235
台灣 新北市
中和區連城路192號6樓
晶睿通訊股份有限公司
JOANNE CHANG

JOANNE CHANG
VIVOTEK INC
6TH FL, 192 LIEN CHENG RD
CHUNG HO DISTRICT
NEW TAIPEI 235
NEW TAIPEI
235 TAIWAN TAIWAN

Date:	2020/08/04
Subscriber:	100504413
PartySite:	125336
File No:	E324690
Project No:	4789526217
PD No:	20038122
Type:	R
PO Number:	U060921

Subject: **Procedure And/Or Report Material**

The following material resulting from the investigation under the above numbers is enclosed.

Issue Date	Vol	Sec		Pages	Revised Date
	1			Revised Index Page(s) 1	2020/07/29
2020/01/22	1	14		Cert of Compliance	
2020/01/22	1	14		Description Page(s)	
2020/01/22	1	14	New	Illustration(s) 14,15	2020/07/29
2020/01/22	1	14	New	Test Record 3	2020/07/29

Please file revised pages and illustrations in place of material of like identity. New material should be filed in its proper numerical order.

NOTE: Follow-Up Service Procedure revisions DO NOT include Cover Pages, Test Records and Conclusion Pages. Report revisions DO NOT include Authorization Pages, Indices, Section General Pages and Appendixes.

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TPI File

INDEX

CERTIFICATE OF COMPLIANCE

Certificate Number	E324690
Report Reference	E324690-20200122
Issue Date	2020-AUGUST-04

Issued to: VIVOTEK INC
6TH FL, 192 LIEN CHENG RD
CHUNG HO DISTRICT
NEW TAIPEI
235 TAIWAN

This certificate confirms that representative samples of AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY EQUIPMENT

Network Camera
MD9560-H, MD9561-H, MD9581-H, MD9560-DH, FD9366-HV, MD9581-HTPM, MD9561-DH

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 62368-1 and CAN/CSA C22.2 No. 62368-1-14 - Audio/video, Information and Communication Technology Equipment - Part 1: Safety Requirements

Additional Information: See the UL Online Certifications Directory at https://iq.ulprospector.com for additional information.

This *Certificate of Compliance* does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.

Bruce Mahrenholz, Director North American Certification Program

UL LLC

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File E324690
Project 4789209664

January 22, 2020

REPORT

on

Audio/Video, Information and Communication Technology Equipment

VIVOTEK INC
NEW TAIPEI, 235 TAIWAN

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UL TEST REPORT AND PROCEDURE

Standard:	[X] UL 62368-1, 2nd Edition, 2014-12-01 (Audio/video, Information and Communication Technology Equipment - Part 1: Safety Requirements) [X] CAN/CSA C22.2 No. 62368-1-14, 2nd Edition, 2014-12 (Audio/video, Information and Communication Technology Equipment - Part 1: Safety Requirements)
Certification Type:	[X] Listing [ ] Recognized Component [ ] Unlisted Component [ ] Listed Accessory
CCN:	[X] AZOT, [X] AZOT7 (Information Technology Equipment)
Product:	Network Camera
Model:	MD9560-H, MD9561-H, MD9581-H, MD9560-DH, FD9366-HV, MD9581-HTPM, MD9561-DH
Rating:	1. 37 - 57 Vdc, 0.16-0.1 A for MD9560-H, MD9561-H, MD9581-H, FD9366-HV, MD9581-HTPM; 2. 7.5 - 48 Vdc, 0.74 A – 0.12 A for MD9560-DH, MD9561-DH
Applicant Name and Address:	VIVOTEK INC 6TH FL, 192 LIEN CHENG RD CHUNG HO DISTRICT NEW TAIPEI 235 TAIWAN

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

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[ ] UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of this page through to the end of the Engineering Conditions of Acceptability.

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Prepared by: Yvonne Low / Cavy Chen Reviewed by: Max Ma

Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

A. Authorization - The Authorization page may include additional Factory Identification Code markings.

B. Generic Inspection Instructions -

   i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report

   ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report

C. Listing Mark/Recognized Component Mark Data Page - details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

Product Description

The equipment is a Network Camera which is intended to use within audio/video, information and communication technology equipment.

The equipment consists of electronic components are mounted on PCB and housed by metal enclosures and plastic cover is fixed by screw. Unit must be mounted on a wall and ceiling mount.

The equipment is supplied from the external power adaptor or Power-over-Ethernet (PoE) device (only can receive one power source at time) which is complied with the requirement of Limited Power Source (LPS) or Power source class 2 (PS2).

PoE circuits are considered as ES1 circuits, the function of the equipment is considered not likely to require connection to an Ethernet network with outside plant routing, including campus environment.

Model Differences

- Model MD9560-H is similar to model MD9561-H except for model designation, mainboard and sensor types.
- Model MD9561-H is similar to model MD9581-H except for model designation and sensor type.
- Model FD9366-HV is identical to model MD9560-H except for model designation.
- Model MD9560-DH is similar to model MD9560-H except for model designation and input rating.
- Model MD9581-HTPM is identical to model MD9581-H except for model designation.
- Model MD9561-DH is similar to model MD9561-H except for model designation and input rating.

Difference	MD9560-DH	MD9560-H, FD9366-HV	MD9561-H	MD9581-H, MD9581-HTPM	MD9561-DH
Mainboard type	Type A	Type A	Type B	Type B	Type B
Sensor type	2M	2M	2M	5M	2M
Sensor board	Type A	Type A	Type B	Type C	Type B

Test Item Particulars (NOT FOR FIELD REPRESENTATIVE'S USE)

Classification of installation and use by.................................:	☒ Ordinary person ☐ Instructed person ☐ Skilled person ☒ Children likely to be present
Supply Connection..:	☐ pluggable equipment ☐ type A ☐ type B ☐ permanent connection ☐ detachable power supply cord ☐ non-detachable power supply cord ☒ not directly connected to the mains
Equipment mobility...:	☐ movable ☐ hand-held ☐ transportable ☐ stationary ☐ for building-in ☐ direct plug-in ☐ rack-mounting ☒ wall-mounted
Over voltage category (OVC) ....:	☐ OVC I ☐ OVC II ☐ OVC III ☐ OVC IV

	☒ other: __not direct connect to mains_____
Fundamental Frequency ....:	☐ 50/60 Hz (for AC source) ☐ 50 Hz ☐ 60 Hz ☐ other_____ Hz
Class of equipment ....:	☐ Class I ☐ Class II ☒ Class III ☐ Not classified
Access location ....:	☐ restricted access location ☒ N/A
Pollution degree (PD) ....:	☐ PD 1 ☒ PD 2 ☐ PD 3
IP protection class ....:	☒ IP X0 ☐ IP ____
Tested for IT power systems ....:	☐ Yes ☒ No
IT testing, phase-phase voltage (V) ....:	☐ ____ ☒ N/A
Altitude during operation (m) ....:	☒ Up to 2,000 ☐ Up to ___ m
Altitude of test laboratory (m) ....:	☒ Less than 2,000 ☐ Approximately _____
Mass of equipment (kg) ....:	0.388 kg max.

