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 .....:	E252145-A6012-CB-1
Date of issue .....:	2022-08-02 ; Amendment 2 : 2024-06-14
Total number of pages.....:	25
Name of Testing Laboratory preparing the Report.....:	UL-CCIC Company Limited
Applicant's name.....:	**WEIHAI DAEWOO ELECTRONICS CO LTD**
Address .....:	**ECONOMIC & TECHNICAL DEVELOPMENT ZONE 26 HONGKONG RD WEIHAI SHANDONG 264205 CHINA**
Test specification:	
Standard .....:	IEC 62368-1: 2018
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_1E
Test Report Form(s) Originator...:	UL(US)
Master TRF .....:	Dated 2022-04-14

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

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.
This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory.
The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test Item description :	Security LED Monitor
Trade Mark(s) .....:	None
Manufacturer.....:	Hanwha Vision Co Ltd 6, Pangyo-ro 319Beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, REPUBLIC OF KOREA
Model/Type reference .....:	SMT-2431
Ratings .....:	100-240Vac, 50/60Hz, 1.0A

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	**CB Testing Laboratory:**		
Testing location/ address .....:		UL-CCIC Company Limited No. 2, Chengwan Road, Suzhou Industrial Park, Suzhou 215122, China	
Tested by (name, function, signature).....:		Rhea Zhao / Project Handler	Rhea Zhao
Approved by (name, function, signature) ..:		Star Gu / Reviewer	Star Gu
☐	**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 .....:			
Tested by (name, function, signature).....:			
Witnessed by (name, function, signature) .:			
Approved by (name, function, signature) ..:			
☐	**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 (17 pages)
Enclosures (0 pages)

Summary of testing:

Tests performed (name of test and test clause):	**Testing Location:** **Unless otherwise noted, test are all conducted in** **CBTL: UL-CCIC Company Limited** **No. 2, Chengwan Road, Suzhou Industrial Park, Suzhou 215122, China**
4.4.3.2, T.3 – STEADY FORCE TEST, 30 N FOR SAFEGUARD THAT ACTS AS FIRE ENCLOSURE/BARRIER ONLY 4.4.3.2, T.5 – STEADY FORCE TEST, 250 N 4.4.3.4, T.6 - IMPACT TEST 4.8.4.2, T.8 – EQUIPMENT CONTAINING COIN/BUTTON CELL BATTERIES: STRESS RELIEF TEST 8.7 – WALL, CEILING, OR OTHER STRUCTURE MOUNTING TESTS B.2.5 – INPUT TEST: SINGLE PHASE B.2.6, 5.4.1.4, 6.3, 9.3, B.1.5 – NORMAL OPERATING CONDITIONS TEMPERATURE MEASUREMENT B.4 – SIMULATED SINGLE FAULT CONDITIONS	

Summary of compliance with National Differences (List of countries addressed):

Australia - AU, New Zealand - NZ, China - CN, EU Group Differences, Japan - JP, Saudi Arabia - SA, United States of America - US, Canada - CA

☒ **The product fulfils the requirements of** AS/NZS 62368.1:2022;
EN IEC 62368-1:2020+A11:2020,
CSA/UL 62368-1:2019,
GB 4943.1-2022,
National standard SASO-IEC 62368-1:2020;
J62368-1(2023)

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 IECEE. IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE 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:	
Product group	end product
Classification of use by	Ordinary person Children likely to be present
Supply Connection	AC Mains
Supply tolerance	+10%/-10%
Supply connection – type	pluggable equipment type A - appliance coupler
Considered current rating of protective device	20 A; Location: building
Equipment mobility	movable wall/ceiling-mounted
Over voltage category (OVC)	OVC II
Class of equipment	Class I
Special installation location	N/A
Pollution degree (PD)	PD 2
Manufacturer's specified Tma (°C)	40
IP protection class	IPX0
Power systems	TN
Altitude during operation (m)	5000 m
Altitude of test laboratory (m)	2000 m or less
Mass of equipment (kg)	Approx. 3.42
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 .....:	2024-05-16
Date (s) of performance of tests .....:	2024-05-20 to 2024-05-27
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 IECEE 02:	

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) ..... :	WEIHAI DAEWOO ELECTRONICS CO LTD ECONOMIC & TECHNICAL DEVELOPMENT ZONE 26 HONGKONG RD WEIHAI SHANDONG 264205 CHINA

General product information and other remarks:

The original report was modified on 2024-06-14 to include the following changes/additions:

- This test Report should be read in conjunction with the original Report, No.: E252145-A6012-CB-1, issued 2022-08-02, with CB Certificate No. (DK-130536-UL), issued 2022-08-02; the amendment Report, No.: E252145-A6012-CB-1 Amendment 1, issued 2023-10-18, with CB Certificate No. (DK-130536-A1-UL), issued 2023-10-18.

- This Report were deemed to technical amend, due to:

1. Add alternate LCD Panel with LED backlight, see 4.2.1 10afor details.

2. Update Summary of compliance with National Differences.

--Only limit tests were considered necessary.

Product Description

Security LED Monitor, powered by AC source. All components are mounted on min. V-1 PWB and housed in metal and plastic enclosure with following features:

1.LCD Type: 23.8 inch LCD panel with LED backlight;

2.Building-in power supply board MP42TL-2M21-A;

3.VGA and HDMI ports;

4.The internal metal chassis is considered as fire enclosure and mechanical enclosure, and the external plastic enclosure is regarded as electrical enclosure and mechanical enclosure, made of min. HB material;

5.Base stand (optional use), made of min. HB material.

6.Maximum declared ambient: 40°C.

Model Differences

N/A

Additional Information

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 : 40°C
- The product is intended for use on the following power systems : TN
- Considered current rating of protective device as part of the building installation (A) : 20
- Mains supply tolerance (%) or absolute mains supply : +10%/-10%
- The equipment disconnect device is considered to be : Appliance inlet
- The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS) : HDMI port, VGA port
- The following are available from the Applicant upon request : Installation (Safety) Instructions / Manual
- The product was investigated to the following additional standard : CAN/CSA C22.2 No. 62368-1:19, 3rd Edition, UL 62368-1 3rd Edition, Issued December 13, 2019

