Photographs ID 03-27



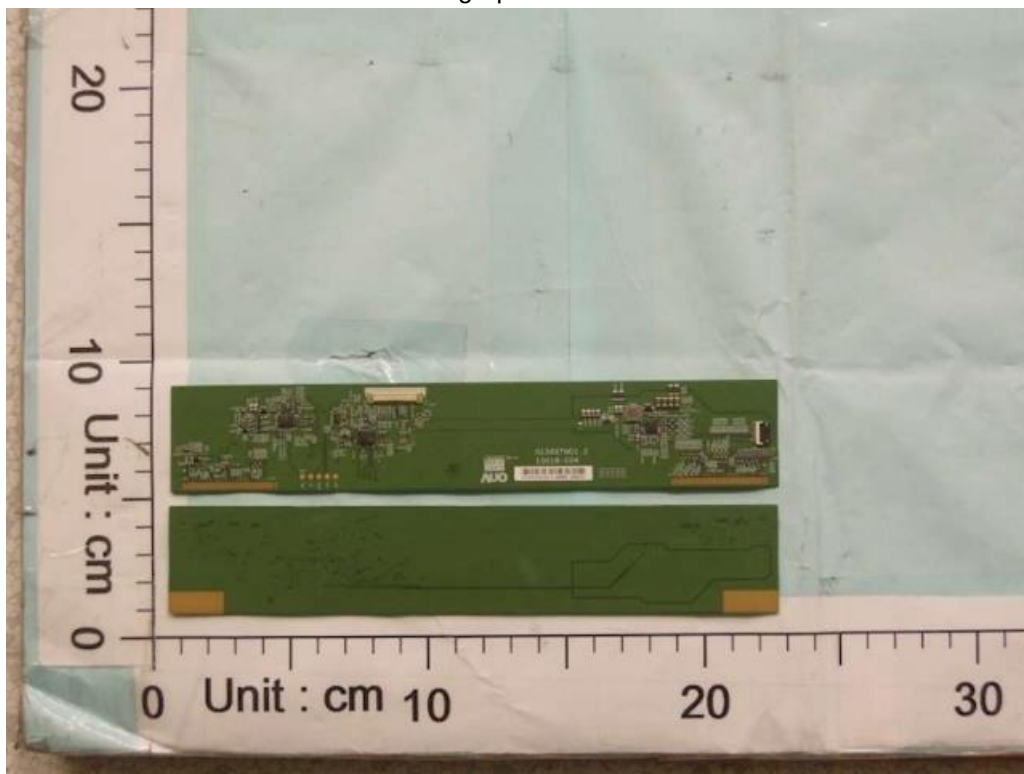
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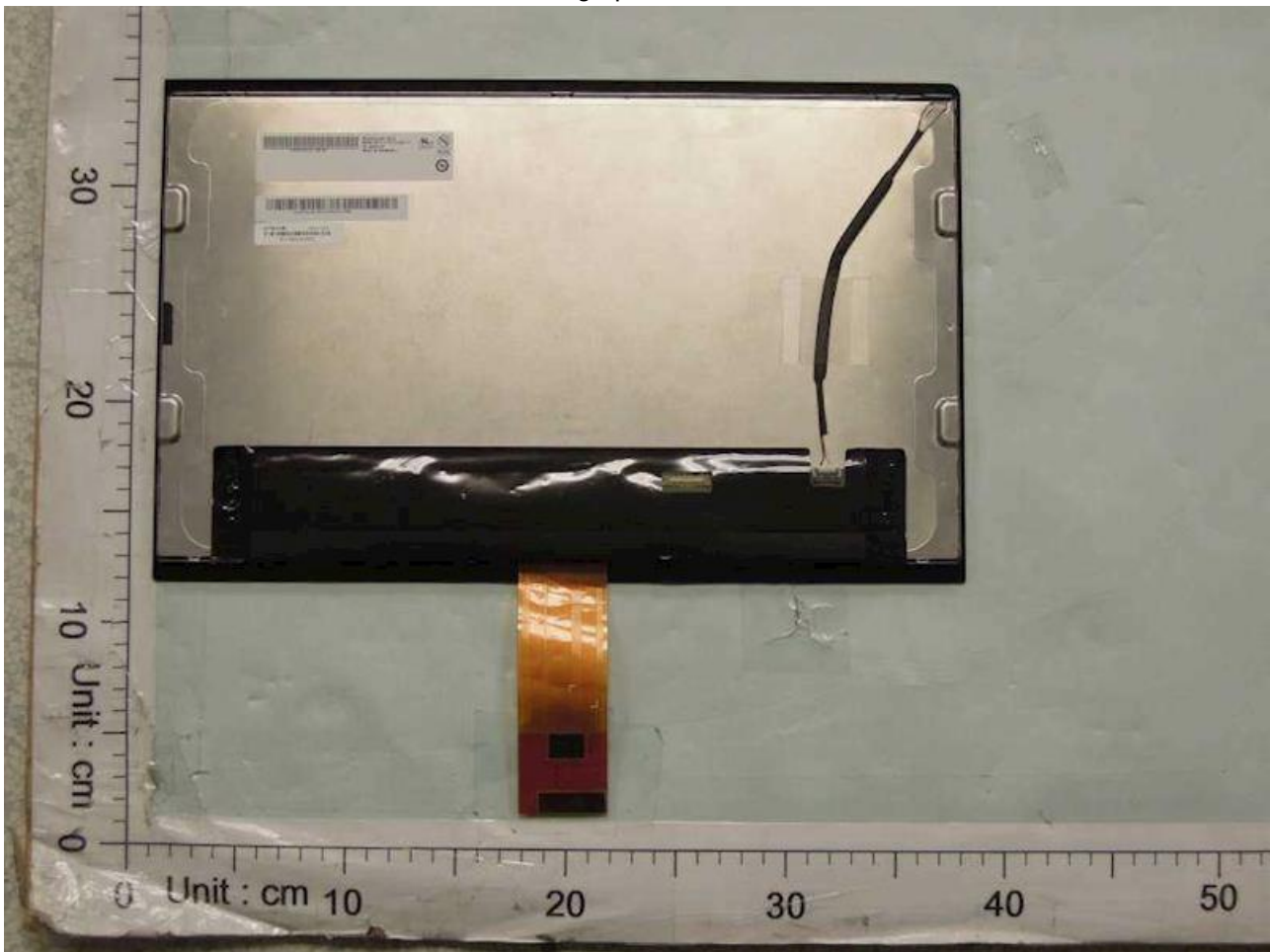
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Enclosures