Technical Consideration (NOT FOR FIELD REPRESENTATIVE'S USE)

- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 55 °C
- The product is intended for use on the following power systems: [ ] TN [ ] IT [ ] TT [ ] DC mains supply [X] No direct connection
- Considered current rating of protective device as part of the building installation (A) : [ ] 15 [ ] 20 [ ] ____ [X] N/A
- Mains supply tolerance (%) or absolute mains supply values : [ ] +10%, -10% [ ] DC Mains: +20%, -15% [ ] +___%, -___% [X] No direct connection
- [X] The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): RJ-45 port
- [X] The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual.
- Based upon the product specification provided by the manufacturer, this unit is intended to be supplied by an UL Listed power source suitable for use at Tma 55 degree C whose output meets PS2, LPS and is rated 37-57Vdc, 0.16-0.1A for MD9560-H, MD9561-H, MD9581-H, FD9366-HV and MD9581-HTPM; 7.5 - 48 Vdc, 0.74 A – 0.12 A for MD9560-DH and MD9561-DH. The product was investigated to the following additional standards: IEC 62471: 2006 for IR LED and comply with Exempt Group
- The product is only to be connected to PoE network without routing to outside plant.
- The outdoor equipment/enclosure was evaluated for use in an ambient range of: -25°C to 55°C for models MD9560-H, MD9560-DH , FD9366-HV and -40 ºC to 55 ºC for models MD9561-H, MD9581-H, MD9581-HTPM and MD9561-DH.
- The product was investigated to the following additional standards: IEC 60950-22 Information Technology Equipment – Safety – Part 22: Equipment To Be Installed Outdoors - Edition 2 - Issue Date 2016-01-01

Additional Information

4789379670

Adding three alternate models MD9560-DH, MD9581-HTPM and FD9366-HV for marketing purposes and change the input rating from 37-57 Vdc, 0.16 A - 0.1 A to 7.5-48 Vdc, 0.74 A - 0.12 A for model MD9560-DH.

4789526217

(1) add one models MD9561-DH that is similar to model MD9561-H except for model designation and input rating.

(2) Delete "PoE" for rating.

(3) Revise The component name of Table 4.1.2 from "POE power source" to "Power source".

(4) Revise Mass of equipment from 0.338 kg to 0.388 kg.

Additional Standard

The product fulfills the requirements of: CAN/CSA C22.2 No. 60950-22 Information Technology Equipment - Safety - Part 22: Equipment To Be Installed Outdoors - Edition 2 - Issue Date 2017-03-01 and UL 60950-22 Information Technology Equipment - Safety - Part 22: Equipment To Be Installed Outdoors- Edition 2 - Issue Date 2017-03-31

Markings, instructions and instructional safeguards

Clause Title	**Marking or Instruction Details**	
	English	French
Equipment identification marking – Manufacturer identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number	
Equipment identification marking – model identification	Model Number	
Equipment rating marking – ratings	Input Ratings (voltage, frequency/dc, current/power)	
Inter-connecting cables - External detachable	Listee's Name and Part number (Marking or Instruction)	
Protective earthing is used as a safeguard	See user’s manual content related to powered by an adapter with earthing connection.	
User Manual	If the power adapter doesn't ship with the unit, the user manual shall have the description as below or equivalent: "This product is intended to be supplied by a Listed Power Adapter, marked with LPS (Limited Power Source) or PS2, suitable for use at Tma 55 degree C whose output meets SELV or ES1 and rating is 37-57Vdc, 0.16-0.1A for MD9560-H, MD9561-H, MD9581-H, FD9366-HV, MD9581-HTPM; 7.5 - 48 Vdc, 0.74 A – 0.12 A for MD9560-DH and MD9561-DH. If need further assistance with purchasing the Power source, please contact to Vivotek for further information. Or equivalent.	
User Manual	The equipment is to be connected only to PoE networks without routing to the outside plant or equivalent.	
User Manual	User Instruction/Installation/Safety Manual shall be shipped with unit.	

Special Instructions to UL Representative

(1) If the Power Supply does not mark with "LPS" or "Limited Power Source", please check the UL report for Power Supply and confirm whether it complies with Limited Power Source or PS2 in Technical Consideration.

(2) For Power Adaptor without listing Mfr./Model (Interchangeable) in Critical Component table, the Field Representative should verify the Tma (maximum ambient temperature) is minimum 55 degree C, LPS or PS2 from the updated version of UL reports for Power source which was/were certified by UL60950-1, 2nd edition, date 2014-10-14 or UL 62368-1, 2nd Edition, 2014-12-01 or newest (provide from customer).

Production-Line Testing Requirements

Electric Strength Test Special Constructions - Refer to Generic Inspection Instructions, Part AC for further information.

Model	Component	Removable Parts	Test probe location	V rms	V dc	Test Time, s
--	--	--	--	--	--	--

Earthing Continuity Test Exemptions - This test is not required for the following models:

All models

Electric Strength Test Exemptions - This test is not required for the following models:

All models

Electric Strength Test Component Exemptions - The following solid-state components may be disconnected from the remainder of the circuitry during the performance of this test:

--

Sample and Test Specifics for Follow-Up Tests at UL

Model	Component	Material	Test	Sample(s)	Test Specifics
--	--	--	--	--	--

4.1.2	**TABLE: list of critical components**					Pass
Object/part or Description	Manufacturer/ trademark	type/model	technical data	Product Category CCN(s)	Required Marks of Conformity	Supplement ID
01. Label	Interchangeable	Interchangeable	70 degree C if maximum surface temperature not specified.	PGDQ2, PGJI2	UL	--
01a. Permanency of Marking (Alternate)	Interchangeable	Interchangeable	Engraved laser marking.	--	--	--
01b. Permanency of Marking (Alternate)	Interchangeable	Interchangeable	Permanently ink-stamped, silk-screened, molded in, or in self-adhesive labels.	--	--	--
02. Power source (Optional)	Interchangeable	Interchangeable	O/P: 0.16-0.1A for MD9560-H, MD9561-H, MD9581-H, FD9366-HV, MD9581-HTPM; 0.74 A – 0.12 A for MD9560-DH and MD9561-DH, 55 degree C minimum. Comply with PS2 or LPS.	NWGQ/7, QQGQ/7, AZOT/7, QQJQ/7	UL	--
03. Metal enclosure (top and bottom)	Interchangeable	Interchangeable	Aluminum alloy, 3.3 mm thick minimum. See enclosure ID Illustration-1 and Illustration-2 for details.	--	--	--
04. Lens cover	TEIJIN LIMITED RESIN AND PLASTIC	L-1225Z(#1)(f1)	HB minimum. 1.9 mm thick minimum. 115 degree C minimum. See enclosure ID Illustration-3 for details.	QMFZ2/8	UL	--
05. Internal metal ring (between Lens cover and top metal enclosure)	Interchangeable	Interchangeable	Metallic, See enclosure Illustration-4 for details.	--	--	--
06. PWB	Interchangeable	Interchangeable	V-1 minimum, 105 degree C minimum.	ZPMV2	UL	--

07. Electric Double Layer Capacitors (BT1)	ELNA CO., LTD.	DX series	Rated 5.5 Vdc, 0.33 F	--	--	--
08. Gasket (O-ring) (Between lens cover and metal enclosure)	Momentive Performance Materials Japan L L C	TSE2186U(aq)	HB minimum, Silicone rubber. See enclosure ID Illustration-5 for details.	QMFZ2/8	UL	--
09. Gasket (O-ring) (Between top enclosure and bottom enclosure)	Momentive Performance Materials Japan L L C	TSE2186U(aq)	HB minimum, Silicone rubber. See enclosure ID Illustration-6 for details.	QMFZ2/8	UL	--
10. Gasket (O-ring) (for cable)	Momentive Performance Materials Japan L L C	TSE2186U(aq)	HB minimum, Silicone rubber. See enclosure ID Illustration-7 for details.	QMFZ2/8	UL	--
11. Gasket (O-ring) (On the rear screw)	Momentive Performance Materials Japan L L C	TSE2186U(aq)	HB minimum, Silicone rubber. See enclosure ID Illustration-8 for details.	QMFZ2/8	UL	--
12. Gasket (on microphone hole of top metal enclosure)	Momentive Performance Materials Japan L L C	TSE2186U(aq)	Silicone rubber. See enclosure ID Illustration-13 for details.	QMFZ2	UL	--
13. PoE transformer (T1)	Matrix Electronics Co., Ltd.	MTSE018	105 degree C minimum. See enclosure ID Illustration-9 for details	--	--	--
14. Thermal pad (under sensor board U1)	Interchangeable	Interchangeable	Min. V-2, dimension 15.5 by 15.5 by 1.5 mm	QMFZ2	UL	--
15. Interconnecting Cable (Optional)	Interchangeable	Interchangeable	Minimum 80 degree C, minimum 57 V, maximum 3.05 m long, jacketed, VW-1 or FT-1	AVLV2, ZPFW2, DVPJ	UL	--