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

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				Pass
Supply voltage (V) .....:	--	--	--	--	—
Ambient temperature during test T_{amb} (°C) .....:	--	--	--	--	—
Maximum measured temperature T of part/at:	T (°C)				Allowed T_{max} (°C)
HDMI mode	--	--	--	--	--
--	90V/60Hz	90V/60Hz	264V/60Hz	264V/60Hz	--
--	--	Shift to Tma	--	Shift to Tma	--
1.AC inlet	36.9	52.9	35.1	51.5	70
2.CX2 capacitor	38.4	54.4	37.1	53.5	100
3.L2 coil	43.6	59.6	40.2	56.6	130
4. C3 capacitor	46.7	62.7	43.0	59.4	105
5.T1 coil	57.7	73.7	59.5	75.9	110
6.T1 core	58.6	74.6	60.7	77.1	110
7.CY4 capacitor	45.3	61.3	45.1	61.5	125
8.PC1	42.3	58.3	42.1	58.5	110
9.PCB under HS1 heat sink	50.8	66.8	53.7	70.1	130
10.LB1 coil	60.9	76.9	62.1	78.5	130
11.PCB near UP8(main board)	44.7	60.7	44.1	60.5	130
12.Ambient	24.0	40.0	23.6	40.0	--
13.Plastic enclosure (near power board)	29.6	30.6	29.0	30.4	94
14.Metal enclosure (near power inlet)	34.3	35.3	33.8	35.2	70
15.Panel surface	31.5	32.5	31.0	32.4	94
16.Button surface	28.3	29.3	27.7	29.1	77
12.Ambient	24.0	25.0	23.6	25.0	--
B.3: Ventilation opening blocked (HDMI mode)	264V/60Hz	264V/60Hz	--	--	--
--	--	Shift to Tma	--	--	--
1.AC inlet	35.3	51.7	--	--	300
2.CX2 capacitor	37.5	53.9	--	--	300
3.L2 coil	40.6	57.0	--	--	300
4. C3 capacitor	43.5	59.9	--	--	300
5.T1 coil	59.9	76.3	--	--	175

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Clause	Requirement + Test	Result - Remark	Verdict

6.T1 core	61.3	77.7	--	--	175
7.CY4 capacitor	45.8	62.2	--	--	300
8.PC1	42.2	58.6	--	--	300
9.PCB under HS1 heat sink	54.1	70.5	--	--	300
10.LB1 coil	62.5	78.9	--	--	300
11.PCB near UP8(main board)	43.9	60.3	--	--	300
12.Ambient	23.6	40.0	--	--	--
13.Plastic enclosure (near power board)	28.5	29.9	--	--	104
14.Metal enclosure (near power inlet)	33.8	35.2	--	--	80
15.Panel surface	31.1	32.5	--	--	104
16.Button surface	27.6	29.0	--	--	87
12.Ambient	23.6	25.0	--	--	--
--	264V/60Hz	264V/60Hz	264V/60Hz	264V/60Hz	--
--	--	Shift to Tma	--	Shift to Tma	--
B.4: HDMI mode	T1 pin8-pin10 short	T1 pin8-pin10 short	T1 pin9-pin11 short	T1 pin9-pin11 short	--
1.AC inlet	40.5	58.4	39.7	58.2	300
2.CX2 capacitor	44.6	62.5	44.2	62.7	300
3.L2 coil	48.2	66.1	48.2	66.7	300
4. C3 capacitor	56.1	74.0	57.4	75.9	300
5.T1 coil	98.1	116.0	113.3	131.8	175
6.T1 core	105.1	123.0	118.8	137.3	175
7.CY4 capacitor	55.2	73.1	56.2	74.7	300
8.PC1	52.4	70.3	53.0	71.5	300
9.PCB under HS1 heat sink	80.1	98.0	84.5	103.0	300
10.LB1 coil	84.4	102.3	91.5	110	300
11.PCB near UP8(main board)	44.4	62.3	43.5	62.0	300
12.Ambient	22.1	40.0	21.5	40.0	--
13.Plastic enclosure (near power board)	30.1	33.0	29.9	33.4	104
14.Metal enclosure (near power inlet)	38.8	41.7	38.1	41.6	80
15.Panel surface	34.1	37.0	33.5	37.0	104
16.Button surface	27.4	30.3	26.3	29.8	87
12.Ambient	22.1	25.0	21.5	25.0	--
B.4: HDMI mode	DF4 short	DF4 short	--	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

1.AC inlet	25.0	42.8	--	--	300
2.CX2 capacitor	27.0	44.8	--	--	300
3.L2 coil	27.0	44.8	--	--	300
4. C3 capacitor	26.6	44.4	--	--	300
5.T1 coil	30.4	48.2	--	--	175
6.T1 core	30.7	48.5	--	--	175
7.CY4 capacitor	28.5	46.3	--	--	300
8.PC1	27.8	45.6	--	--	300
9.PCB under HS1 heat sink	29.2	47.0	--	--	300
10.LB1 coil	27.6	45.4	--	--	300
11.PCB near UP8(main board)	24.0	41.8	--	--	300
12.Ambient	22.2	40.0	--	--	--
13.Plastic enclosure (near power board)	24.1	26.9	--	--	104
14.Metal enclosure (near power inlet)	24.7	27.5	--	--	80
15.Panel surface	23.7	26.5	--	--	104
16.Button surface	23.2	26.0	--	--	87
12.Ambient	22.2	25.0	--	--	--
--	264V/60Hz	264V/60Hz	264V/60Hz	264V/60Hz	--
--	--	Shift to Tma	--	Shift to Tma	--
ANNEX G.5.3.3 – TRANSFORMER OVERLOAD (HDMI mode)	T1 pin9-pin11 after DF1	T1 pin9-pin11 after DF1	T1 pin8-pin10 after DF4	T1 pin8-pin10 after DF4	--
1.AC inlet	42.4	58.7	43.0	60.3	300
2.CX2 capacitor	48.2	64.5	44.9	62.2	300
3.L2 coil	55.3	71.6	51.7	69.0	300
4. C3 capacitor	63.2	79.5	58.0	75.3	300
5.T1 coil	110.5	126.8	122.8	140.1	175
6.T1 core	116.6	132.9	116.4	133.7	175
7.CY4 capacitor	56.7	73.0	69.2	86.5	300
8.PC1	53.7	70.0	63.6	80.9	300
9.PCB under HS1 heat sink	89.3	105.6	82.0	99.3	300
10.LB1 coil	100.3	116.6	87.8	105.1	300
11.PCB near UP8(main board)	48.2	64.5	47.1	64.4	300
12.Ambient	23.7	40.0	22.7	40.0	--
13.Plastic enclosure (near power board)	32.6	33.9	31.0	33.3	104

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Clause	Requirement + Test	Result - Remark	Verdict

14.Metal enclosure (near power inlet)	39.6	40.9	39.4	41.7	80
15.Panel surface	35.4	36.7	33.6	35.9	104
16.Button surface	28.8	30.1	27.1	29.4	87
12.Ambient	23.7	25.0	22.7	25.0	--
For test record 2	--	--	--	--	--
HDMI mode or VGA mode	--	--	--	--	--
1.AC inlet	34.3	52.2	35.1	52.3	70
2.CX2 capacitor	38.0	55.9	38.6	55.8	110
3.L2 coil	43.0	60.9	41.2	58.4	130
4. C3 capacitor	45.8	63.7	44.1	61.3	105
5.T1 coil	54.4	72.3	58.8	76.0	110
6.T1 core	53.3	71.2	57.7	74.9	110
7.CY4 capacitor	40.9	58.8	43.0	60.2	125
8.PC1	38.6	56.5	40.6	57.8	110
9.PCB under HS1 heat sink	46.1	64.0	50.6	67.8	130
10.LB1 coil	56.8	74.7	60.0	77.2	130
11.PCB near UP8(main board)	33.9	51.8	35.5	52.7	130
12.Ambient	22.1	40	22.8	40	--
12.Plastic enclosure (near power board)	25.1	28	26.6	28.8	77
13.Metal enclosure (near power inlet)	32.3	35.2	33.8	36	60
14.Panel surface	25.9	28.8	27.3	29.5	77
15.Button surface	25.9	28.8	26.6	28.8	60
16.Ambient	22.1	25	22.8	25	--

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:

Tamb = The thermal steady state temperature measurement of the ambient air.
T = The thermal steady state temperature measurement.
Tmax = The limit of the thermal steady state temperature measurement.