Photographs ID 03-31



Enclosures

Photographs ID 03-32



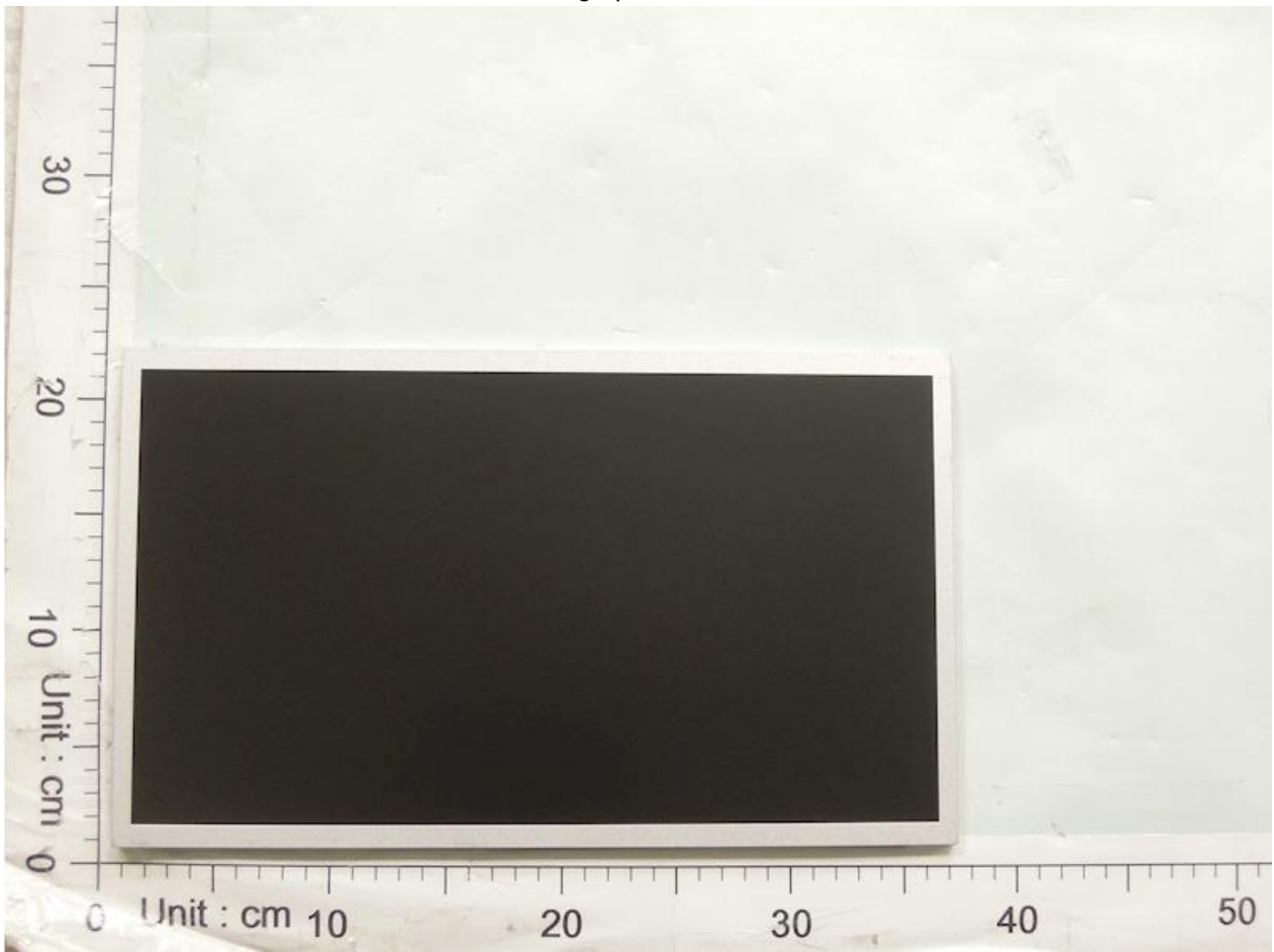