15a. Interconnecting Cable (Optional) (Alternate)	Interchangeable	Interchangeable	Maximum 3.05 m long, jacketed, type CMP, CMR, CMG, CM, CMX, CMUC, or CMH.	DUZX, ZPFW2, DUXR/2	UL	--
16. Wiring, internal ES1 circuits (Optional)	Interchangeable	Interchangeable	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; min 57 V, 60 degree C.	AVLV2	UL	--
17. Connectors and Receptacles (ES1 circuits)	Interchangeable	Interchangeable	Copper alloy pins housed in bodies of plastic rated V-2 minimum	QMFZ2	UL	--
17a. Connectors and Receptacles (ES1 circuits) (alternate)	Interchangeable	Interchangeable	Minimum 57 V.	ECBT2	UL	--
17b. Connectors and Receptacles (ES1 circuits) (alternate)	Interchangeable	Interchangeable	--	DUXR2	UL	--
18. IR LED (two provided)	High Power Lighting Corporation	H40WJ1BA	850 nm, 90 mW/sr for each. Comply with IEC 62471 Exempt Group	--	UL Demko (Report Ref. no. 4789209664 -1)	--
19. Internal plastic parts/material	Interchangeable	Interchangeable	HB or HBF minimum	QMFZ2	UL	--
19a. Internal Plastic Part Materials (Optional) (Alternate)	Interchangeable	Interchangeable	Minimum HB or HBF, when plastic parts are separated from electrical parts (other than insulated wires and cables) by at least 13mm of air or by a solid barrier of V-1 class material	QMFZ2	UL	--
19b. Internal Plastic Part Materials (Optional)	Interchangeable	Interchangeable	Flammability level is ignored, when one or more layers of	--	--	--

(Alternate)			thin insulating material, used directly on any surface of V-2 class material within the fire enclosure			
19c. Internal Plastic Part Materials (Optional) (Alternate)	Interchangeable	Interchangeable	Flammability level is ignored, when small parts (1750mm^3 maximum) are mounted on V-1 class material	--	--	--
19d. Internal Plastic Part Materials (Optional) (Alternate)	Interchangeable	Interchangeable	Flammability level is ignored, when small parts (4g maximum or 1750mm^3 max.) are separated from electrical parts (other than insulated wires and cables) by at least 13mm of air or by a solid barrier of V-1 class material.	--	--	--

ENCLOSURES

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	Figure-03	Overall View-3
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	Figure-07	Internal View-3
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	Illustration-14	IEC 62471 test report
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Test Report issued under the responsibility of:

TEST REPORT
IEC 62471
Photobiological safety of lamps and lamp systems

Report Reference No......................:	4789209664-2
Date of issue .... :	2020-07-03
Total number of pages .... :	17
Name of Testing Laboratory preparing the Report........................... :	UL-CCIC Company Limited No. 2, Chengwan Road, Suzhou Industrial Park, Suzhou 215122 ,China
Applicant's name............................:	VIVOTEK INC
Address .... :	6F, No.192, Lien-Cheng Rd., Chung-Ho, New Taipei City, 235, Taiwan
Test specification:	
Standard .... :	IEC 62471:2006
Test procedure............................... :	Informative report
Non-standard test method…………..:	N/A
Test Report Form No......................:	IEC62471B
TRF Originator .... :	VDE Testing and Certification Institute
Master TRF .... :	Dated 2018-08-16

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Test item description ....:	Network Camera
Trade Mark ....:	VIVOTEK
Manufacturer...................................:	VIVOTEK INC 6F, No.192, Lien-Cheng Rd., Chung-Ho, New Taipei City, 235, Taiwan, R.O.C.
Model/Type reference ....:	(1) MD9560-H, MD9561-H, MD9581-H, **FD9366-HV** **(2) MD9560-DH, MD9561-DH**
Ratings ....:	(Optionally provided on marking plate) (1) DC 37 - 57 V ⎓, 0.16 - 0.1 A **(2) DC 7.5 - 48 V ⎓, 0.74 A - 0.12 A** (Exempt Group)

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) .... :	Stanley Tsai / Project handler	
Approved by (name, function, signature).. :	Jerry Lin / Reviewer	

☐ **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 + 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):

Enclosure - Photos (total 3 pages)

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
The product was tested and classified according to the following clauses. Irradiance Measurement – 5.2.1 Radiance Measurement – 5.2.2	UL-CCIC Company Limited No. 2, Chengwan Road, Suzhou Industrial Park, Suzhou 215122 ,China

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

☐ **The product fulfils the requirements of __________ (insert standard number and edition and delete the text in parenthesis, leave it blank or delete the whole sentence, if not applicable)**

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 NCBs that own these marks.

Test item particulars ...:	See below
Tested lamp ...:	☒ continuous wave lamps ☐ pulsed lamps
Tested lamp system ...:	See general product information
Lamp classification group ...:	☒ exempt ☐ risk 1 ☐ risk 2 ☐ risk 3
Lamp cap ...:	N/A
Bulb ...:	N/A
Rated of the lamp ...:	N/A
Furthermore marking on the lamp ...:	N/A
Seasoning of lamps according IEC standard ...:	Not covered in this report
Used measurement instrument ...:	N/A
Temperature by measurement ...:	22.3 °C
Information for safety use ...:	Not covered in this report
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:

"(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) ...:	VIVOTEK INC 5TH FL, 168 LIEN CHENG RD CHUNG HO DISTRICT NEW TAIPEI, 235 TAIWAN

General product information and other remarks:
The equipment is a Network Camera which is intended to use within audio/video, information and communication technology equipment.

This is class III Unit without connect to mains directly and no marking rating requirement of the standard, so rating is optional.

Optical LED information:
Infrared LED made by:
LD1, LD2: High Power Lighting Corporation / TYPE: H40WJ1BA , 850nm, 90 mW/sr for each.
(CW mode, total two Infrared LEDs on module)

Only photobiological hazards have been addressed.

Model difference:
- Model MD9560-H is similar to model MD9561-H except for model designation, mainboard and sensor types.
- Model MD9561-H is similar to model MD9581-H except for model designation and sensor type.
- **Model FD9366-HV is identical to model MD9560-H except for model designation.**
- **Model MD9560-DH is similar to model MD9560-H except for model designation and input rating.**
- **Model MD9561-DH is similar to model MD9561-H except for model designation and input rating.**

Difference	**MD9560-DH**	MD9560-H **FD9366-HV**	MD9561-H	MD9581-H	**MD9561-DH**
Mainboard type	**Type A**	Type A	Type B	Type B	**Type B**
Sensor type	**2M**	2M	2M	5M	**2M**
Sensor board	**Type A**	Type A	Type B	Type C	**Type B**
Rating	**7.5-48V⎓, 0.74-0.12A**	37-57V⎓, 0.16-0.1A			**7.5-48V⎓, 0.74-0.12A**

Additional information:
Unless otherwise indicated, all tests were conducted on Model MD9560-H.
Tests performed on Model MD9560-H were considered to be representative of other models.