Note 1: Tma should be considered as directed by applicable requirement
Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)

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

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Clause	Requirement + Test	Result - Remark	Verdict

HDMI mode	--	--	--	--	--	--	--	--
90	50	0.37	--	18.02	--	F1	0.37	Maximum Normal Load
90	60	0.37	--	18.12	--	F1	0.37	Maximum Normal Load
100	50	0.34	1.0	17.95	--	F1	0.34	Maximum Normal Load
100	60	0.33	1.0	17.98	--	F1	0.33	Maximum Normal Load
240	50	0.19	1.0	18.29	--	F1	0.19	Maximum Normal Load
240	60	0.19	1.0	18.28	--	F1	0.19	Maximum Normal Load
264	50	0.18	--	18.42	--	F1	0.18	Maximum Normal Load
264	60	0.18	--	18.41	--	F1	0.18	Maximum Normal Load
VGA mode	--	--	--	--	--	--	--	--
90	50	0.36	--	17.55	--	F1	0.36	Maximum Normal Load
90	60	0.36	--	17.65	--	F1	0.36	Maximum Normal Load
100	50	0.32	1.0	17.49	--	F1	0.32	Maximum Normal Load
100	60	0.33	1.0	17.52	--	F1	0.33	Maximum Normal Load
240	50	0.18	1.0	17.76	--	F1	0.18	Maximum Normal Load
240	60	0.19	1.0	17.79	--	F1	0.19	Maximum Normal Load
264	50	0.17	--	17.93	--	F1	0.17	Maximum Normal Load
264	60	0.18	--	17.96	--	F1	0.18	Maximum Normal Load
For test record 2	--	--	--	--	--	--	--	--
HDMI mode	--	--	--	--	--	--	--	--
90	50	0.37	--	18.42	--	F1		Maximum Normal Load

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Clause	Requirement + Test	Result - Remark	Verdict

90	60	0.37	--	18.32	--	F1		Maximum Normal Load
100	50	0.34	1.0	18.34	--	F1		Maximum Normal Load
100	60	0.33	1.0	18.28	--	F1		Maximum Normal Load
240	50	0.20	1.0	18.44	--	F1		Maximum Normal Load
240	60	0.18	1.0	18.35	--	F1		Maximum Normal Load
264	50	0.18	--	18.61	--	F1		Maximum Normal Load
264	60	0.17	--	18.53	--	F1		Maximum Normal Load
VGA mode	--	--	--	--	--	--	--	--
90	50	0.36	--	18.05	--	F1		Maximum Normal Load
90	60	0.36	--	18.06	--	F1		Maximum Normal Load
100	50	0.33	1.0	17.95	--	F1		Maximum Normal Load
100	60	0.33	1.0	17.99	--	F1		Maximum Normal Load
240	50	0.19	1.0	18.10	--	F1		Maximum Normal Load
240	60	0.18	1.0	18.12	--	F1		Maximum Normal Load
264	50	0.18	--	18.23	--	F1		Maximum Normal Load
264	60	0.18	--	18.25	--	F1		Maximum Normal Load
Supplementary information:								
Equipment may be have rated current or rated power or both. Both should be measured Maximum Normal Load: Full white is displayed on monitor, and maximum brightness and contrast.								

B.3, B.4	**TABLE: Abnormal operating and fault condition tests**	Pass
Ambient temperature T_{amb} (°C) ..... :	-- --	—
Power source for EUT: Manufacturer, model/type, output rating . :	-- --	—

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

Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation
Ventilation openings	Blocked	264V/60 Hz	1h6min	F1	0.18	Unit operated normally. NF,NB.
D1	Short	264V/60 Hz	1s	F1	0	F1 open. unrecoverable. NB,NF.
C3	Short	264V/60 Hz	1s	F1	0	F1 open. unrecoverable. NB,NF.
QF1 G-D	Short	264V/60 Hz	1s	F1	0	F1 open. unrecoverable. NB,NF.
QF1 D-S	Short	264V/60 Hz	1s	F1	0	F1 open. unrecoverable. NB,NF.
QF1 G-S	Short	264V/60 Hz	1s	F1	0	F1 open. unrecoverable. NB,NF.
RF22	Short	264V/60 Hz	5min	F1	0.16	Unit operated normally. NB,NF.
T1 pin8-pin10	Short	264V/60 Hz	1h17min	F1	0.29	Unit operated normally. NB,NF.
T1 pin9-pin11	Short	264V/60 Hz	1h23min	F1	0.29	Unit operated normally. NB,NF.
DF1	Short	264V/60 Hz	5min	F1	0.05	Unit shut down immediately. Recoverable. NB,NF.
DF4	Short	264V/60 Hz	4h	F1	0.05~0.18	Unit shut down immediately. Recoverable. NB,NF.
PC1 pin1-pin2	Short	264V/60 Hz	5min	F1	0.05	Unit shut down immediately. Recoverable. NB,NF.
PC1 pin3-pin4	Short	264V/60 Hz	5min	F1	0.05	Unit shut down immediately. Recoverable. NB,NF.
T1 pin9-pin11 after DF1(12V/1.5A)	overload	264V/60 Hz	5h11min	F1	0.18-> 0.37-> 0.47-> 0.60-> 0.05	Unit operated normally, Additional overload form 0A to 2.0 A, to 3.0 A, to 4.0A and then 4.2A shut down. NB,NF.
T1 pin8-pin10 after DF4(5V/2.5A)	overload	264V/60 Hz	3h12min	F1	0.18-> 0.45-> 0.05	Unit operated normally, Additional overload form 0A to 6.0A.

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Clause	Requirement + Test	Result - Remark	Verdict

						But power board damage when additional overload from 6.0A to 6.5A. unrecoverable. NB,NF.
LED	overload	--	10min	F1	--	Unit was damage when Supply voltage was 9.5Vdc. NF.
For test record 2	--	--	--	--	--	--
LED	Overvoltage	3.1Vdc	15mins	--	--	The LED is input from 3Vdc until the input voltage reaches 19.6Vdc and the light goes off. NF.

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.

NF - No Flame; NB No indication of dielectric breakdown.

