
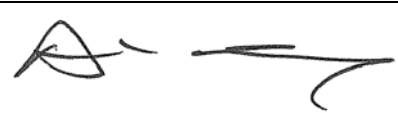






<b>TEST REPORT</b> <b>EN 60950-1: 2006</b> <b>Information Technology Equipment – Safety – Part 1: General Requirements</b>	
<b>Test Report No.:</b>	<b>L100331-03-A0</b>
<b>Client</b>	
Name :	<b>VIVOTEK INC.</b>
Address :	<b>6F, No.192, Lien-Cheng Rd., Chung-Ho City, Taipei County, Taiwan, R.O.C.</b>
<b>Test Item :</b>	<b>Outdoor Network Camera</b>
<b>Identification :</b>	<b>IP8330, IP8332</b>
<b>Testing laboratory</b>	
Name :	<b>Prodigy Technology Consultant Co., Ltd.</b>
Address :	<b>1FL, No.181, Sec. 2, Wunhua 1st Rd., Linkou, Taipei County 24457, Taiwan, R.O.C</b>
<b>Test specification</b>	
<b>Standard :</b>	<b>EN 60950-1:2006+A11:2009</b>
<b>Test Result :</b>	The test item passed.
<b>Prepared By :</b>	
	 _____ Signature
	<u>2010-06-03</u> Date
	<u>Frank Chang</u> Engineer
<b>Approved By:</b>	
	 _____ Signature
	<u>2010-06-03</u> Date
	<u>Angus Hsu</u> General Manager
<b>Other Aspects:</b>	
The completed test report includes the following documents:	
■ EN 60950-1 report ( 47 pages)	
	 
<b>The test report shall not be reproduced except in full, without written approval of the laboratory. This test report does not entitle to carry any safety mark on this or similar products.</b>	



<b>TEST REPORT</b>	
<b>EN 60950-1: 2006</b>	
<b>Information Technology Equipment – Safety – Part 1: General Requirements</b>	
Report Reference No.....	L100331-03-A0
Tested by (+ signature) .....	See cover sheet
Approved by (+ signature) .....	See cover sheet
Date of issue.....	2010-05-25
<b>Testing laboratory</b>	
Name .....	Prodigy Technology Consultant Co., Ltd.
Address.....	1FL, No.181, Sec. 2, Wunhua 1st Rd., Linkou, Taipei County 24457, Taiwan, R.O.C
Testing location .....	Prodigy Technology Consultant Co., Ltd.
Address.....	1FL, No.181, Sec. 2, Wunhua 1st Rd., Linkou, Taipei County 24457, Taiwan, R.O.C
<b>Applicant</b>	
Name .....	VIVOTEK INC.
Address.....	6F, No.192, Lien-Cheng Rd., Chung-Ho City, Taipei County, Taiwan, R.O.C.
<b>Test specification</b>	
Standard .....	EN 60950-1: 2006+A11:2009
Test procedure .....	CE Marking serial in LVD
Procedure deviation.....	N/A
Non-standard test method.....	N/A
<b>Test Report Form/blank test report</b>	
Test Report Form No. ....	IECEN60950_1C
TRF originator. ....	SGS Fimko Ltd
Master TRF .....	Dated 2007-06
<b>Test equipment</b>	
Description.....	Outdoor Network Camera
Trademark .....	
Manufacturer .....	Same as applicant.
Model and/or type reference .....	IP8330, IP8332
Rating(s).....	1. 12Vdc, 0.4 A (Power from adapter) 2. 48Vdc, 0.2 A (Power from Power over Ethernet) 3. 24Vac, 0.4 A, 50/60Hz (Power from AC Power Supply)



Summary of Testing:  
Unless otherwise indicated, all tests were conducted at Prodigy Technology Consultant Co., Ltd. No. 181, Sec. 2, Wunhua 1st Rd., Linkou Township, Taipei 244, Chinese Taipei.