History of amendments and modifications:
- This test report shall be read in conjunction with the original report, report number: 4789209664-1, dated 2019-11-19.
- This test report has been administrative amended, due to adding models MD9560-DH, MD9561-DH with new input rating 7.5-48 Vdc, 0.74-0.12 A, and adding model FD9366-HV that is identical to model MD9560-H except for model designation.

IEC 62471			
Clause	Requirement + Test	Result – Remark	Verdict
4	**EXPOSURE LIMITS**		P
4.1	General		P
	The exposure limits in this standard is not less than 0,01 ms and not more than any 8-hour period and should be used as guides in the control of exposure		P
	Detailed spectral data of a light source are generally required only if the luminance of the source exceeds 10^4 cd m^{-2}	see clause 4.3	P
4.3	Hazard exposure limits		P
4.3.1	Actinic UV hazard exposure limit for the skin and eye		N/A
	The exposure limit for effective radiant exposure is 30 J m^{-2} within any 8-hour period		N/A
	To protect against injury of the eye or skin from ultraviolet radiation exposure produced by a broadband source, the effective integrated spectral irradiance , E_S, of the light source shall not exceed the levels defined by:		N/A
	$E_s \cdot t = \sum_{200}^{400} \sum_t E_\lambda(\lambda,t) \cdot S_{UV}(\lambda) \cdot \Delta t \cdot \Delta\lambda \leq 30 \quad J \cdot m^{-2}$		N/A
	The permissible time for exposure to ultraviolet radiation incident upon the unprotected eye or skin shall be computed by:		N/A
	$t_{max} = \frac{30}{E_s} \quad s$		N/A
4.3.2	Near-UV hazard exposure limit for eye		N/A
	For the spectral region 315 nm to 400 nm (UV-A) the total radiant exposure to the eye shall not exceed 10000 J m^{-2} for exposure times less than 1000 s. For exposure times greater than 1000 s (approximately 16 minutes) the UV-A irradiance for the unprotected eye, E_{UVA}, shall not exceed 10 W m^{-2}.		N/A
	The permissible time for exposure to ultraviolet radiation incident upon the unprotected eye for time less than 1000 s, shall be computed by:		N/A
	$t_{max} \leq \frac{10\,000}{E_{UVA}} \quad s$		N/A
4.3.3	Retinal blue light hazard exposure limit		P
	To protect against retinal photochemical injury from chronic blue-light exposure, the integrated spectral radiance of the light source weighted against the blue-light hazard function, B(λ), i.e., the blue-light weighted radiance , L_B, shall not exceed the levels defined by:		P
	$L_B \cdot t = \sum_{300}^{700} \sum_t L_\lambda(\lambda,t) \cdot B(\lambda) \cdot \Delta t \cdot \Delta\lambda \leq 10^6 \quad J \cdot m^{-2} \cdot sr^{-1}$	for t ≤ 10^4 s $\quad t_{max} = \frac{10^6}{L_B}$	P

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Clause	Requirement + Test	Result – Remark	Verdict
	$L_B = \sum_{300}^{700} L_\lambda \cdot B(\lambda) \cdot \Delta\lambda \leq 100$ $W \cdot m^{-2} \cdot sr^{-1}$	for $t > 10^4$ s	P
4.3.4	Retinal blue light hazard exposure limit - small source		N/A
	Thus the spectral irradiance at the eye E_λ, weighted against the blue-light hazard function B(λ) shall not exceed the levels defined by:		N/A
	$E_B \cdot t = \sum_{300}^{700} \sum_t E_\lambda(\lambda,t) \cdot B(\lambda) \cdot \Delta t \cdot \Delta\lambda \leq 100$ $J \cdot m^{-2}$	for t ≤ 100 s	N/A
	$E_B = \sum_{300}^{700} E_\lambda \cdot B(\lambda) \cdot \Delta\lambda \leq 1$ $W \cdot m^{-2}$	for t > 100 s	N/A
4.3.5	Retinal thermal hazard exposure limit		P
	To protect against retinal thermal injury, the integrated spectral radiance of the light source, L_λ, weighted by the burn hazard weighting function R(λ) (from Figure 4.2 and Table 4.2), i.e., the burn hazard weighted radiance, shall not exceed the levels defined by:		P
	$L_R = \sum_{380}^{1400} L_\lambda \cdot R(\lambda) \cdot \Delta\lambda \leq \frac{50\,000}{\alpha \cdot t^{0,25}}$ $W \cdot m^{-2} \cdot sr^{-1}$	(10 µs ≤ t ≤ 10 s)	P
4.3.6	Retinal thermal hazard exposure limit – weak visual stimulus		P
	For an infrared heat lamp or any near-infrared source where a weak visual stimulus is inadequate to activate the aversion response, the near infrared (780 nm to 1400 nm) radiance, L_{IR}, as viewed by the eye for exposure times greater than 10 s shall be limited to:		P
	$L_{IR} = \sum_{780}^{1400} L_\lambda \cdot R(\lambda) \cdot \Delta\lambda \leq \frac{6\,000}{\alpha}$ $W \cdot m^{-2} \cdot sr^{-1}$	t > 10 s	P
4.3.7	Infrared radiation hazard exposure limits for the eye		P
	The avoid thermal injury of the cornea and possible delayed effects upon the lens of the eye (cataractogenesis), ocular exposure to infrared radiation, E_{IR}, over the wavelength range 780 nm to 3000 nm, for times less than 1000 s, shall not exceed:		P
	$E_{IR} = \sum_{780}^{3000} E_\lambda \cdot \Delta\lambda \leq 18\,000 \cdot t^{-0,75}$ $W \cdot m^{-2}$	t ≤ 1000 s	P
	For times greater than 1000 s the limit becomes:		P
	$E_{IR} = \sum_{780}^{3000} E_\lambda \cdot \Delta\lambda \leq 100$ $W \cdot m^{-2}$	t > 1000 s	P
4.3.8	Thermal hazard exposure limit for the skin		N/A
	Visible and infrared radiant exposure (380 nm to 3000 nm) of the skin shall be limited to:		N/A

IEC 62471			
Clause	Requirement + Test	Result – Remark	Verdict
	$E_H \cdot t = \sum_{380}^{3000} \sum_{t} E_\lambda(\lambda,t) \cdot \Delta t \cdot \Delta\lambda \leq 20\,000 \cdot t^{0,25}$ $J \cdot m^{-2}$		N/A
5	**MEASUREMENT OF LAMPS AND LAMP SYSTEMS**		P
5.1	Measurement conditions		P
	Measurement conditions shall be reported as part of the evaluation against the exposure limits and the assignment of risk classification.		P
5.1.1	Lamp ageing (seasoning)		N/A
	Seasoning of lamps shall be done as stated in the appropriate IEC lamp standard.		N/A
5.1.2	Test environment		P
	For specific test conditions, see the appropriate IEC lamp standard or in absence of such standards, the appropriate national standards or manufacturer's recommendations.		P
5.1.3	Extraneous radiation		P
	Careful checks should be made to ensure that extraneous sources of radiation and reflections do not add significantly to the measurement results.		P
5.1.4	Lamp operation		N/A
	Operation of the test lamp shall be provided in accordance with:		N/A
	– the appropriate IEC lamp standard, or		N/A
	– the manufacturer' s recommendation		N/A
5.1.5	Lamp system operation		P
	The power source for operation of the test lamp shall be provided in accordance with:		P
	– the appropriate IEC standard, or		N/A
	– the manufacturer' s recommendation		P
5.2	Measurement procedure		P
5.2.1	Irradiance measurements		P
	Minimum aperture diameter 7mm.		P
	Maximum aperture diameter 50 mm.		P
	The measurement shall be made in that position of the beam giving the maximum reading.		P
	The measurement instrument is adequate calibrated.		P
5.2.2	Radiance measurements		P
5.2.2.1	Standard method		P
	The measurements made with an optical system.		P
	The instrument shall be calibrated to read in absolute radiant power per unit receiving area and per unit solid angle to acceptance averaged over the field of view of the instrument.		P