NB - No indication of dielectric breakdown;

NF - No Flame;

For fuse opened condition, same result came out for each source of fuse used.

For engineer judgement,waived the Ventilation openings test.It doesn't have a negative impact

T.2, T.3, T.4, T.5	**TABLE: Steady force test**	Pass

Location/Part	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation
Top	Plastic	2.00	--	250	5	No damage.
Bottom	Plastic	2.00	--	250	5	No damage.
Sides	Plastic	2.00	--	250	5	No damage.
Internal metal chassis(bottom)	metal	0.53	--	250	5	No damage.
For test record 2	--	--	--	--	--	--
Internal metal chassis(bottom)	metal	0.53	--	30	5	No damage, No cracking
Top	Plastic	2.00	--	250	5	No damage, No cracking
Bottom	Plastic	2.00	--	250	5	No damage, No cracking

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Clause	Requirement + Test	Result - Remark	Verdict

Sides	Plastic	2.00	--	250	5	No damage, No cracking
Internal metal chassis(bottom)	metal	0.53	--	250	5	No damage, No cracking
Supplementary information:						

T.6, T.9	**TABLE: Impact test**			Pass
Location/Part	Material	Thickness (mm)	Height (mm)	Observation
Top	Plastic	2.00	1300	No damage.
Bottom	Plastic	2.00	1300	No damage.
Sides	Plastic	2.00	1300	No damage.
For test record 2	--	--	--	--
Top	Plastic	2.00	1300	No damage, No cracking
Bottom	Plastic	2.00	1300	No damage, No cracking
Sides	Plastic	2.00	1300	No damage, No cracking
Supplementary information:				

T.8	**TABLE: Stress relief test**				Pass
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
Plastic enclosure	Plastic	2.00	70	7	No damage.
For test record 2	--	--	--	--	--
Plastic enclosure	Plastic	2.00	70	7	No damage, No cracking, No reduced
Supplementary information:					

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Clause	Requirement + Test	Result - Remark	Verdict

4.1.2	**TABLE: Critical components information**	Pass

Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
01. Label	Interchangeable	Interchangeable	Minimum 70 degree C, suitable for affixed material.	UL969	UL , --
02. Internal Wirings (Secondary Circuits)	Interchangeable	Interchangeable	Marked or rated VW-1, min. 30 V, min. 60 degree C, routed away from primary un-insulated live parts and primary circuit wiring.	UL758	UL , --
03. Insulating Tubing/Sleeving	Interchangeable	Interchangeable	Marked or rated VW-1, min. 105 degree C, min. 300 V.	UL224, UL1444	UL , --
04. Connectors and Receptacles (Secondary Circuits)	Interchangeable	Metal/Plastic	Copper alloy pins housed in bodies of plastic rated min. V-2.	UL94	UL , --
04a. Connectors and Receptacles (Secondary Circuits) (Alternate)	Interchangeable	Interchangeable	Metal/Plastic	UL498, UL1977	UL , --
05. Internal Plastic Part Materials	Interchangeable	Interchangeable	Rated min. V-2.	UL94	UL , --
06. Interconnecting Cable, (Optional; detachable)	Interchangeable	Interchangeable	Min. 30V, 60 degree C, max. 3.05 m in length, marked VW-1 , suitable for external use, jacketed.	UL758, UL444, UL13	UL , --
06a. Interconnecting Cable, (Optional; detachable) (Alternate)	Interchangeable	Interchangeable	Max. 3.05 m long, suitable for external use, jacketed, type CMP, CMR, CMG, CM, CMX, CMUC.	UL444	UL , --

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Clause	Requirement + Test	Result - Remark	Verdict

Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
07. Power Supply Cord (Optional)	Interchangeable	Interchangeable	Detachable, Type SVT, SPT-2 or NISPT-2, min. 250 V ac, min. 18 AWG, min. 1.5 m and max. 2.4 m long, one end with grounding type NEMA 5-15P, the other end with appliance coupler	UL62, UL498 or UL817	UL , --
08. Printed Wiring Boards	Interchangeable	Interchangeable	V-0,130 degree C	UL796	UL , --
09. Base (Optional)	Interchangeable	Interchangeable	HB or better	UL94	-- , --
10. LCD Panel with LED backlight	Weihai Daewoo Electronics Co.,Ltd.	DW238EF	23.8 inch, LED backlight	--	-- , --
10a. LCD Panel with LED backlight-Alternate	Weihai Taiji Wisdom Display Optoelectronic Co., Ltd.	DW238EF-S7	23.8 inch, LED backlight	--	-- , --
11. Plastic enclosure	CHI MEI CORPORATION	PA-757(+)	ABS, 80°C, HB min. 2.0mm, see enclosure 04-05	UL 94	UL E56070
12. Mylar sheet (under power board)	SICHUAN DONGFANG INSULATING MATERIAL CO.,LTD	DFR116ECOB	V-0, min. 0.40mm thickness	UL 746	UL E199019
13. Power Board	Shenzhen MEGMEET Electrical Co., Ltd	MP42TL-2M21-A	--	--	-- , --
13-01. AC-Inlet (CON1)	Zhe Jiang Bei Er JiaElectronic Co., Ltd.	ST-A01-003J	15A,250Vac (UL); 10A,250Vac (VDE), 70℃	UL 60320-1; IEC 60320-1:2015	UL E225980 , VDE 40013388

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Clause	Requirement + Test	Result - Remark	Verdict

Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
13-01a. AC-Inlet (CON1)-alternate	ZHEJIANG LECI ELECTRONICS CO LTD	DB-14	15A,250Vac (UL); 10A,250Vac (VDE), 70℃	UL 60320-1; IEC 60320-1:2015	UL E302229 , VDE 40032137
13-01b. AC-Inlet (CON1)-alternate	TECX-UNIONS TECHNOLOGY CORP	TU-301-SP	15A,250Vac (UL); 10A,250Vac (ENEC), 70℃	UL 60320-1; IEC 60320-1:2015	UL E220004 , ENEC-00647-A1
13-02. Fuse (F1)	XC Electronics (Shenzhen) Corp Ltd	5TE	T3.15A, 250 Vac	UL248, IEC 60127	UL E249609 , VDE 40029550
13-03. NTC(RT1)	--	--	NTC, Rated 5Ω at 25 degree C,	--	-- , --
13-05. Bleeder resistors(R1,R2, R3,R4)	--	--	Max.1.5MΩ, Min.1/4W,	--	-- , --
13-06. X2-capacitor(CX2)	Xiamen Faratronic Co., Ltd.	MKP62	0.47uF, Min.250Vac,X2 type, min.100℃	UL 60384-14, IEC 60384-14:2013	UL E186600 , VDE 40000358
13-06a. X2-capacitor(CX2)-alternate	Europtronic (SuZhou)Co. Ltd.	MPX	0.47uF, Min.250Vac,X2 type, min.105℃	UL 60384-14, IEC 60384-14:2013	UL E211347 , VDE 40018238
13-06b. X2-capacitor(CX2)-alternate	Europtronic (SuZhou)Co. Ltd.	MPX2	0.47uF, Min.250Vac,X2 type, min.105℃	UL 60384-14, IEC 60384-14:2013	UL E211347 , VDE 40025981
13-06c. X2-capacitor(CX2)-alternate	Shenzhen Jinghao Capacitor Co., Ltd.	CBB62B	0.47uF, Min.250Vac,X2 type, min. 110℃	UL 60384-14, IEC 60384-14:2013	UL E252286 , VDE 40018690
13-06d. X2-capacitor(CX2)-alternate	YANGZHOU NISSEI ELECTRONICS CO LTD	MP1	0.47uF, Min.250Vac,X2 type, min.100℃	UL 60384-14, IEC 60384-14:2013	UL E351313 , VDE 40041628