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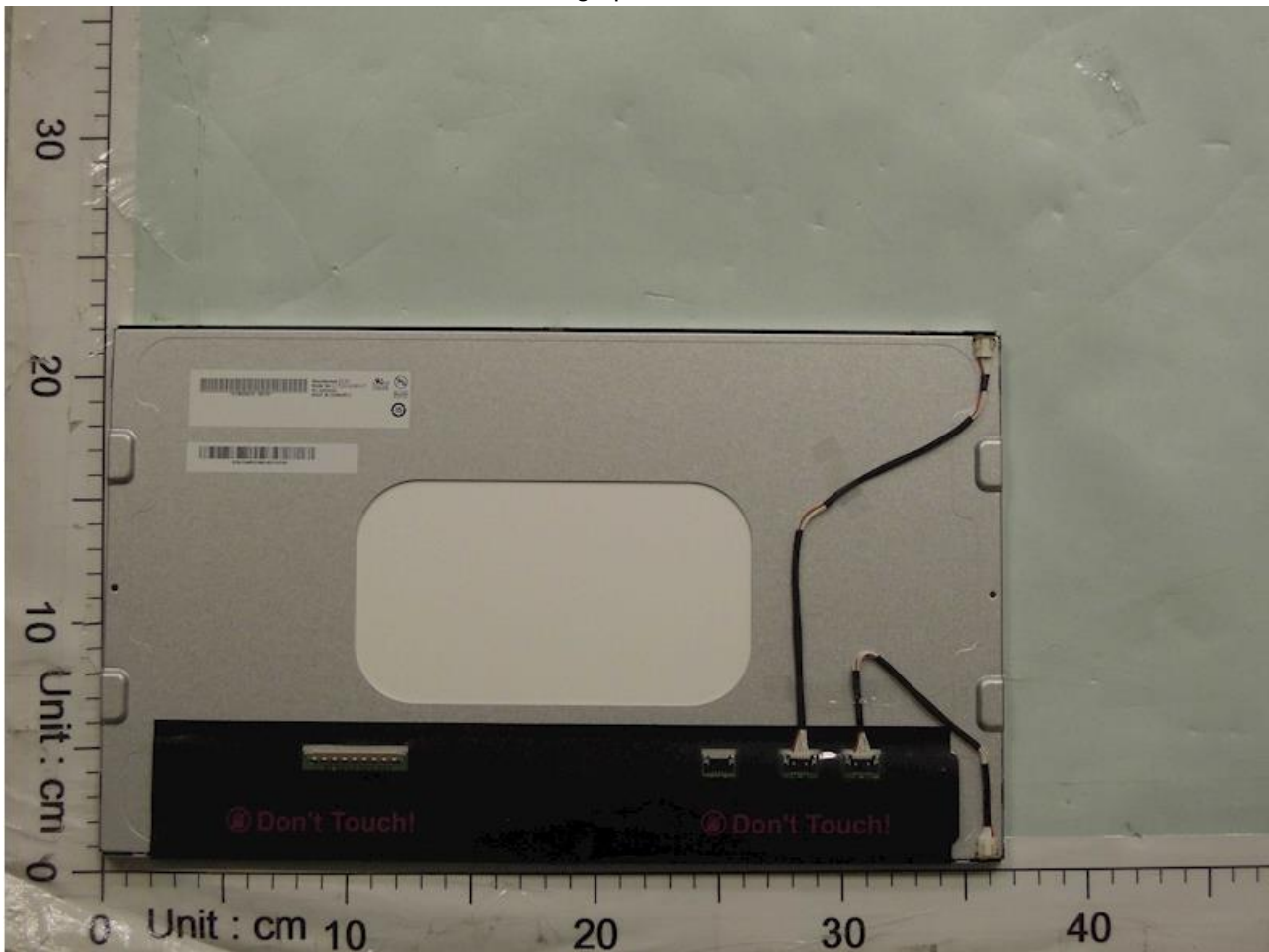
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