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Clause	Requirement + Test	Result – Remark	Verdict
5.2.2.2	Alternative method		N/A
	Alternatively to an imaging radiance set-up, an irradiance measurement set-up with a circular field stop placed at the source can be used to perform radiance measurements.		N/A
5.2.3	Measurement of source size		P
	The determination of α, the angle subtended by a source, requires the determination of the 50% emission points of the source.		P
5.2.4	Pulse width measurement for pulsed sources		N/A
	The determination of Δt, the nominal pulse duration of a source, requires the determination of the time during which the emission is > 50% of its peak value.		N/A
5.3	Analysis methods		P
5.3.1	Weighting curve interpolations		P
	To standardize interpolated values, use linear interpolation on the log of given values to obtain intermediate points at the wavelength intervals desired.	see table 4.1	P
5.3.2	Calculations		P
	The calculation of source hazard values shall be performed by weighting the spectral scan by the appropriate function and calculating the total weighted energy.		P
5.3.3	Measurement uncertainty		P
	The quality of all measurement results must be quantified by an analysis of the uncertainty.	see Annex C in the norm	P
6	**LAMP CLASSIFICATION**		P
	For the purposes of this standard it was decided that the values shall be reported as follows:	see table 6.1	P
	– for lamps intended for general lighting service, the hazard values shall be reported as either irradiance or radiance values at a distance which produces an illuminance of 500 lux, but not at a distance less than 200 mm		N/A
	– for all other light sources, including pulsed lamp sources, the hazard values shall be reported at a distance of 200 mm		P
6.1	Continuous wave lamps		P
6.1.1	Except Group		P
	In the except group are lamps, which does not pose any photobiological hazard. The requirement is met by any lamp that does not pose:		P
	– an actinic ultraviolet hazard (E_S) within 8-hours exposure (30000 s), nor		P
	– a near-UV hazard (E_{UVA}) within 1000 s, (about 16 min), nor		P

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Clause	Requirement + Test	Result – Remark	Verdict
	– a retinal blue-light hazard (L_B) within 10000 s (about 2,8 h), nor		P
	– a retinal thermal hazard (L_R) within 10 s, nor		P
	– an infrared radiation hazard for the eye (E_{IR}) within 1000 s		P
6.1.2	Risk Group 1 (Low-Risk)		N/A
	In this group are lamps, which exceeds the limits for the except group but that does not pose:		NA
	– an actinic ultraviolet hazard (E_S) within 10000 s, nor		NA
	– a near ultraviolet hazard (E_{UVA}) within 300 s, nor		NA
	– a retinal blue-light hazard (L_B) within 100 s, nor		NA
	– a retinal thermal hazard (L_R) within 10 s, nor		NA
	– an infrared radiation hazard for the eye (E_{IR}) within 100 s		NA
	Lamps that emit infrared radiation without a strong visual stimulus and do not pose a near-infrared retinal hazard (L_{IR}), within 100 s are in Risk Group 1.		NA
6.1.3	Risk Group 2 (Moderate-Risk)		NA
	This requirement is met by any lamp that exceeds the limits for Risk Group 1, but that does not pose:		NA
	– an actinic ultraviolet hazard (E_S) within 1000 s exposure, nor		NA
	– a near ultraviolet hazard (E_{UVA}) within 100 s, nor		NA
	– a retinal blue-light hazard (L_B) within 0,25 s (aversion response), nor		NA
	– a retinal thermal hazard (L_R) within 0,25 s (aversion response), nor		NA
	– an infrared radiation hazard for the eye (E_{IR}) within 10 s		NA
	Lamps that emit infrared radiation without a strong visual stimulus and do not pose a near-infrared retinal hazard (L_{IR}), within 10 s are in Risk Group 2.		NA
6.1.4	Risk Group 3 (High-Risk)		NA
	Lamps which exceed the limits for Risk Group 2 are in Group 3.		N/A
6.2	Pulsed lamps		N/A
	Pulse lamp criteria shall apply to a single pulse and to any group of pulses within 0,25 s.		NA
	A pulsed lamp shall be evaluated at the highest nominal energy loading as specified by the manufacturer.		NA
	The risk group determination of the lamp being tested shall be made as follows:		NA

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Clause	Requirement + Test	Result – Remark	Verdict
	– a lamp that exceeds the exposure limit shall be classified as belonging to Risk Group 3 (High-Risk)		NA
	– for single pulsed lamps, a lamp whose weighted radiant exposure or weighted radiance does is below the EL shall be classified as belonging to the Exempt Group		NA
	– for repetitively pulsed lamps, a lamp whose weighted radiant exposure or weighted radiance dose is below the EL, shall be evaluated using the continuous wave risk criteria discussed in clause 6.1, using time averaged values of the pulsed emission		NA

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Clause	Requirement + Test	Result – Remark	Verdict

Table 4.1	Spectral weighting function for assessing ultraviolet hazards for skin and eye		P
Wavelength[1] λ, nm	**UV hazard function $S_{uv}(\lambda)$**	**Wavelength λ, nm**	**UV hazard function $S_{uv}(\lambda)$**
200	0,030	313*	0,006
205	0,051	315	0,003
210	0,075	316	0,0024
215	0,095	317	0,0020
220	0,120	318	0,0016
225	0,150	319	0,0012
230	0,190	320	0,0010
235	0,240	322	0,00067
240	0,300	323	0,00054
245	0,360	325	0,00050
250	0,430	328	0,00044
254*	0,500	330	0,00041
255	0,520	333*	0,00037
260	0,650	335	0,00034
265	0,810	340	0,00028
270	1,000	345	0,00024
275	0,960	350	0,00020
280*	0,880	355	0,00016
285	0,770	360	0,00013
290	0,640	365*	0,00011
295	0,540	370	0,000093
297*	0,460	375	0,000077
300	0,300	380	0,000064
303*	0,120	385	0,000053
305	0,060	390	0,000044
308	0,026	395	0,000036
310	0,015	400	0,000030

[1] Wavelengths chosen are representative: other values should be obtained by logarithmic interpolation at intermediate wavelengths.
* Emission lines of a mercury discharge spectrum.