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Clause	Requirement + Test	Result - Remark	Verdict

Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
13-06e. X2-capacitor(CX2)-alternate	NISTRONICS (JIANGXI) CO LTD	MPR	0.47uF, Min.250Vac,X2 type, min.100℃	UL 60384-14, IEC 60384-14:2013	UL E338685 , VDE 40032056
13-07. Filter (L2)	Shenzhen Megmeet Electrical Co., Ltd	SQ1212-15mH	Min. 130 degree C	--	-- , --
13-07-01. Filter (L2) -core	--	--	Ferrite	--	-- , --
13-07-02. Filter (L2) -coil	Interchangeable	Interchangeable	Rated min. 130 degree C	UL 1446	UL , --
13-07-03. Filter (L2) -bobbin	CHANG CHUN PLASTICS CO LTD (E59481)	T375HF	Phenolic (PF), rated V-0, 150 degree C, min. thickness 0.43 mm	UL 94	UL , --
13-08. Filter (LB1)	Shenzhen Megmeet Electrical Co., Ltd	RM6-L80uH	Min. 130 degree C	--	-- , --
13-09. Transistor(QF1)	--	--	Min. 500V, Min. 3A	--	-- , --
13-10. Electrolytic capacitor(C3)	Interchangeable	Interchangeable	Min.105 degree C, Min.450V, Max.82uF	--	-- , --
13-11. Printed Wiring Boards	Interchangeable	Interchangeable	V-0,130 degree C	UL796	UL , --
13-12. Y1-Capacitor (CY1,CY2,CY4)	Yinan Don's Electronic Component Co.,Ltd.	CT81	1000pF, Y1 type, Min.250Vac, 125℃	UL 60384-14, IEC 60384-14:2013	UL E145038 , VDE 135256
13-12a. Y1-Capacitor (CY1,CY2,CY4)-alternate	Walsin Technology Corp	AH series	1000pF, Y1 type, Min.250Vac	UL 60384-14, IEC 60384-14:2013	UL E146544 , VDE 40001804
13-12b. Y1-Capacitor	TDK CORPORATION	CD	1000pF, Y1 type, Min.250Vac	UL 60384-14, IEC 60384-14:2013	UL E37861

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Clause	Requirement + Test	Result - Remark	Verdict

Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
(CY1,CY2,CY4)-alternate					, VDE 40029780
13-12c. Y1-Capacitor (CY1,CY2,CY4)-alternate	Xiamen Wanming Electronics Co., Ltd.	HJ	1000pF, Y1 type, Min.250Vac	UL 60384-14, IEC 60384-14:2013	UL E221839 , VDE 40034438
13-12d. Y1-Capacitor (CY1,CY2,CY4)-alternate	Kunshan Wansheng Electronics Co.,Ltd	CT7	1000pF, Y1 type, Min.250Vac	UL 60384-14, IEC 60384-14:2013	UL E249006 , VDE 40012143
13-13. Photocoupler (PC1)	Lite-On Technology Corporation	LTV-817 series, LTV-816 series	Cr≥7.0mm, Cl≥7.0mm, DTI≥0.4mm reinforced insulation, 110℃	UL 1577, IEC 60747-5-5:2007	UL E113898 , VDE 40015248
13-13a. Photocoupler (PC1)-alternate	Everlight Electronics Co., Ltd	EL817 series	Cr≥7.6mmCl≥7.6mm, DTI≥0.4mmreinforced Insulation, 110℃	UL 1577, IEC 60747-5-5:2007	UL E214129 , VDE 132249
13-13b. Photocoupler (PC1)-alternate	COSMO Electronics Corp.	K1010	Cr≥6.5mm, Cl≥6.5mm, DTI≥0.4mmreinforced insulation, 110℃	UL 1577, IEC 60747-5-5:2007	UL E169586 , VDE 101347
13-14. Transformer (T1)	Shenzhen Megmeet Electrical Co., Ltd	EQ26-5V-12V	Class B	--	-- , --
13-14-00. Transformer (T1)- Insulation system	Shenzhen MEGMEET Electrical Co., Ltd	W-B	Class B	UL1446	UL(E340116) , --
13-14-01. Transformer (T1)- Core	--	--	Ferrite	--	-- , --

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Clause	Requirement + Test	Result - Remark	Verdict

Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
13-14-02. Transformer (T1)- Bobbin	SUMITOMO BAKELITE CO.,LTD	PM-9630	V-0, 150 degree C, Phenolic	UL94, UL746C	UL E41429 , --
13-14-02a. Transformer (T1)- Bobbin-alternate	Changchun Plastics Co., Ltd	T200HF	V-0, 150 degree C, Phenolic	UL94, UL746C	UL E59481 , --
13-14-03. Transformer (T1)- insulation tape	CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX*	130 degree C	UL510	UL E246820 , --
13-14-03a. Transformer (T1)- insulation Tape-alternate	JINGJIANG YAHUA PRESSURE SENSITIVEGLUE CO LTD	CT*(b)(g)	130 degree C	UL510	UL E165111 , --
13-14-04. Transformer (T1)- WIRE	SHENZHEN YANCHENG COMPOUND LINE CO LTD	xUEWF@/155, QA-x@/155	155 degree C	UL1446	UL E360434 , --
13-14-04a. Transformer (T1)- WIRE-alternate	GUANGDONG MEMI ELETRICAL TECHNOLOGYCO, LTD	@*UEW155	155 degree C	UL1446	UL E516355 , --
13-14-05. Transformer (T1)- TRIPLE INSULATED WIRE	GUANGZHOU WANBAO ELECTRONIC MATERIAL CO LTD	DTM-B	130 degree C	UL 2353	UL E323485 , --
13-14-06. Transformer (T1)- TUBE	GREAT HOLDING INDUSTRIAL CO LTD	TFT	200 degree C	UL224	UL E156256 , --
13-14-07. Transformer (T1)- VARNISH	Guangdong Jianxin Technology Co Ltd	JS-813, JS-812	155 degree C	UL1446	UL 339578 , --
13-14-07a. Transformer (T1)- VARNISH-alternate	SUZHOU TAIHU ELECTRIC ADVANCED MATERIAL CO LTD	T-4260(a)	130 degree C	UL1446	UL E228349 , --

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Clause	Requirement + Test	Result - Remark	Verdict

Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
13-14-08. Transformer (T1)- EPOXY	DONGGUAN EATTO ELECTRONIC MATERIAL CO LTD	3300A/B-1 E-500(XX)	130 degree C	UL94, UL746C	UL E218090 , --
14.Adhesive for aluminium foil pasted around internal metal chassis	Kunshan Rich&Crown Eleltronic Materials CO.,LTD	FAP-3875	120 degree C	Test with appliance, refer to E252145-A6006.	-- , --
15. Heat sink	--	--	Aluminium alloy, see enclosure 04-04	--	-- , --
16. Internal tape	Jiangsu Taiyi New Material Technology Co., Ltd.	TY-AP805C	Less than 4g	--	-- , --
17. Metal Enclosure	Interchangeable	Interchangeable	Aluminium alloy, 0.53 mm thickness, details see enclosure 04-02	--	-- , --

Supplementary information:

1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.

