



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 : SHES230901832802-M1

Date of issue : 2023-10-25; Amendment 1: 2024-02-04

Total number of pages : 16 pages

Name of Testing Laboratory : SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
preparing the Report

Applicant's name : Hangzhou Hikvision Digital Technology Co., Ltd.

Address : No. 555 Qianmo Road, Binjiang District, Hangzhou 310052, China

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		Network Video Recorder
Trade Mark(s)		HIKVISION
Manufacturer		Same as applicant
Model/Type reference		See page 10-11
Ratings		100V-240V~, 50/60Hz, 1,5 A Max; Class I
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
Testing location/ address		588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China.
Tested by (name, function, signature)		Emilien Li <i>Emilien Li</i> Project engineer
Approved by (name, function, signature)		Leo Wang <i>Leo Wang</i> Reviewer
<input type="checkbox"/>	Testing procedure: CTF Stage 1:	
Testing location/ address		
Tested by (name, function, signature)		
Approved by (name, function, signature)		
<input type="checkbox"/>	Testing procedure: CTF Stage 2:	
Testing location/ address		
Tested by (name, function, signature)		
Witnessed by (name, function, signature)		
Approved by (name, function, signature)		
<input type="checkbox"/>	Testing procedure: CTF Stage 3 :	
<input type="checkbox"/>	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): N/A	
Summary of testing: The sample(s) tested complies with the requirements of IEC 62368-1: 2014 (Second Edition), EN 62368-1:2014+A11:2017 and AS/NZS 62368.1:2018. Unless otherwise specified, the EUT with model DS-7732NI-I4 (including building-in power supply: SFXA1071A; main board: 80570 and DC fan: ME60151V3-000C-A99) was selected as representative model for full testing. Models DS-7732NI-K4 (including building-in power supply: DPS-75AB-1 A), DS-7732NI-K4 (including building-in power supply: DPS-80PB-10 B) and DS-7732NI-M4 (including building-in power supply: U1A-G10075-S-A1) were selected for part testing due to the different building-in power supply. Maximum normal load: USB2.0 load 0,5A, DC 12V Output load 1A, Ctrl 12V output load 0,5A, HDD 8T 10W*4. All test conducted when EUT with DC fan ME60151V3-000C-A99. Heating test: Tma = 55°C (declared by manufacturer) K-type thermocouple used for temperature measurement.	
Tests performed (name of test and test clause): N/A	Testing location: N/A
Summary of compliance with National Differences (List of countries addressed): 1. EU Group Differences (EN 62368-1:2014+A11:2017) 2. EU Special National Conditions, EU A-deviations: DE, DK, FI, GB, IE, NO, SE 3. Australia and New Zealand Differences (AS/NZS 62368.1:2018) Explanation of used codes: DE=Germany, DK=Denmark, FI=Finland, GB= United Kingdom, IE=Ireland, NO=Norway, SE=Sweden <input checked="" type="checkbox"/> The products fulfil the requirements which have been considered in original CB Test Report Ref. SHES230901832801, dated on 2023-10-25 and this report.	
Use of uncertainty of measurement for decisions on conformity (decision rule) : <input checked="" type="checkbox"/> 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"). <input type="checkbox"/> 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 TRF No. IEC62368_1D	

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:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective National Certification Body that own these marks.

Marking for model DS-7732NI-I4

HIKVISION
Network Video Recorder
Model: DS-7732NI-I4
SN: C12345678 (D)

I/P: 100-240V~, 50/60Hz, 1.5A MAX

CAN ICES-3(B)/NMB-3(B) IC:xxxxx-xxxxxxxxxx
Made in China FCC ID:2ADTD-xxxxxxxxxx
 This device complies with Part 15 of the FCC Rules.
 Operation is subject to the following two conditions:
 (1) this device may not cause harmful interference, and
 (2) this device must accept any interference received,
 including interference that may cause undesired operation.
 Manufacturer: Hangzhou Hikvision Digital Technology Co.,Ltd.
 Address: No.555 Qianmo Road, Binjiang District, Hangzhou 310052, China