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Clause	Requirement + Test	Result – Remark	Verdict

Table 4.2	Spectral weighting functions for assessing retinal hazards from broadband optical sources	P

Wavelength nm	**Blue-light hazard function B (λ)**	**Burn hazard function R (λ)**
300	0,01	
305	0,01	
310	0,01	
315	0,01	
320	0,01	
325	0,01	
330	0,01	
335	0,01	
340	0,01	
345	0,01	
350	0,01	
355	0,01	
360	0,01	
365	0,01	
370	0,01	
375	0,01	
380	0,01	0,1
385	0,013	0,13
390	0,025	0,25
395	0,05	0,5
400	0,10	1,0
405	0,20	2,0
410	0,40	4,0
415	0,80	8,0
420	0,90	9,0
425	0,95	9,5
430	0,98	9,8
435	1,00	10,0
440	1,00	10,0
445	0,97	9,7
450	0,94	9,4
455	0,90	9,0
460	0,80	8,0
465	0,70	7,0
470	0,62	6,2
475	0,55	5,5
480	0,45	4,5
485	0,40	4,0
490	0,22	2,2
495	0,16	1,6
500-600	$10^{[(450-\lambda)/50]}$	1,0
600-700	0,001	1,0
700-1050		$10^{[(700-\lambda)/500]}$
1050-1150		0,2
1150-1200		$0{,}2 \cdot 10^{0{,}02(1150-\lambda)}$
1200-1400		0,02

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Clause	Requirement + Test	Result – Remark	Verdict

Table 5.4	Summary of the ELs for the surface of the skin or cornea (irradiance based values)				P
Hazard Name	**Relevant equation**	**Wavelength range nm**	**Exposure duration sec**	**Limiting aperture rad (deg)**	**EL in terms of constant irradiance $W \cdot m^{-2}$**
Actinic UV skin & eye	$E_S = \sum E_\lambda \cdot S(\lambda) \cdot \Delta\lambda$	200 – 400	< 30000	1,4 (80)	30/t
Eye UV-A	$E_{UVA} = \sum E_\lambda \cdot \Delta\lambda$	315 – 400	≤1000 >1000	1,4 (80)	10000/t 10
Blue-light small source	$E_B = \sum E_\lambda \cdot B(\lambda) \cdot \Delta\lambda$	300 – 700	≤100 >100	< 0,011	100/t 1,0
Eye IR	$E_{IR} = \sum E_\lambda \cdot \Delta\lambda$	780 –3000	≤1000 >1000	1,4 (80)	$18000/t^{0,75}$ 100
Skin thermal	$E_H = \sum E_\lambda \cdot \Delta\lambda$	380 – 3000	< 10	2π sr	$20000/t^{0,75}$

Table 5.5	Summary of the ELs for the retina (radiance based values)				P
Hazard Name	**Relevant equation**	**Wavelength range nm**	**Exposure duration sec**	**Field of view radians**	**EL in terms of constant radiance $W \cdot m^{-2} \cdot sr^{-1}$)**
Blue light	$L_B = \sum L_\lambda \cdot B(\lambda) \cdot \Delta\lambda$	300 – 700	0,25 – 10 10-100 100-10000 ≥ 10000	$0,011 \cdot \sqrt{(t/10)}$ 0,011 $0,0011 \cdot \sqrt{t}$ 0,1	$10^6/t$ $10^6/t$ $10^6/t$ 100
Retinal thermal	$L_R = \sum L_\lambda \cdot R(\lambda) \cdot \Delta\lambda$	380 – 1400	< 0,25 0,25 – 10	0,0017 $0,011 \cdot \sqrt{(t/10)}$	$50000/(\alpha \cdot t^{0,25})$ $50000/(\alpha \cdot t^{0,25})$
Retinal thermal (weak visual stimulus)	$L_{IR} = \sum L_\lambda \cdot R(\lambda) \cdot \Delta\lambda$	780 – 1400	> 10	0,011	6000/α

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Clause	Requirement + Test	Result – Remark	Verdict

Table 6.1	Emission limits for risk groups of continuous wave lamps								P
Risk	Action spectrum	Symbol	Units	Emission Measurement					
				Exempt		Low risk		Mod risk	
				Limit	Result	Limit	Result	Limit	Result
Actinic UV	$S_{UV}(\lambda)$	E_S	$W \cdot m^{-2}$	0,001	0.000E+00	0,003	0.000E+00	0,03	0.000E+00
Near UV		E_{UVA}	$W \cdot m^{-2}$	10	0.000E+00	33	0.000E+00	100	0.000E+00
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	9.306E-03	10000	4.235E-01	4000000	4.233E+00
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	1.0*	--	1.0	--	400	--
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	28000/α	1.855E+03	28000/α	1.855E+03	71000/α	1.854E+04
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	6000/α	1.811E+03	6000/α	1.811E+03	6000/α	1.811E+03
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	7.448E-01	570	7.448E-01	3200	7.448E-01

* Small source defined as one with α < 0,011 radian. Averaging field of view at 10000 s is 0,1 radian.
** Involves evaluation of non-GLS source

Angular subtense of apparent source: α=32.71 mrad

Test condition: Normal condition (CW mode)

Conclusion: Infrared LED (LD1, LD2): High Power Lighting Corporation / TYPE: H40WJ1BA was assigned as Exempt Group.

List of test equipment used:

A completed list of used test equipment shall be provided in the Test Reports when a Customer's Testing Facility according to CTF stage 1 or CTF stage 2 procedure has been used.
Note: This page may be removed when CTF stage 1 or CTF stage 2 are not used. See also clause 4.8 in OD 2020 for more details.

Clause	Measurement / testing	Testing / measuring equipment / material used, (Equipment ID)	Range used	Last Calibration date	Calibration due date
N/A					