2) Description line content is optional. Main line description needs to clearly detail the component used for testing.

3) The CBTL has verified the component information.

4) License available upon request.

Enclosure
National Differences

Australia / New Zealand
China
EU Group and National Differences
Japan
Saudi Arabia
USA / Canada

IEC 62368_1E 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 62368.1:2022
TRF template used: ……..:	IECEE OD-2020-F3, Ed. 1.1
Attachment Form No. ……..:	AU_NZ_ND_IEC62368_1E
Attachment Originator ……..:	JAS-ANZ
Master Attachment ……..:	2022-07-01

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 conforming to AS/NZS 3112, shall conform to the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets. Conformity is checked by inspection and, if necessary, by the tests in AS/NZS 3112. NOTE: Equipment with plug portions for use in countries other than Australia and New Zealand will need to conform to other countries' requirements Note Additional AS/NZS 3112 Appendix J,TRF is appended to end of this TRF.		N/A
4.7.3	**Compliance Criteria** *Delete* this clause		N/A
4.8.1	**General** After second list, *add* the following: NOTE: Refer to the Consumer Goods (Products Containing Button/Coin Batteries) Safety Standard 2020 and Consumer Goods (Products Containing Button/Coin Batteries) Information Standard 2020 for more information on button cell batteries in Australia..		N/A
5.4.10.2.1	**General** *Delete* the first paragraph and *replace* with the following: In Australia, the separation is checked by the test given in both Clause 5.4.10.2.2 and Clause 5.4.10.2.3. In New Zealand, the separation is checked by the test given in either 5.4.10.2.2 or 5.4.10.2.3..		N/A

IEC 62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Table 28	*Delete* Table 28 and *replace* with the following: <table><tr><td rowspan="2">Parts</td><td colspan="2">Impulse test</td><td colspan="2">Steady state test</td></tr><tr><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</td><td>7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment.</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 [c]</td><td>1.0 kV</td><td>1.5 kV</td></tr><tr><td colspan="5">[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.</td></tr></table>		N/A
5.4.10.2.2	*Delete* “NOTE” and *replace* with “NOTE 1”. After NOTE 1, *add* the following: NOTE 2: For Australia, the 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 3: 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	*Delete* “NOTE” and *replace* with “NOTE 1”. After NOTE 1, *add* the following: NOTE 2: For Australia, where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 3: 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
6.6	After Clause 6.6, *add* the new Clauses 6.201 as follows: **6.201 External power supplies, docking stations and other similar devices** (see special national conditions)		N/A
Table 36	Footnote [a], after first sentence, *add* the following: Equipment having displays with moving images shall include “television sets and display devices”.		N/A
8.6.1	After Clause 8.6.1 *add* the following new clauses: **8.6.201 Restraining Device fixing point** (see special national conditions) **8.6.202 Restraining device** (see special national conditions)		N/A
Annex F Paragraph F.3.3.4	**Rated Voltage** *Delete* “NOTE” and *replace* with NOTE1” After NOTE 1, *add* the following Equipment that is intended for connection to the supply mains in Australia and New Zealand shall be marked with: (a) A rated voltage of: • 230 V for single phase equipment • 400 V for poly phase equipment Or (b) A rated voltage range that includes:		N/A

IEC 62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	• 230 V for single phase equipment • 400 V for poly phase equipment NOTE 2: equipment that is not rated as above is not suitable for direct connection to the supply mains in Australia or new Zealand.		
Annex F.3.3.5	After the list, *add* the following Equipment that is intended for connection to supply mains in Australia or New Zealand shall be marked with a rated frequency of 50 Hz or a rated frequency range or nominal value which includes 50Hz		N/A
Annex F.3.8	After "The DC output of an external power supply", insert "or docking stations and other similar external devices"		N/A
Annex G **Paragraph G.4.2**	**Mains connectors** 1 After "IEC 60320", insert "or AS/NZS 60320 series". 2 After "IEC 60906-1", insert"or AS/NZS 3123" 3 *After* first paragraph *add* the following: 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 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 Fourth dashed point *replace* 'IEC 61558-2-16' with 'AS/NZS 61558.2.16'.		N/A
Annex G.7.1	**Mains supply cords, General** Fourth dashed paragraph, *replace* 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A
Table G.7	**Sizes of conductors** 1 First column, second row, *delete* "6" and *replace* with "7.5" 2 Second column, second row, *delete* '0,75' and *replace* with '0.75[b] 3 *Delete* NOTE 1. 4 *Replace* 'NOTE 2' with 'NOTE:'. 5 *Delete* 'Footnote b' and *replace* 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 Footnote c *replace* 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A

IEC 62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	7 Footnote d *replace* 'IEC 60320-1' with 'AS/NZS 60320.1'		
Annex M M 2.1	*Add* "IEC 60086-2" to the list		N/A
Annex M Paragraph M.3.2	**Test method** Delete"NOTE" and replace with "NOTE 1" After NOTE 1 *add* the following: NOTE 2: 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 ES1 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
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— (a) at all ES1 outlets or connectors shall not increase by more than 10 % of the output rated voltage under normal operating conditions, measured after 3 s of introducing a singlefault condition and after 3 s of introducing abnormal operating conditions; and (b) of a USB outlet or connector shall not increase by more than 3 V or 10 % of the output rated voltage under normal operating conditions, whichever is higher, measured after3 seconds of introducing a single fault condition and after 3 s of introducing abnormal operating conditions For equipment with multiple rated voltages at the output, the requirements apply with the equipment configured for each output rated 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. The 3 s measurement delay is based on IEC document 108/742/INF, *TC 108, Standards Interpretation Panel Question 15 — Output voltage*, in relation to similar requirements in IEC 62368-3:2017.		N/A