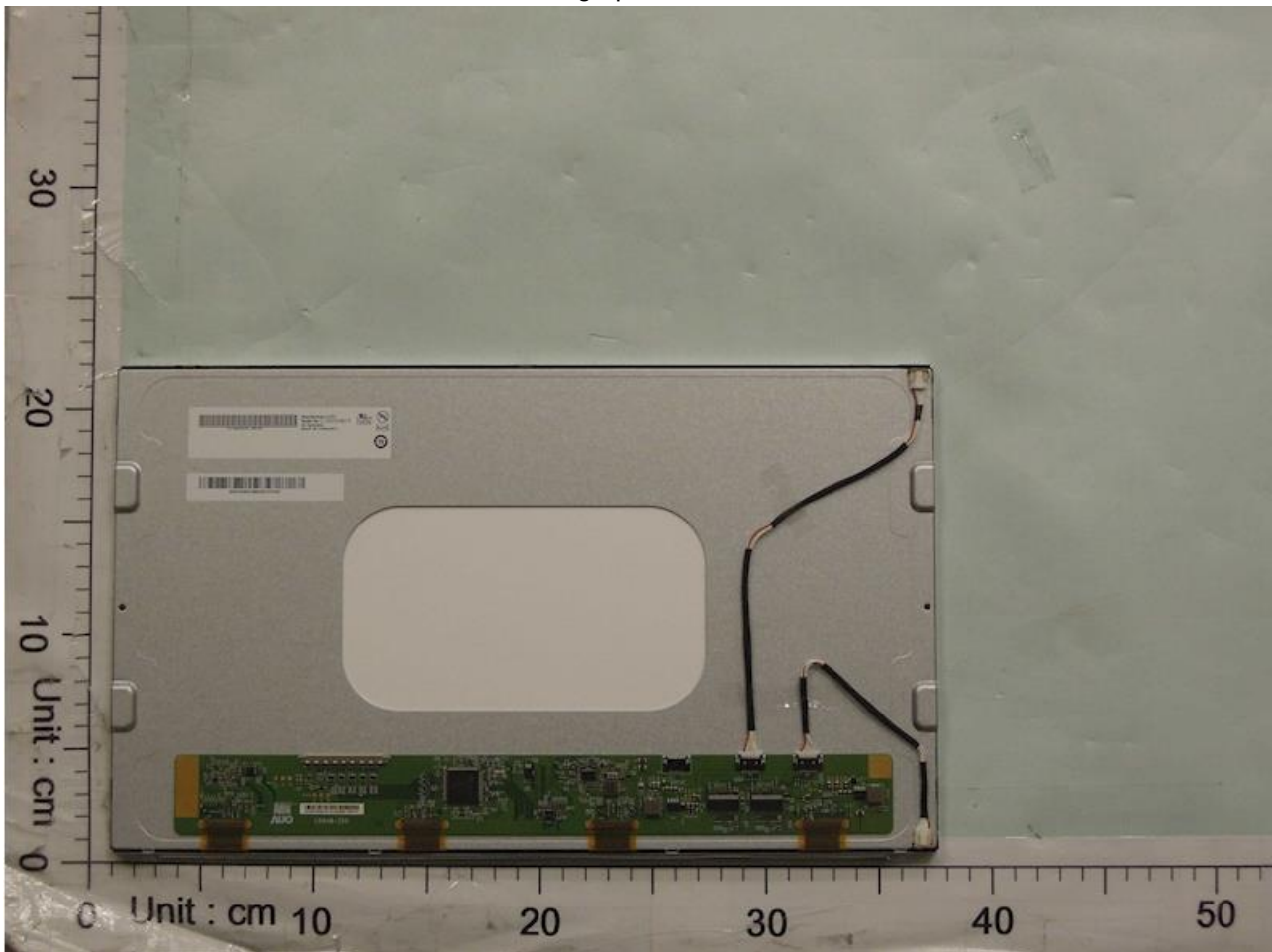
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