Fig.1: Overall view-1

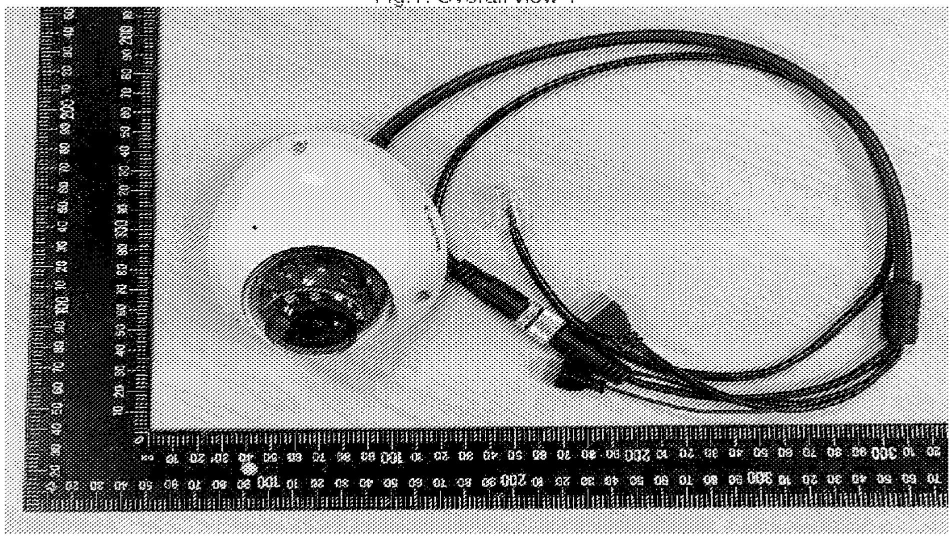


Fig 2: Overall view-2

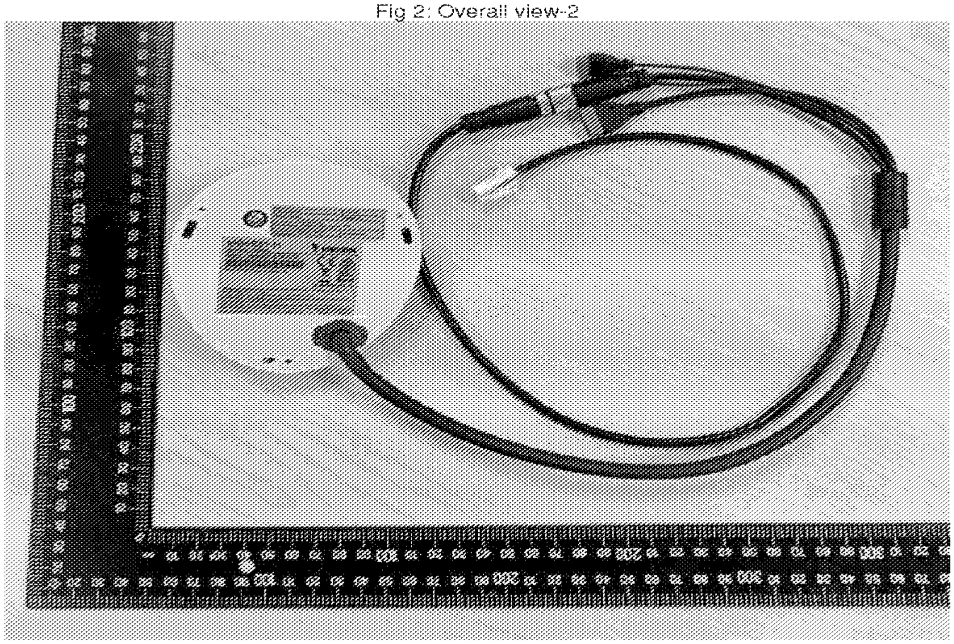


Fig 3: Internal view

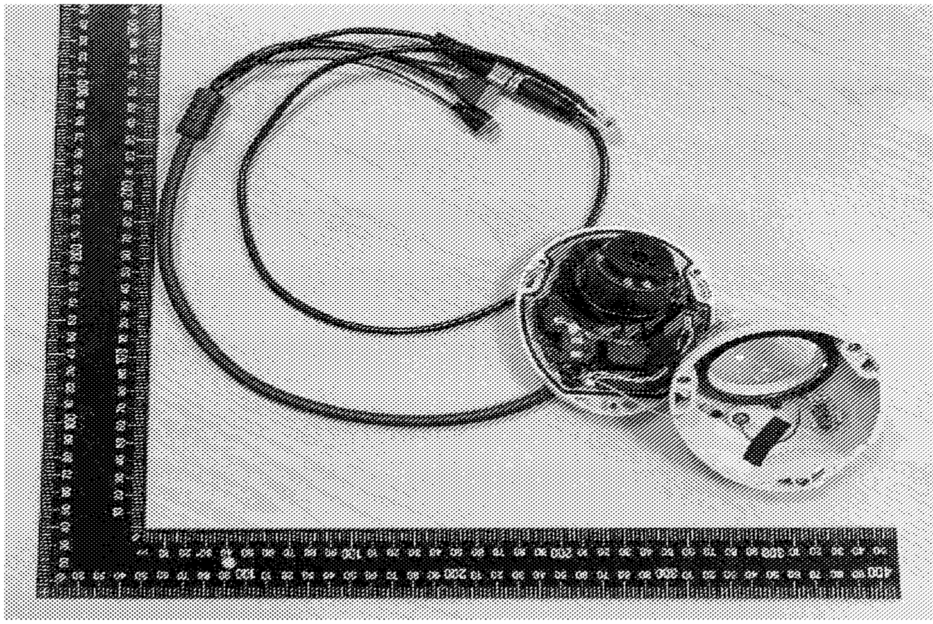


Fig.4: LED Module view-1

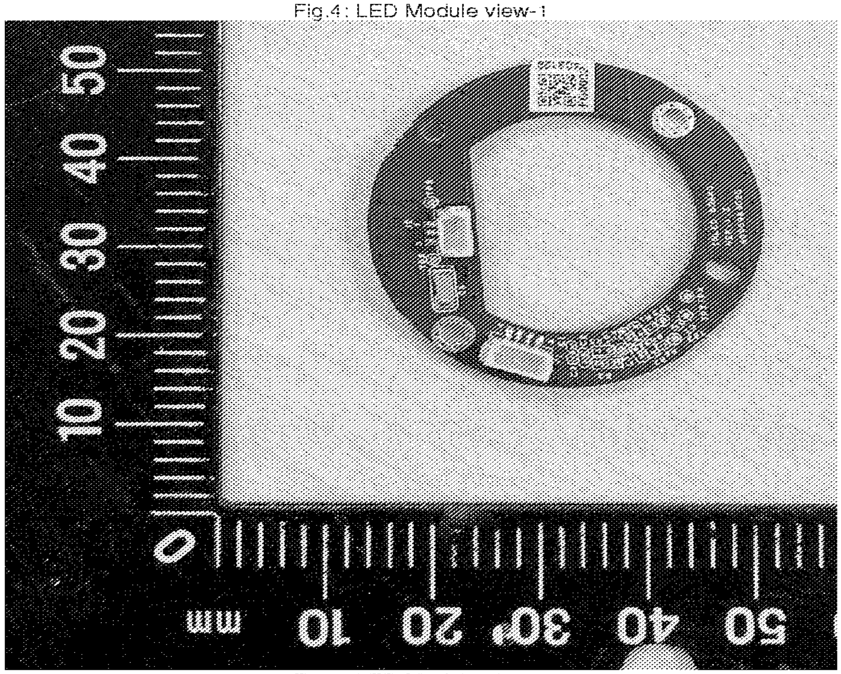
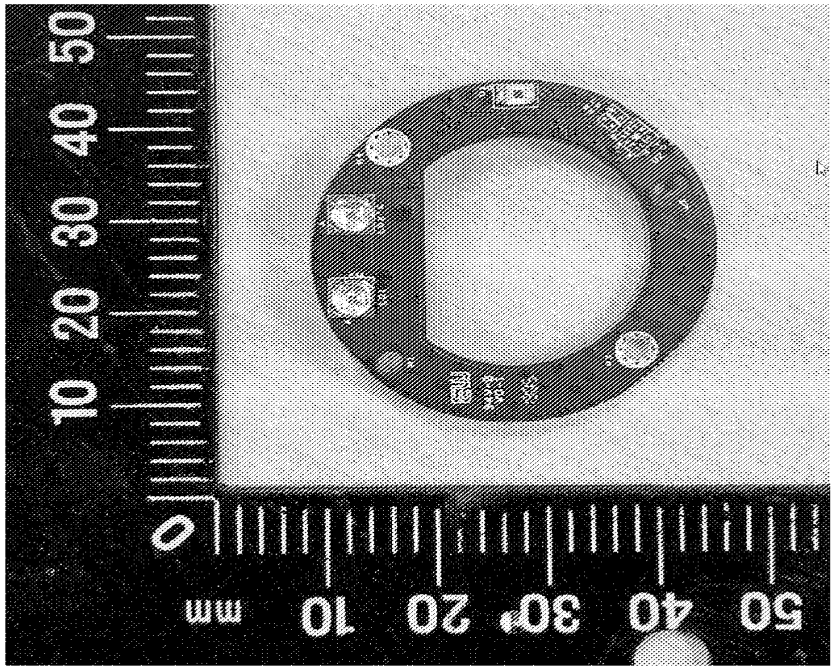


Fig.5: LED Module view-2



Test Report issued under the responsibility of:

TEST REPORT
IEC 60950-22
Information technology equipment – Safety –
Part 22: Equipment to be installed outdoors

Report Number.............................. :	E324690-4789526217-M2
Date of issue.................................. :	2020-07-16
Total number of pages .... :	9
Name of Testing Laboratory preparing the Report .... :	Underwriters Laboratories Taiwan Co., Ltd 260 Da-Yeh Road, TW-112 Peitou Taipei City, Chinese Taipei
Applicant's name .... :	VIVOTEK INC.
Address.. :	6F, No.192, Lien-Cheng Rd., Chung-Ho, New Taipei City, 235, Taiwan, R.O.C.
Test specification:	
Standard .... :	IEC 60950-22:2016 for use in conjunction with IEC 60950-1:2005, AMD1:2009, AMD2:2013
Test procedure .... :	CB Scheme
Non-standard test method .... :	N/A
Test Report Form No. .... :	IEC60950_22C
Test Report Form(s) Originator .... :	The Standards Institution of Israel
Master TRF .... :	Dated 2019-09-29