<b>Tests performed (name of test and test clause)</b>	<b>Testing location / Comments</b>
1.6.2 - INPUT TEST: SINGLE-PHASE	
2.2.2, 2.2.3, 2.2.4, PART 22 6.1 - SELV RELIABILITY TEST	
2.5 - LIMITED POWER SOURCE MEASUREMENTS	
2.10.2, PART 22 6.1 - DETERMINATION OF WORKING VOLTAGE - HAZARDOUS VOLTAGE (CIRCUIT) MEASUREMENT TEST	
4.2.1 - 4.2.4 – STEADY FORCE TESTS	
4.2.10 - LOADING TESTS – WALL AND CEILING MOUNTED EQUIPMENT	
4.5.1, 1.4.12, 1.4.13 - HEATING TEST	
5.3.1, 5.3.4, 5.3.7 - COMPONENT FAILURE TEST	
5.3.7 - OVERLOAD OF OPERATOR ACCESSIBLE CONNECTOR TEST	



Copy of marking plate and summary of test results (information/comments)

**Network Camera** 

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Model No: IP8330 **RoHS**   


MAC: 0002D1XXXXXX



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.  
 Pat.6, 930, 709 Made in Taiwan

**Network Camera** 

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Model No: IP8332 **RoHS**   

MAC: 0002D1XXXXXX

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.  
 Pat.6, 930, 709 Made in Taiwan

This is a reference Label. Final label shall be including the content of it.



<p><b>Particulars: test item vs. test requirements</b></p> <p>Equipment mobility ..... : movable</p> <p>Operating condition ..... : Continuous</p> <p>Mains supply tolerance (%) ..... No direct connection</p> <p>Tested for IT power systems ..... : No</p> <p>IT testing, phase-phase voltage (V) ..... : N/A</p> <p>Class of equipment..... : Class III</p> <p>Mass of equipment (kg)..... : 0.66 kg</p> <p>Protection against ingress of water ..... : IP66</p>	
<p><b>Test case verdicts</b></p> <p>Test case does not apply to the test object..... : N/A</p> <p>Test item does meet the requirement..... : Pass</p> <p>Test item does not meet the requirement..... : Fail</p>	
<p><b>Testing</b></p> <p>Date of receipt of test item.....: 2010-04-06</p> <p>Date(s) of performance of test.....: 2010-04-08 to 2010-04-24</p>	
<p><b>General remarks</b></p> <p>This test report shall not be reproduced except in full without the written approval of the testing laboratory.</p> <p>The test results presented in this report relate only to the item tested.</p> <p>"(see remark #)" refers to a remark appended to the report.</p> <p>"(see appended table)" refers to a table appended to the report.</p> <p>Throughout this report a point is used as the decimal separator.</p> <p><b>Brief description of the test equipment</b></p> <p>1) The equipment is a Class III Outdoor Network Camera.</p> <p>2) The maximum ambient temperature specified by manufacturer is 50 °C.</p> <p>3) EUT Dimension: cylinder, diameter 60 mm, high 150 mm.</p> <p><b>Models difference</b></p> <p>The model IP8330 is identical to IP8332, except for Lens, Video frame rates and model designation.</p> <p><b>Test condition</b></p> <p>Temperature: 25</p> <p>Relative humidity: 60%</p> <p>Air pressure: 950 mbar</p> <p>The test samples are pre-production without serial numbers.</p>	



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Clause	Requirement - Test	Result - Remark	Verdict
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1	<b>GENERAL</b>		Pass
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1.5	<b>Components</b>		Pass
1.5.1	General	See below.	Pass
	Comply with IEC 60950 or relevant component standard	(see appended table 1.5.1)	Pass
1.5.2	Evaluation and testing of components	Components certified to IEC harmonized standard and checked for correct application. Components not certified are used in accordance with their ratings and they comply with applicable parts of IEC 60950-1 and the relevant component Standard. Components, for which no relevant IEC-Standard exist, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 60950-1.	Pass
1.5.3	Thermal controls		N/A
1.5.4	Transformers		N/A
1.5.5	Interconnecting cables	Interconnecting cables comply with the relevant requirements of this standard.	Pass
1.5.6	Capacitors bridging insulation		N/A
1.5.7	Resistors bridging insulation		N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems		N/A
1.5.9	Surge suppressors		N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A