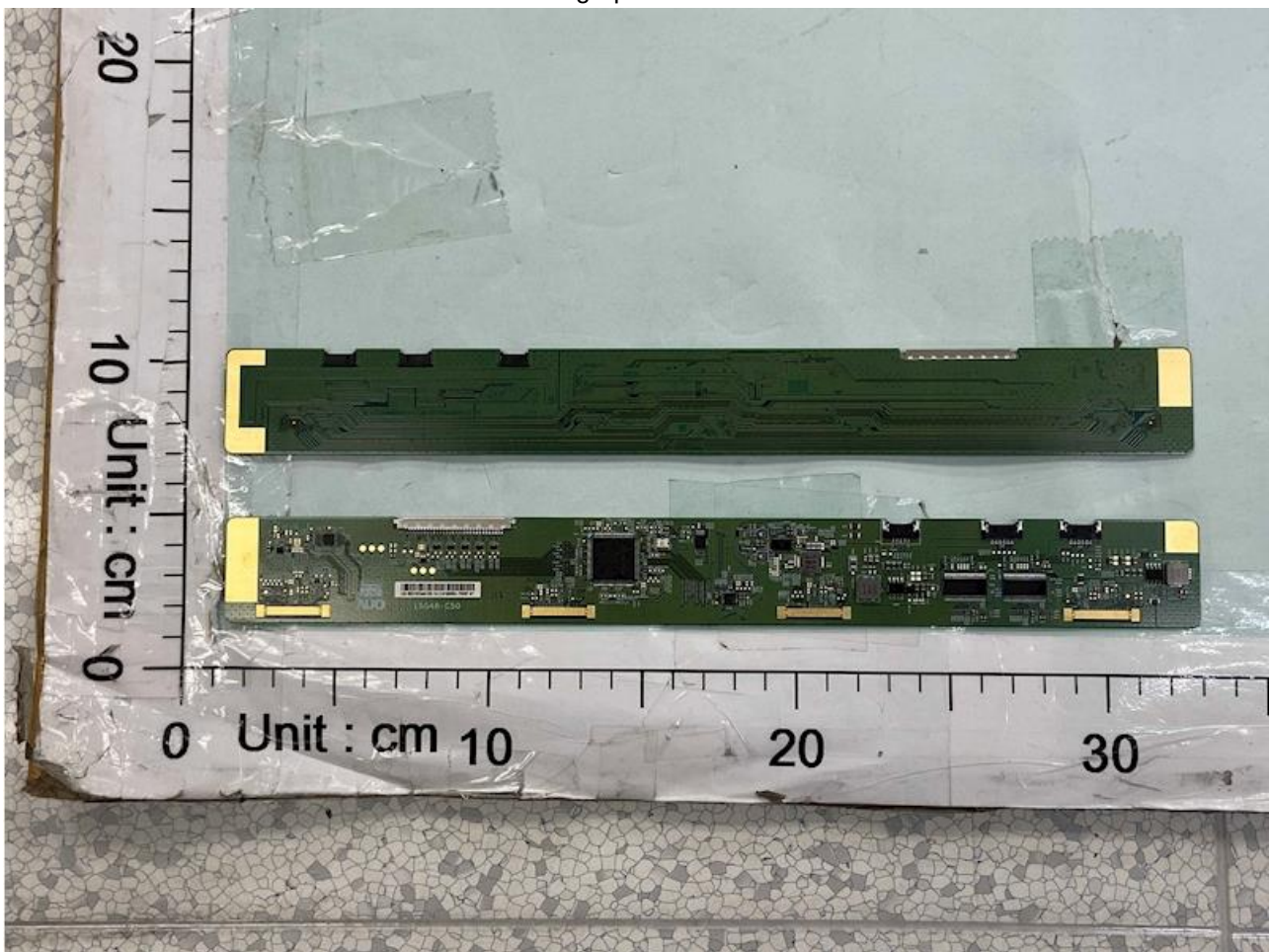
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