 DS-7732NI-I4
 C12345678 21605528






Marking for model DS-7732NI-K4

HIKVISION
Network Video Recorder
Model: DS-7732NI-K4
Serial No.: Q12345678 (D) Alarm16+9

I/P: 100-240V~, 50/60Hz, 1.5A MAX

CAN ICES-3(A)/NMB-3(A) IC:xxxxx-xxxxxxxxxx
Made in China FCC ID:2ADTD-xxxxxxxxxx
 This device complies with Part 15 of the FCC Rules.
 Operation is subject to the following two conditions:
 (1) this device may not cause harmful interference, and
 (2) this device must accept any interference received,
 including interference that may cause undesired operation.
 Manufacturer: Hangzhou Hikvision Digital Technology Co.,Ltd.
 Address: No.555 Qianmo Road, Binjiang District, Hangzhou 310052, China



 DS-7732NI-K4
 Q12345678 21605528






Marking for model DS-7932NXI-K4

HIKVISION
Network Video Recorder
Model: DS-7932NXI-K4
Serial No.: C12345678

I/P: 100-240V~, 50/60Hz, 1.5A MAX

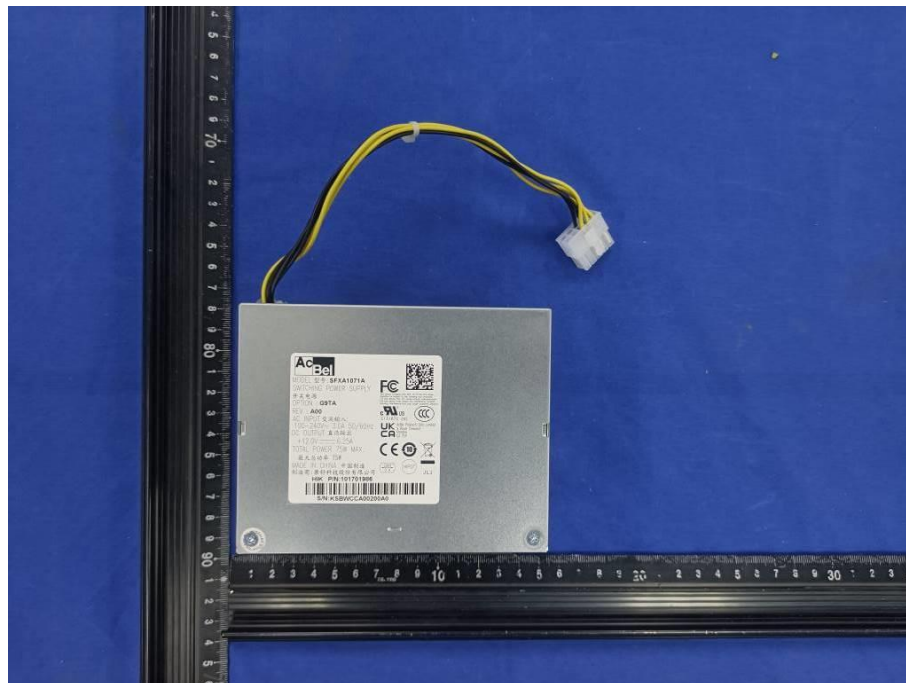
CAN ICES-3(A)/NMB-3(A) IC:xxxxx-xxxxxxxxxx
Made in China FCC ID:2ADTD-xxxxxxxxxx
 This device complies with Part 15 of the FCC Rules.
 Operation is subject to the following two conditions:
 (1) this device may not cause harmful interference, and
 (2) this device must accept any interference received,
 including interference that may cause undesired operation.
 Manufacturer: Hangzhou Hikvision Digital Technology Co.,Ltd.
 Address: No.555 Qianmo Road, Binjiang District, Hangzhou 310052, China



 DS-7932NXI-K4
 C12345678 21605528






Marking for built-in power supply (model DPS-75AB-1 A)**Marking for Alternative built-in power supply (model SFXA1071A)**

Marking for Alternative built-in power supply (model U1A-G10075-S-A1)



Marking for Alternative built-in power supply (model DPS-80PB-10 B)



Remark:

- 1) The Height of CE/UKCA logo shall not be less than 5 mm; Height of WEEE logo shall not be less than 7 mm.
- 2) The marking plates for other models are of the same pattern except for model name.
- 3) As declared by the applicant, the importer (and manufacturer, if it is different)'s name, registered trade name or registered trade mark and the postal address will be marked on the products before being placed on the market. The contact details shall be in a language easily understood by end-users and market surveillance authorities.