IEC 62368_1E ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Conformity 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.		
8.6.201	**Restraining device fixing point** Freestanding-capable MS2 and MS3 television sets and display devices shall be provided with a fixing point to facilitate the anchoring of the equipment from toppling The fixing point shall conform to Clause 8.7 where the fixing point uses a wall, ceiling or other structure mount. Alternatively, the fixing point shall be capable of withstanding a pull equal to the mass of the equipment in all directions without damage Instructions for installation or instructions for use shall be provided to specify correct use of the fixing point		N/A
8.6.202	**Restraining device** MS2 and MS3 television sets and display devices shall be provided with a restraining device and associated hardware to attach to the television set or display device. The restraining device shall be capable of withstanding a pull equal to the mass of the equipment in all directions. Instructions for installation or instructions for use shall be provided to specify correct use of the fixing point		N/A

IEC62368_1E – ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT
IEC 62368-1
CHINA NATIONAL DIFFERENCES
(Audio/video, information and communication technology equipment -Part 1: Safety requirements)

Differences according to …..……:	GB 4943.1-2022
TRF template used: ……..:	IECEE OD-2020-F3, Ed. 1.1
Attachment Form No. ……:	CN_ND_IEC62368_1E
Attachment Originator ……..:	CQC
Master Attachment …… :	Dated 2022-12-01

4.1.2	**Use of components** Add a paragraph: A component used shall comply with related requirements corresponding altitude of the equipment.		N/A
4.11	Add clause 4.11,as follows: Protection in PRIMARY CIRCUITS against overcurrent short-circuits and earth faults shall be provided as an integral part of the equipment except the device shall meet the all requirement of Fault conditions. If pluggable equipment type B or permanently connected equipment depends on protective devices outside the equipment for protection, this shall be stated in the installation instructions of the equipment, with requirements for short-circuit protection, over-current protection ,or both if necessary.		N/A
5.3.2.2	**Contact requirements** Amend the 2nd paragraph of table 8 to be: For equipment intended to be used at altitude of 2000m to 5000m, the values in this table are multiplied by the multiplication factor corresponding altitude of 5000m.		N/A
5.4.2.5	**Multiplication factors for altitudes higher than 2 000 m above sea level** Amend the 1st paragraph to be: For equipment to be operated at more than 2000 m above sea level and up to 5000m above sea level, the minimum CLEARANCE in tables 10,11 and 14,and resistance test voltages required in table 15, shall meet the requirements of 5000 m above sea level, This		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	is multiplied by the multiplication factor corresponding altitude of 5000m in table 16. For equipment to be used at equal or less than 2000 m above sea level, the minimum CLEARANCE in tables 10, 11 and 14, and resistance test voltages required in table 15, shall meet the requirements of 2000 m above sea level. This is multiplied by the multiplication factor corresponding altitude of 2000m in table 16. Delete note 2 of Clause 5.4.2.5.		
5.4.5.1	**General** Delete the 2nd paragraph of Clause 5.4.5.1: This test does not apply to equipment where one antenna terminal on the equipment is connected to earth in accordance with 5.6.7. Add the following: The Insulation resistance between CATV antenna coaxial sockets and protective earth of apparatus shall comply with BASIC INSULATION. If it's possible that CLASS II apparatus with CATV antenna coaxial sockets connect with protective earth of another CLASS I apparatus by other terminals, the insulation resistance between them shall comply with BASIC INSULATION as well. If antenna cable separated from the protective earth before connection to the apparatus, there is no requirements of Insulation resistance between them but F.4 requirements shall be meet. *Del*ete "NOTE" of Clause 5.4.5.1		N/A
5.4.8	**Humidity conditioning** Amend clause 5.4.8 as follows : The humidity conditioning is conducted for 120 h in a cabinet or room containing air with ambient temperature (40±2) °C and a relative humidity of (93±3)%. During this conditioning, the component or subassembly is not energized. For equipment not to be operated at tropical climatic conditions, humidity conditioning is conducted for 48 h in a cabinet or room containing air with a relative humidity of (93±3) %. The temperature of the air, at all places where samples can be located, is maintained within 2 °C of any convenient value between 20 °C and 30 °C such that condensation does not occur.		N/A

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	Add note: For equipment to be operated at 2000 m - 5000m above sea level, assessment and requirement of humidity conditioning for Insulation material properties are considered. Pre-processing conditions and requirements below 2000m can be used until additional data is available.		
6.4.9 Y.4.3	Delete references to ASTM and NEMA.		N/A
6.5.1	**General requirements** Delete the text of the Note “Wire complying with UL 2556 VW-1 is considered to comply with these requirements”.		N/A
F.1	Amend the second paragraph of annex F.1 to be: Unless symbols are used or otherwise specified, safety related equipment markings, instructions, and instructional safeguards shall be in normative Chinese.		N/A
F.2.2	After the first paragraph of annex F.2.2 ,add the following: For apparatus intended to be used at altitude not exceeding 2000m, a warning label containing the following or a similar appropriate wording or a symbol shown below shall fixed to the equipment at readily visible place. "Only used at altitude not exceeding 2000m."  For apparatus intended to be used in not-tropical climate regions, a warning label containing the following or a similar appropriate wording or a symbol shown below shall fixed to the equipment at readily visible place. "Only used in not-tropical climate regions."  If only symbol used, the explanation of the symbol shall be contained in the instruction manual. The statements above shall be given in a language acceptable to the regions where the apparatus is intended to be used.		N/A
F.3.3.4	After the last paragraph, Added: ⋯for single rated voltage, “220 V” or three-phase “380V” shall be marked only. For a rating voltage range, 220 V or three-phase 380V shall be covered. For multiple rated		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	voltages, one of them shall be 220 V or three-phase 380V and which default setting from manufacture shall be 220 V or three-phase 380V as well.		
F.3.3.5	After the last paragraph, Added: Rated frequency shall be 50Hz or frequency range shall cover 50Hz.		N/A
F.4	**Instructions** Added: – For apparatus incorporating antenna coaxial sockets which is non-separated with CATV network, a warning wording or a similar shall be given in the instruction manual: “A CATV cable intended to be connected to apparatus shall be separated with the protective earth of the apparatus, otherwise fire hazard might be caused.”		N/A
F.5	**Instructional safeguards** In table F.2 , change 230V to 220V, change 400Y/230V 3Ø to 380 Y/220 V 3Ø		N/A
G.4.2	Amend clause G.4.2 as follows : Plugs connected to the MAINS in apparatus shall comply with GB/T 1002,GB/T 1003,GB/T 2099.1 or GB/T11918（All parts） series. Appliance coupler shall comply with GB/T 17465（All parts） series or GB/T 11918（All parts） series.		N/A
0.12	Add clause 0.12 Description of relevant information.		Pass
1	GB 4943.1-2022 applies to equipment used at altitudes not exceeding 5000m above sea level, For apparatus intended to be used at altitude not exceeding 2000m, The requirements can be appropriately reduced, but warning instructions shall be provided.. Revise the sixth paragraph of 1 as: In addition to specified by the manufacturer, this document assumes a maximum altitude of 5000m		N/A
B.2.6.1	Amend T_{ma} as follows: T_{ma} is the maximum ambient temperature permitted by the manufacturer's specification, or 35 °C, whichever is greater. Add note 1: For equipment not to be operated at tropical climatic conditions, T_{ma} is the maximum ambient temperature permitted by the		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	manufacturer's specification, or 25 °C, whichever is greater. Add note 2: For equipment to be operated at 2000m-5000m above sea leave, its temperature test conditions and temperature limits are under consideration. temperature test conditions and temperature limits below 2000m can be used until additional data is available.		
Annex Z (normative)	Added annex Z: Instructions of the new safety warning labels.		N/A
Annex AA (informative)	Added annex AA: Illustration relative to safety explanation in normative Chinese, Tibetan, Mongolian, Zhuang Language and Uighur.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT

IEC 62368-1:2018

JAPAN NATIONAL DIFFERENCES

Audio/video, information and communication technology equipment – Part 1: Safety requirements

Differences according to ……:	J62368-1(2023)
TRF template used ……..:	IECEE OD-2020-F3:2022, Ed. 1.2
Attachment Form No. ……..……..:	JP_ND_IEC62368_1E
Attachment Originator ……...:	UL Solutions (JP)
Master Attachment ……..…..:	Dated 2023-05-12

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 document 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.		N/A
5.6.1	Mains socket-outlet and interconnection coupler shall comply with Clause G.4.2A if they are incorporated as part of the equipment.		N/A
5.6.2.1	Connection for protective conductor of class 0I equipment provided with instructional safeguard in accordance with Clause F.3.6.1A is considered to make earlier and break later than supply connection. Mains plug having a lead wire for protective earthing connection of class 0I equipment shall comply with all of the following: – Not to be used for equipment having a rated voltage of 150 V or more – Clip is not used for the earthing connection of the lead wire. – The lead wire for earthing is at least 10 cm long If class 0I equipment provides an independent main protective earthing terminal and is intended to be installed by ordinary person, earthing wire shall be provided in the package of the equipment.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.2.2	Internal earthing conductor of the cord set that is covered by the sheath of mains cord and is formed together with mains plug and appliance connector need not be green-and-yellow.		N/A
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 cab tire cable with 1.25 mm^2 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, JIS C 8300 or JIS C 8303, or that is provided with mains appliance outlet as specified in JIS C 8283 series 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
5.7.5	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 60990:2016.		N/A
6.4.3.2	A fuse complying with JIC C 6575 series or a fuse having equivalent characteristics shall open within 1 s. A fuse having time/current characteristics other than those specified in IEC 60127 shall be tested with the characteristics taken into account. In case of 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”.		N/A
8.5.4.3.1	Only three-phase stationary equipment rated more than AC 200 V 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
8.5.4.3.2	For equipment installed where children may be present, an instructional safeguard shall be provided by easily understandable wording in accordance with Clause F.5, except that element 3 is optional.		N/A
8.5.4.3.4	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

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.3.5	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
F.3.5.1	When the mains socket-outlet is configured in accordance with JIS C 8282 series, JIS C 8300 or JIS C 8303, the assigned current or power shall be marked. If the voltage of the socket-outlet is the same as the mains voltage, the voltage need not be marked. Instructional safeguard of Class 0I equipment shall be provided with an instructional safeguard in accordance with Clause F.5 when a mains socket-outlet as specified in JIS C 8282 series, JIS C 8300 or JIS C 8303 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 shall be included.		N/A
F.3.6.1A	Marking for class 0I equipment The requirements of Clauses F.3.6.1.1 and F.3.6.1.2 shall be applied to class 0I equipment. For class 0I equipment, a marking of instructions shall be provided regarding the earthing connection. In addition to the above, for class 0I equipment, an instruction to connect earthing before and disconnect earthing after the connection of supply conductors shall be marked on the visible place of the main body or shall be in the text of an accompanying document.		N/A
F.3.6.2	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.3.8A	Attention marking for aging deterioration of CRT television Year of manufacture, standard usage period by design according to JIS C 9921-5 and cautionary statement for possible risks of aging deterioration when used beyond the specified period shall be marked on CRT television except for industrial use CRT television.		N/A

ATTACHMENT to TRF IEC62368_1E			
Clause	Requirement + Test	Result - Remark	Verdict
F.4	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, the instructions shall require that the external wiring connected to these terminals shall be installed by a skilled person, or shall be connected by means of ready-made leads or cords that are constructed in a way that would prevent contact with any ES3 circuit. For class 0I equipment provided with independent main protective earthing terminal, where the cord for the protective earthing connection is not provided in the package of the equipment, if the protective earthing connection is made by instructed person or skilled person, the suitable installation instruction for the protective earthing connection shall be provided.		N/A
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 applicable JIS or IEC standard in accordance with 4.1.2 or shall have equivalent or better properties. Such a protective device shall have adequate breaking (rupturing) capacity to interrupt the maximum fault current (including short-circuit current) that can flow.		N/A
G.4.1	This requirement does not apply to connectors covered in Clauses G.4.2 and G.4.2A.		N/A
G.4.2	Mains connectors, mains plugs and socket-outlets shall comply with JIS C 8283 series, JIS C 8285, IEC 60309 series, JIS C 8282 series, JIS C 8300, JIS C 8303, or have equivalent or better properties. 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 shall prevent mechanical stress not to transmit to the soldering part of appliance inlet terminal. When an equipment is rated not more than 125 V and all of the following are met, Type C14 and C18 appliance inlet complying with JIS C 8283-3 can be considered as rated 15 A. – The temperature of appliance inlet does not exceed the value specified in JIS C 8283-1 under the most		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	unfavourable normal operating condition as specified in Clause B.2.1. – "Use only designated cord set attached in this equipment" or equivalent text is described in the operating instruction. If the cord set is not provided in the package of the equipment, suitable information regarding to the cord set is described in the operating instruction.		
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.7.2 Table G.7	Cross-sectional area of equipment rated up to and including 3 A shall be 0.75 mm^2.		N/A
G.7.6.1 Table G.9	The cross-sectional area of mains cords according to JIS C 3010 may comply with relevant Japanese wiring regulation. For cables other than those complying with JIS C 3662 series or JIS C 3663 series, the terminals shall be suitable for the size of the intended cables.		N/A

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ATTACHMENT TO TEST REPORT **IEC 62368-1:2018** **SAUDI ARABIA NATIONAL DIFFERENCES** **(Audio/video, information and communication technology equipment Part 1: Safety requirements)**	
Differences according to …..…..…:	National standard SASO-IEC 62368-1:2020
TRF template used: ……..:	IECEE OD-2020-F3, Ed. 1.1
Attachment Form No. ……:	SA_ND_IEC62368_1E
Attachment Originator ……..:	SASO
Master Attachment …… :	2022-12-22

	Plugs used for pluggable equipment comply with standard SASO-2203.		N/A
	60 Hz		N/A
	Single phase 230 V Three phase 400 V		N/A