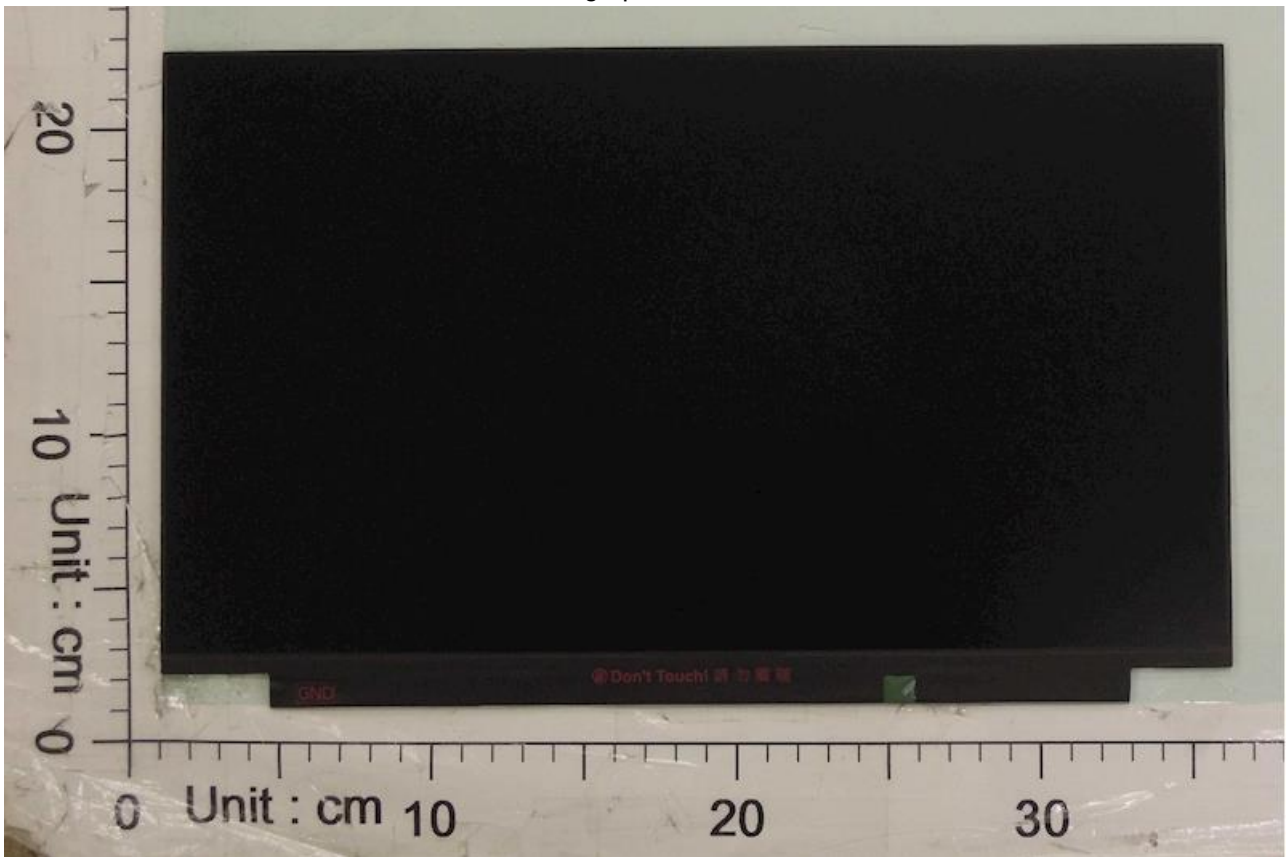
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Photographs ID 03-37