TEST ITEM PARTICULARS:	
Classification of use by	<input checked="" type="checkbox"/> Ordinary person <input checked="" type="checkbox"/> Instructed person <input checked="" type="checkbox"/> Skilled person <input type="checkbox"/> Children likely to be present
Supply Connection	<input checked="" type="checkbox"/> AC Mains <input type="checkbox"/> DC Mains <input type="checkbox"/> External Circuit - not Mains connected - <input type="checkbox"/> ES1 <input type="checkbox"/> ES2 <input type="checkbox"/> ES3
Supply % Tolerance	<input checked="" type="checkbox"/> +10%/-10% <input type="checkbox"/> +20%/-15% <input type="checkbox"/> +____%/ -____% <input type="checkbox"/> None
Supply Connection – Type	<input checked="" type="checkbox"/> pluggable equipment type A - <input type="checkbox"/> non-detachable supply cord <input checked="" type="checkbox"/> appliance coupler <input type="checkbox"/> direct plug-in <input type="checkbox"/> mating connector <input type="checkbox"/> pluggable equipment type B - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> permanent connection <input type="checkbox"/> mating connector <input type="checkbox"/> other: Not directly connected to mains
Considered current rating of protective device as part of building or equipment installation.....	16 A for other area; 20A for north America Installation location: <input checked="" type="checkbox"/> building; <input type="checkbox"/> equipment
Equipment mobility.....	<input checked="" type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in <input type="checkbox"/> rack-mounting <input type="checkbox"/> wall-mounted
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other:
Class of equipment	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III
Access location	<input type="checkbox"/> restricted access location <input checked="" type="checkbox"/> N/A
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
Manufacturer's specified maximum operating ambient	55°C
IP protection class	<input checked="" type="checkbox"/> IPX0 <input type="checkbox"/> IP____
Power Systems	<input checked="" type="checkbox"/> TN <input checked="" type="checkbox"/> TT <input type="checkbox"/> IT - ____ V _{L-L}
Altitude during operation (m)	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> ____ m
Altitude of test laboratory (m)	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> 100 m
Mass of equipment (kg)	<input checked="" type="checkbox"/> 4,1 kg (for DS-7732NI-K4, with HDD), <input checked="" type="checkbox"/> 4,1 kg (for DS-7732NI-I4, with HDD)

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: N/A Date (s) of performance of tests: N/A	
General remarks: <p>"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.</p> <p>This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.</p> <p>Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.</p>	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC62368-1:	
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.....:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Not applicable Factory declaration letter, pdf, dated on 2023-01-04.
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies).....:	1. Hangzhou Hikvision Technology Co., Ltd. No. 700, Dongliu Road, Binjiang District, Hangzhou City, Zhejiang, 310052, China 2. Hangzhou Hikvision Electronics Co., Ltd. No. 299, Qiushi Road, Tonglu Economic Development Zone, Tonglu County, Hangzhou, Zhejiang, 311500, China 3. Chongqing Hikvision technology Co., Ltd. No. 118, Haikang Road, Area C, Jiangqiao Industrial Park, Dadukou District, Chongqing, 401325, China
General product information and other remarks:	

Product Description –

Functions	The equipment under test is a Class I Network Video Recorder which powered by certified built-in power supply.
Material of enclosure	Metal & plastic
Interface	AUDIO IN, AUDIO OUT, USB2.0, USB3.0, VGA, HDMI, RS-232, RS-485, LAN, eSATA, ALARM IN/OUT, VIDEO
Others	Indoor use only

Model list:

DS-7732NI-K4	DS-7732NI-K4UHK	DS-7732NI-K4CKV
DS-7732NI-K4UVS	DS-7732NI-K4HUN	DS-7732NI-K4KVO
DS-7716NI-K4	DS-7716NI-K4UHK	DS-7716NI-K4CKV
DS-7716NI-K4UVS	DS-7716NI-K4HUN	DS-7716NI-K4KVO
DS-7708NI-K4	DS-7708NI-K4UHK	DS-7708NI-K4CKV
DS-7708NI-K4UVS	DS-7708NI-K4HUN	DS-7708NI-K4KVO
DS-7708NI-I4	DS-7708NI-I4(D)	DS-7708NI-I4UHK
DS-7708NI-I4CKV	DS-7708NI-I4UVS	DS-7708NI-I4KVO
DS-7708NI-I4HUN	DS-7716NI-I4	DS-7716NI-I4UHK
DS-7716NI-I4CKV	DS-7716NI-I4UVS	DS-7716NI-I4KVO
DS-7716NI-I4HUN	DS-7732NI-I4	DS-7732NI-I4UHK
DS-7732NI-I4CKV	DS-7732NI-I4UVS	DS-7732NI-I4KVO
DS-7732NI-I4HUN	DS-7732NXI-I4/S	DS-7732NXI-I4/SUHK
DS-7732NXI-I4/SCKV	DS-7732NXI-I4/SUVS	DS-7732NXI-I4/SKVO
DS-7732NXI-I4/SHUN	DS-7716NXI-I4/S	DS-7716NXI-I4/SUHK
DS-7716NXI-I4/SCKV	DS-7716NXI-I4/SUVS	DS-7716NXI-I4/SKVO
DS-7716NXI-I4/SHUN	DS-7908NXI-K4	DS-7908NXI-K4UHK
DS-7908NXI-K4CKV	DS-7908NXI-K4UVS	DS-7908NXI-K4KVO
DS-7908NXI-K4HUN	DS-7916NXI-K4	DS-7916NXI-K4UHK
DS-7916NXI-K4CKV	DS-7916NXI-K4UVS	DS-7916NXI-K4KVO
DS-7916NXI-K4HUN	DS-7932NXI-K4	DS-7932NXI-K4UHK
DS-7932NXI-K4CKV	DS-7932NXI-K4UVS	DS-7932NXI-K4KVO
DS-7932NXI-K4HUN	DS-7708NXI-K4	DS-7708NXI-K4UHK
DS-7708NXI-K4CKV	DS-7708NXI-K4UVS	DS-7708NXI-K4KVO
DS-7708NXI-K4UHN	DS-7716NXI-K4	DS-7716NXI-K4UHK
DS-7716NXI-K4CKV	DS-7716NXI-K4UVS	DS-7716NXI-K4KVO
DS-7716NXI-K4UHN	DS-7732NXI-K4	DS-7732NXI-K4UHK
DS-7732NXI-K4CKV	DS-7732NXI-K4UVS	DS-7732NXI-K4KVO
DS-7732NXI-K4UHN	DS-7716NI-M4	DS-7716NI-M4UHK
DS-7716NI-M4CKV	DS-7716NI-M4UVS	DS-7716NI-M4KVO
DS-7716NI-M4HUN	DS-7716NI-M4/EDU	DS-7716NI-M4/RTL
DS-7716NI-M4/NRG	DS-7716NI-M4/LGX	DS-7716NI-M4/MFG
DS-7716NI-M4/RMS	DS-7732NI-M4	DS-7732NI-M4UHK
DS-7732NI-M4CKV	DS-7732NI-M4UVS	DS-7732NI-M4KVO
DS-7732NI-M4HUN	DS-7732NI-M4/EDU	DS-7732NI-M4/RTL
DS-7732NI-M4/NRG	DS-7732NI-M4/LGX	DS-7732NI-M4/MFG
DS-7732NI-M4/RMS	DS-7764NI-M4	DS-7764NI-M4on
DS-7764NI-M4UHK	DS-7764NI-M4CKV	DS-7764NI-M4UVS
DS-7764NI-M4KVO	DS-7764NI-M4HUN	NVR-432MH-B

Each model can use combination with four types of main boards, four types of front panel, three types of DC fan and four types of building-in power supplies.
Details see below tables.