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Test item description .... :	Network Camera	
Trade Mark(s) .... :	VIVOTEK	
Original Product/Equipment Manufacturer .... :	Same as Applicant	
Branding Manufacturer(s) .... :	N/A	
Model/Type reference .... :	(1) MD9560-H, MD9561-H, MD9581-H, FD9366-HV; (2) MD9560-DH, MD9561-DH	
Ratings .... :	(Optionally provided on marking plate) (1) DC 37-57 V ⎓ , 0.16-0.1 A (2) DC 7.5-48 V ⎓ , 0.74-0.12 A	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒ **CB Testing Laboratory:**	UNDERWRITERS LABORATORIES TAIWAN CO LTD	
Testing location/ address............................ :	260 Da-Yeh Road,TW-112 Peitou, Taipei City, Chinese Taipei	
Tested by (name, function, signature)........ :	Yvonne Low, Project Handler	Yvonne Low
Approved by (name, function, signature)... :	Eddie Chen, Project Reviewer	Eddie Chen
☐ **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 + 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):
N/A

Summary of testing:
- No sample and test is considered necessary due to overall construction remain the sample.
- The unit was considered exposed SELV circuit.

Tests performed (name of test and test clause):	Testing location:
N/A	N/A

Summary of compliance with National Differences (List of countries addressed):
Countries outside the CB Scheme membership may also accept this report.
List of countries addressed: CA, US, EU

☒ **The product fulfils the requirements of EN 60950-22:2017 (insert standard number and edition and delete the text in parenthesis, leave it blank or delete the whole sentence, if not applicable)**

Statement concerning the uncertainty of the measurement systems used for the tests
(may be required by the product standard or client)

☐ **Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:**
Procedure number, issue date and title:

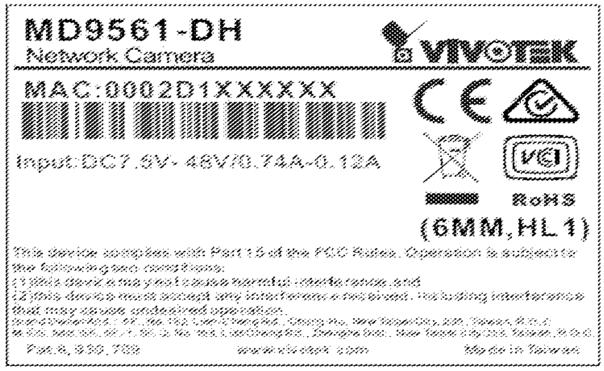
Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

☐ **Statement not required by the standard used for type 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 NCBs that own these marks.


MD9560-DH
Network Camera
VIVOTEK
MAC:0002D1XXXXXX
Input:DC7.5V-48V⎓0.74A-0.12A
RoHS
E3 10R-05 15281
(2.8MM,HL1)
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.
Made in Taiwan
FD9366-HV
Network Camera
VIVOTEK
MAC:0002D1XXXXXX
PoE 37-57V⎓0.16-0.10A
(2.8MM)
RoHS
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.
Made in Taiwan
FD9366-HV
Network Camera
VIVOTEK
MAC:0002D1XXXXXX
PoE 37-57V⎓0.16-0.10A
(3.6MM)
RoHS
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.
Made in Taiwan


MD9561-DH
Network Camera
VIVOTEK
MAC:0002D1XXXXXX
Input:DC7.5V-48V/0.74A-0.12A
RoHS
(6MM,HL1)
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.
www.vivotek.com
Made in Taiwan

Test item particulars...:	
Classification of installation and use......................:	[] Class I [] Class II [X] Class III [] Not classified
Supply Connection..:	Not directly connected to mains
Temperature range..:	-40 degree C to 55 degree C
Overvoltage category..:	☐ OVC I ☐ OVC II ☐ OVC III ☐ OVC IV ☒ other: Not directly connected to the mains
IP protection class..:	IPX0
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:

"(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)......................... :	**VIVOTEK INC.** 5F, No.168, Lien-Cheng Rd., Chung-Ho, New Taipei City, 235, Taiwan, R.O.C.

General product information and other remarks:

Report Summary:

All applicable tests according to the referenced standard(s) have been carried out.

Product Description:

This product is a Network Camera and intended for wall mounted (fixed) and installed outdoors

Model Difference:

- Model MD9560-H is similar to model MD9561-H except for model designation, mainboard and sensor types.
- Model MD9561-H is similar to model MD9581-H except for model designation and sensor type.
- Model FD9366-HV is identical to model MD9560-H except for model designation.
- Model MD9560-DH is similar to model MD9560-H except for model designation and input rating.
- Model MD9561-DH is similar to model MD9561-H except for model designation and input rating.

Difference	MD9560-DH	MD9560-H FD9366-HV	MD9561-H	MD9581-H	MD9561-DH
Mainboard type	Type A	Type A	Type B	Type B	Type B
Sensor type	2M	2M	2M	5M	2M
Sensor board	Type A	Type A	Type B	Type C	Type B

History of amendments and modifications:
- This test report shall be read in conjunction with the original report, report number: E324690-4789209664-Origional and E324690-4789379670-M1, dated 2019-12-31 and 2020-03-27.

- This test report has been administrative amended, due to add one model MD9561-DH. Model MD9561-DH is similar to model MD9561-H except for model designation and input rating.

Test Record No. 3

- The manufacturer submitted representative production sample of Network Camera, Model MD9560-H, MD9561-H, MD9581-H, MD9560-DH, FD9366-HV, MD9581-HTPM, MD9561-DH employing the alternate:
(1) add one models MD9561-DH that is similar to model MD9561-H except for model designation and input rating.
(2) Delete “PoE” for rating.
(3) Revise The component name of Table 4.1.2 from “POE power source” to “Power source”.
(4) Revise Mass of equipment from 0.338 kg to 0.388 kg.

- Unless otherwise noted, all tests were conducted by UL (Demko) under the CB Scheme as detailed under CB Certificate Number DK-92197-M2-UL, dated 2020-07-29 and CB Report Reference Number SU0041-19010-A2, dated 2020-07-24.

- Test results reported relate only to the items tested.

The following tests were conducted:

Test	Testing Location/Comments
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Test results are valid only for the tested equipment. These tests are considered representative of the products covered by this Test Report. The test methods and results of the above tests have been reviewed and found to be in accordance with the requirements in the Standard(s) referenced at the beginning of this Test Report.

The following tests were waived:

Test	Rationale for Waiving
5.4.1.4, 6.3.2, 9.0, Annex B.2.6 Temperature Tests	See CB Report
Annex B.2.5 Input Test	See CB Report

The following supplements are provided as a part of this Test Record. NOTE: These supplements are only available to the Applicant via the CDA system.

Type	Supplement Id	Description
Attachment	CRDS1	CRD

Test Record Summary:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in the U.S. and Canadian (Bi-National) Standard for Safety of Audio/video, information and communication technology equipment - Part 1: Safety requirements CAN/CSA-C22.2 No.62368-1 2nd Edition, issued Date December, 2014, UL 62368-1 Audio/video, information and communication technology equipment - Part 1: Safety requirements, 2nd edition date December 1st, 2014. Any Information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Test Report by:	Reviewed by:
Yvonne Low / Cavy Chen	Max Ma
Engineer Project Associate	Project Engineer
Conformity Assessment Services	Conformity Assessment Services

Any information and documentation provided to you involving UL Mark services are provided on behalf of Underwriters Laboratories Inc