Enclosures

Photographs ID 03-38



Enclosures

Photographs ID 03-39



Enclosures

Photographs ID 03-40



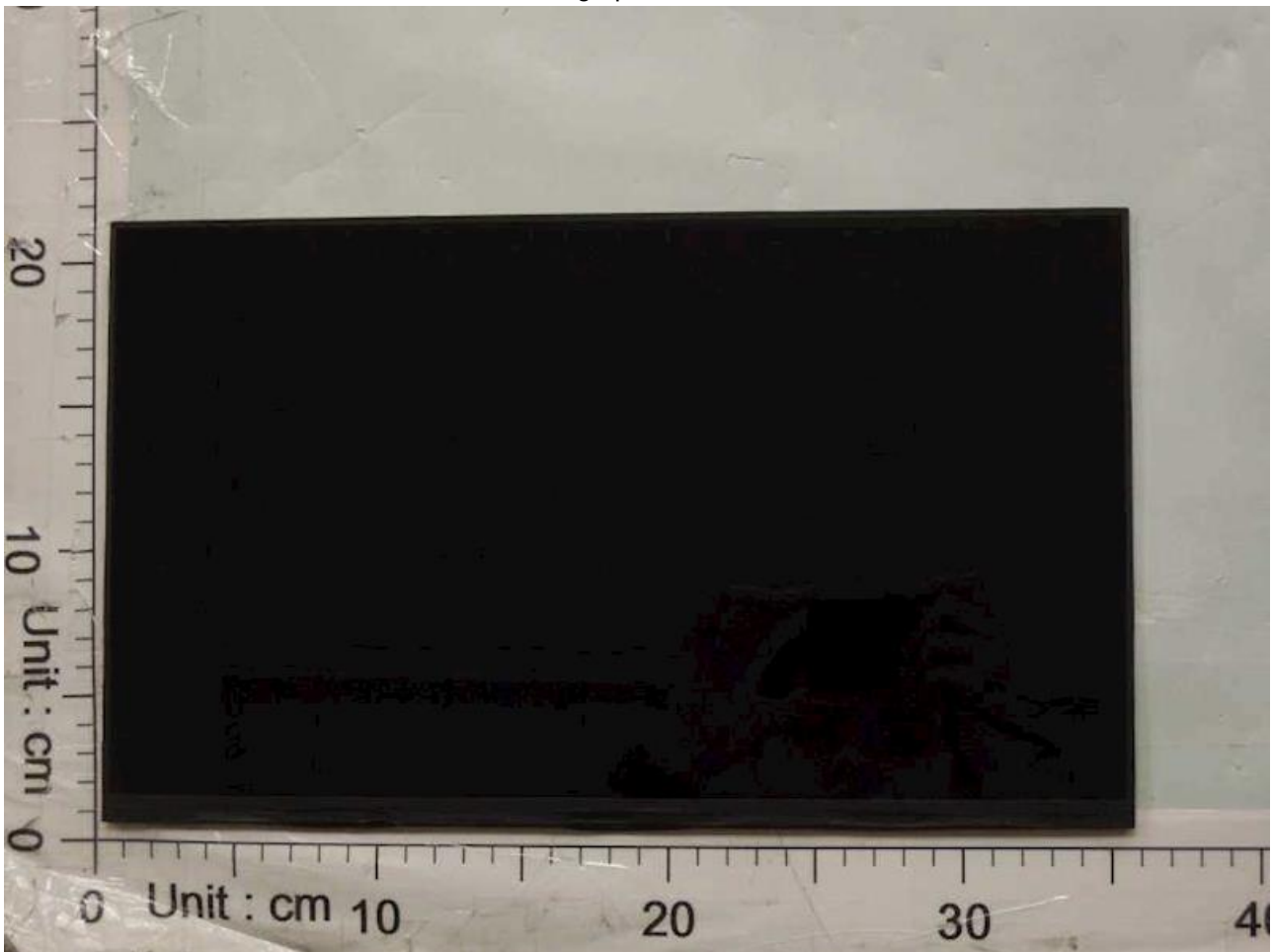
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Photographs ID 03-41