Building-in power supply	Main board	DC Fan
DPS-75AB-1 A	80540	ME60151V3-000C-A99 ³⁾
SFXA1071A ¹⁾	80475	EFC-06C12H
U1A-G10075-S-A1	80570 ²⁾	MGA6012SR-O15
DPS-80PB-10 B	80502	--
1) With the highest temperature. 2) With the maximum power consumption. 3) With the minimum air flow.		

Amendment 1 Report:

The original Test Report Ref. No. SHES230901832801, dated on 2023-10-25 was modified to include following changes and/or additions:

-Add some approved IC for terminals, please see table 4.1.2 with bold for details.

After comparison, no tests were considered necessary.

This test report is not valid without the original CB Test Report Ref. No. SHES230901832801, dated on 2023-10-25.

Model Differences –

All the models are identical except for model name, and sales regions and sales channel.

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

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

4.1.2	TABLE: List of critical components					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹	
Metal enclosure (Fire enclosure)	Interchangeable	Interchangeable	Min. 0,8 mm thickness	IEC 62368-1: 2014 (Second Edition) and EN 62368-1:2014+A11:2017	Tested with appliance	
Plastic Faceplate	KINGFA SCI & TECH CO LTD	FRABS-518	V-0, Min. thickness 1,7mm, 60°C	UL 94 UL 746	UL E171666	
Alternative	KINGFA SCI & TECH CO LTD	FRABS-518	V-0, Min. thickness 2,5mm, 60°C	UL 94 UL 746	UL E171666	
Alternative	KINGFA SCI & TECH CO LTD	HF-606	Min. thickness 1,7mm, V-0, 60°C	UL 94 UL 746	UL E171666	
Alternative	KINGFA SCI & TECH CO LTD	HF-606	Min. thickness 2,5mm, V-0, 60°C	UL 94 UL 746	UL E171666	
Building-in power supply	Delta Electronics, Inc.	DPS-75AB-1 A	Input: 100-240V~, 2A, 50Hz-60Hz; Output: +3,3V/3A; +5V/5A; +12V/3A; +5VSB/0,6A; Max. Combined Power 60W, Class I	IEC 62368-1:2014	TÜVRheinland CB Cert No.: JPTUV-135590, Report No.: CN22GXTK 001	
Alternative	Acbel Polytech Inc.	SFXA1071A	Input: 100-240V~, 3,0A, 50Hz/60Hz; Output: +12,0V/6,25A; Total power 75W MAX, Class I	IEC 62368-1:2018	TÜV Rheinland CB Ref No.: JPTUV-129761-M1; Report No.: CN21EA1T 002	
Alternative	Delta Electronics, Inc.	U1A-G10075-S-A1	Input: 100-240Vac, 2A, 47-63Hz; Output: 12Vdc, 6,25A, 75W, Class I	IEC 62368-1:2014	UL CB Cert No.: DK-99730-UL Ref No.: ESTS-P20042305	
Alternative	Delta Electronics, Inc.	DPS-80PB-10 B	Input: 100-240V~, 4A, 47Hz-63Hz; Output: +3,3V/3A; +5V/5A; +12V/3A; +5VSB/0,6A; Max. Combined Power 60W, Class I	IEC 62368-1:2014	TÜVRheinland CB Report No.: 50322980 001	

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
DC fan	Sunonwealth Electronics Machine Industry Co., Ltd	ME60151V3-000C-A99	12VDC, 87mA Max; 1,05W Max; 18,1CFM; 3900±15% RPM	EN 62368-1:2014 IEC 62368-1: 2014 (Second Edition) and EN 62368-1:2014+A11:2017	TÜVRheinland Cert. No.: R 50152959 & Tested with appliance
Alternative	Shenzhen Dongweifeng Electronic Technology Co., Ltd.	EFC-06C12H	12VDC, 250mA Max; 3W Max; 18,59CFM; 3900±10% RPM	EN IEC 62368-1:2020+A11	TÜVRheinland Cert. No.: R 50467958
Alternative	Dongguan Protechnic Electric Co., Ltd.	MGA6012SR-O15	12VDC, 75mA Max; 0,9W Max; 19,1CFM; 3600±10% RPM	EN 62368-1:2014/A11:2017	TÜV SÜD Cert. No.: No. B 031023 0139 Rev. 00
IC (except for 12Vd.c. output)	SG Micro Corp	SGM2580CYN5 G/TR	2,5Vdc to 5,5Vdc, 1A	IEC 60950-1:2005/AMD1:2009, IEC 60950-1:2005/AMD2:2013, IEC 60950-1:2005	UL DK-82510-UL
Alternative	SG Micro Corp	SGM2588AYN5 G/TR	2,5-5,5V, 1 A	IEC 60950-1:2005/AMD1:2009, IEC 60950-1:2005/AMD2:2013, IEC 60950-1:2005 UL 62368-1, Ed. 3 dated December 13, 2019 CAN/CSA C22.2 No. 62368-1:19	UL CB Ref. Certif. No.: DK-82510-UL SGS: SGSNA/22/SH /00150
Alternative	SG Micro Corp	SGM2588GYN5 GTR	2,5-5,5V, 1 A	IEC 60950-1:2005/AMD1:2009, IEC 60950-1:2005/AMD2:2013, IEC 60950-1:2005 UL 62368-1, Ed. 3 dated December 13, 2019 CAN/CSA C22.2 No. 62368-1:19	UL CB Ref. Certif. No.: DK-82510-UL SGS: SGSNA/22/SH /00150
Alternative	DIODES INC	AP2822 followed by A - H, followed by N or Blank, followed by K, KA, KB or KE, followed by TR-G1.	Input Voltage: 2,7 to 5,5 Vd.c.: Output Continuous Rating: 0,5 to 2,0 A; Output Current Limit: 1,4 to 3,2 A	IEC 62368-1:2014	UL CB Cert No.: US-34501-UL; Report No.: E339337-A6001-CB-1

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Alternative	DIODES INC	AP22816AKBW T-7	2,7-5,5V, 1A	IEC 62368-1:2018	UL CB Ref. Certif. No.: US-38695-UL
Alternative	DIODES INC	AP2822CKBTR -G1	2,7-5,5V, 1A	IEC 62368-1:2014	UL CB Ref. Certif. No.: US-34501-UL
Alternative	DIODES INC	AP2822GKBTR -G1	2,7-5,5V, 2A	IEC 62368-1:2014	UL CB Ref. Certif. No.: US-34501-UL
Alternative	DIODES INC	AP22818AKBW T-7	2,7-5,5V, 2A	IEC 62368-1:2018	UL CB Ref. Certif. No.: US-38695-UL
Alternative	Richtek Technology Corp.	RT9742MGJ5	2,7-6V, 1,5A	IEC 62368-1:2014	Nemko: CB Ref. Certif. No.: NO109777
Alternative	JOULWATT TECHNOLOGY CO LIMITED	JW7115S- 1SOTA#TRPBF	2,7-5,5V, 1A	IEC 62368-1:2014	UL CB Ref. Certif. No.: DK-92033-UL
Alternative	Shenzhen Lowpower Semiconductor CO., Ltd	LPW5202SDB5 F11	2,4V-6V, 1,2A	IEC 62368-1:2018	TÜVRheinlan d: JPTUV- 141625
PTC (for 12Vd.c. output)	Wayon Electronics Co., Ltd.	LP- MSM150/24, 1812	24Vd.c., 1,5A	EN 62319-1-1:2005 EN 62319-1:2005	TUV: R50318402
Alternative	Wayon Electronics Co., Ltd.	LP- MSM260/16, 1812	16Vd.c., 2,6A	EN 62319-1-1:2005 EN 62319-1:2005	TUV: R50318402
Alternative	Wayon Electronics Co., Ltd.	LP- MSM110/16, 1812	16Vd.c., 1,1A	EN 62319-1-1:2005 EN 62319-1:2005	TUV: R50318402
RTC battery	GUANGZHOU TIANQIU ENTERPRISE CO LTD	CR1220	3V d.c., 38mAh; Max Abnormal Charging Current 2,5mA; Max Abnormal Charging Voltage 3,5V dc	UL1642	UL MH48705
Alternative	POWER GLORY BATTERY TECH (SHENZHEN) CO., LTD	CR1220	3V d.c., 38mAh; Max Abnormal Charging Current 10mA; Max Abnormal Charging Voltage 5V dc	UL1642	UL MH29853