Enclosures

Photographs ID 03-42



Enclosures

Photographs ID 03-43



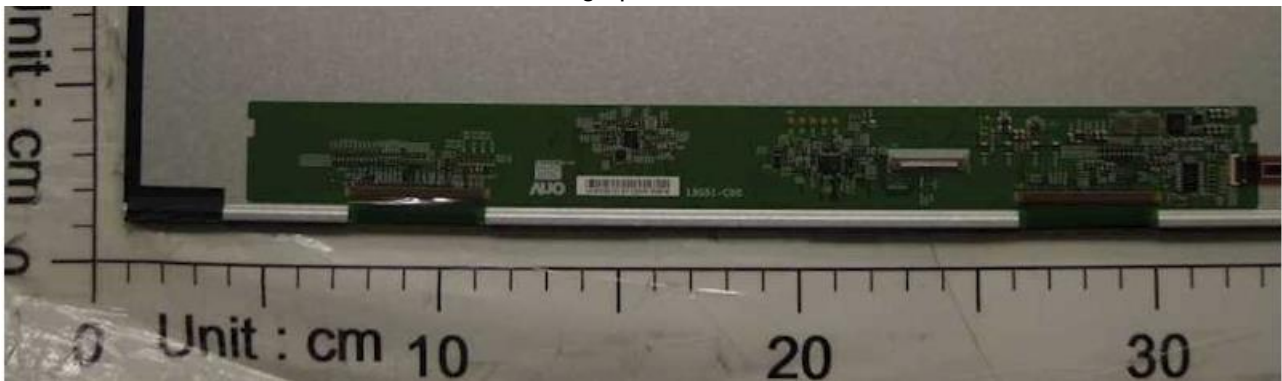
Enclosures

Photographs ID 03-44



Enclosures

Photographs ID 03-45



Enclosures

Miscellaneous ID 07-01

TEST INSTRUMENTS REFERENCE LIST

Instr. Code	Instrument I.D.	Instrument Type	Range Used Or ***	Make and Model **	Calibration Date	
					Last	Due
#1	EF914989	DC power supply	V: Max 30V A: Max 12A	GW/GPS-2303	2022-11-07	2023-11-06
#2	C011094	Oscilloscope	Frequency: Max 100MHz Maximum input voltage (1 MΩ): 150 VRMS with peaks at ≤400 V	TEKTRONIX/TDS 3012C	2022-12-07	2023-12-06
#3	91K136236	Temperature Recorder	Temperature: 0~200 °C	YOKOGAWA/MX100-E-1D	2023-02-16	2024-02-15
#4	809Q07R	Stop Watch	Time:0 - 5000s	CASIO/ HS-80TW	2022-10-13	2023-10-12
#5	5102312T1518	Weighing Scale	0.1Kg ~ 25 Kg	JADEVER/ JWE-30	2021-09-14	2023-09-13
#6	HE01-100110	Temperature & Humidity Recorder	10~50°C 30~70% RH	SEKONIC / ST-50	2022-05-26	2023-05-25

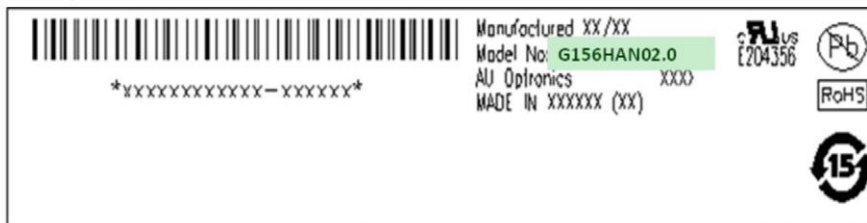
Enclosures

Marking Plate ID 13-01

Trademark printed on the frame



Label representative for model names of G156HANZZZ



Label representative for model names of G156HTNZZZ



Label representative for model names of G156XTNZZZ



Label representative for model names of G156XTTZZZ



Enclosures

Marking Plate ID 13-01

Label representative for model names of G156HATZZZZ