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
PCB	WENZHOU GALAXY ELECTRONICS CO LTD	01V0	V-0, 130°C	UL796 UL94	UL E157634
Alternative	GUANGZHOU FAST-PRINT CIRCUIT TECHNOLOGY CO LTD	M11	V-0, 130°C	UL796 UL94	UL E204460
Alternative	VICTORY GIANT TECHNOLOGY (HUIZHOU) CO LTD	SH	V-0, 130°C	UL796 UL94	UL E248779
Alternative	SHENZHEN MANKUN ELECTRONICS CO LTD	MK-D	V-0, 130°C	UL796 UL94	UL E248237
Alternative	WENZHOU OULONG ELECTRIC CO LTD	OL-D	V-0, 130°C	UL796 UL94	UL E231017
Alternative	Interchangeable	Interchangeable	V-1 or better, 130°C	UL796 UL94	UL
Power plug	LINOYA ELECTRONIC TECHNOLOGY CO LTD	XYP-02L	AC 250V, 16A	DIN VDE 0620-2-1/A1 (VDE 0620-2-1/A1):2017-09 DIN VDE 0620-2-1 (VDE 0620-2-1):2016-01	VDE 40015292
Alternative	Phino Electric Co., Ltd.	PHP-206,	AC 250V, 16A	DIN VDE 0620-2-1/A1 (VDE 0620-2-1/A1):2017-09 DIN VDE 0620-2-1 (VDE 0620-2-1):2016-01	VDE 40013375
Alternative	Interchangeable	Interchangeable	AC 250V, 16A	DIN VDE 0620-2-1/A1 (VDE 0620-2-1/A1):2017-09 DIN VDE 0620-2-1 (VDE 0620-2-1):2016-01	SGS or equivalent certified body
Power connector	Phino Electric Co., Ltd.	PHS 301	AC 250V, 10A	IEC 60320-1:2015 DIN EN 60320-1 (VDE 0625-1):2016-04; EN 60320-1:2015 + AC:2016	VDE 40038017

IEC 62368-1					
Clause	Requirement + Test			Result - Remark	Verdict
Alternative	LINOYA ELECTRONIC TECHNOLOGY CO LTD	XYC-03	AC 250V, 10A	DIN EN 60320-1 (VDE 0625-1):2016-04; EN 60320-1:2015 + AC:2016 IEC 60320-1:2015	VDE 40016051
Alternative	Interchangeable	Interchangeable	AC 250V, 10A	DIN EN 60320-1 (VDE 0625-1):2016-04; EN 60320-1:2015 + AC:2016 IEC 60320-1:2015	SGS or equivalent certified body
Power cable	Phino Electric Co., Ltd.	H05VV-F	3 x 0,75 mm ²	DIN EN 50525-2-11 (VDE 0285-525-2-11):2012-01; EN 50525-2-11:2011	VDE 113841
Alternative	LINOYA ELECTRONIC TECHNOLOGY CO LTD	H05VV-F	3 x 0,75 mm ²	DIN EN 50525-2-11 (VDE 0285-525-2-11):2012-01; EN 50525-2-11:2011	VDE 40035072
Alternative	Interchangeable	Interchangeable	3 x 0,75 mm ²	DIN EN 50525-2-11 (VDE 0285-525-2-11):2012-01; EN 50525-2-11:2011	SGS or equivalent certified body
Internal wires	Interchangeable	Interchangeable	PVC, TFE, PTFE, FEB, Polychloroprene or polyimide or VW-1	--	--
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

---End of Report---