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Clause	Requirement - Test	Result - Remark	Verdict
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1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A
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1.6	<b>Power interface</b>		Pass
1.6.1	AC power distribution systems .....		N/A
1.6.2	Input current	The steady state input current of the equipment did not exceed the RATED CURRENT by more than 10% under normal load See appended table 1.6.2 for details	Pass
1.6.3	Voltage limit of hand-held equipment	This is not a hand-held equipment.	N/A
1.6.4	Neutral conductor		N/A

1.7	<b>Marking and instructions</b>		Pass
1.7.1	Power rating	Rating marking readily visible to operator.(Optional)	Pass
	Rated voltage(s) or voltage range(s) (V) .....	12Vdc (Power from adapter) 48Vdc (Power from Power over Ethernet adapter base unit) 24Vac (Power from AC Power Supply)	Pass
	Symbol for nature of supply, for d.c. only .....	 (60417-2-IEC-5031)	Pass
	Rated frequency or frequency range (Hz) .....	50/60Hz.	Pass
	Rated current (mA or A) .....	0.4A (Power from adapter) 0.2A (Power from Power over Ethernet) 0.4A (Power from AC Power Supply)	Pass
	Manufacturer's name or trade-mark or identification mark .....	VIVOTEK INC./ 	Pass
	Model identification or type reference .....	IP8330, IP8332	Pass
	Symbol for Class II equipment only .....		N/A
	Other markings and symbols .....	Additional markings are used and are defined in the installation instructions.	Pass
1.7.2	Safety instructions and marking	Safety instructions in English. Other languages will be provided when submitted for national approval	Pass



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Clause	Requirement - Test	Result - Remark	Verdict
1.7.2.1	General		N/A
1.7.2.2	Disconnect devices		N/A
1.7.2.3	Overcurrent protective device		N/A
1.7.2.4	IT power distribution systems		N/A
1.7.2.5	Operator access with a tool		N/A
1.7.2.6	Ozone		N/A
1.7.3	Short duty cycles	Equipment is designed for continuous operation.	N/A
1.7.4	Supply voltage adjustment .....	No adjustment can be made	N/A
	Methods and means of adjustment; reference to installation instructions .....		N/A
1.7.5	Power outlets on the equipment .....	No power outlets.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) .....		N/A
1.7.7	Wiring terminals		N/A
1.7.7.1	Protective earthing and bonding terminals	Evaluated as part of power supply.	N/A
1.7.7.2	Terminal for a.c. mains supply conductors		N/A
1.7.7.3	Terminals for d.c. mains supply conductors	No permanently connected equipment.	N/A
1.7.8	Controls and indicators		N/A
1.7.8.1	Identification, location and marking .....		N/A
1.7.8.2	Colours .....		N/A
1.7.8.3	Symbols according to IEC 60417 .....		N/A
1.7.8.4	Markings using figures .....		N/A
1.7.9	Isolation of multiple power sources .....		N/A
1.7.10	Thermostats and other regulating devices .....		N/A
1.7.11	Durability	Comply with the durability test	Pass
1.7.12	Removable parts	No marking is located on a removable parts.	Pass
1.7.13	Replaceable batteries .....	No batteries provided.	N/A
	Language(s) .....		N/A
1.7.14	Equipment for restricted access locations .....		N/A
<b>2</b>	<b>PROTECTION FROM HAZARDS</b>		<b>Pass</b>





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Clause	Requirement - Test	Result - Remark	Verdict
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2.1	<b>Protection from electric shock and energy hazards</b>		Pass
2.1.1	Protection in operator access areas	See below	Pass
2.1.1.1	Access to energized parts	See below	Pass
	Test by inspection .....	All accessible circuits are SELV circuits	Pass
	Test with test finger (Figure 2A) .....		Pass
	Test with test pin (Figure 2B) .....		Pass
	Test with test probe (Figure 2C) .....	No TNV circuit.	N/A
2.1.1.2	Battery compartments		N/A
2.1.1.3	Access to ELV wiring	No ELV wiring in operator accessible area	N/A
	Working voltage (V <sub>peak</sub> or V <sub>rms</sub> ); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards .....	No hazardous energy in operator access area	Pass
2.1.1.6	Manual controls		N/A
2.1.1.7	Discharge of capacitors in equipment		N/A
	Measured voltage (V); time-constant (s) .....		—
2.1.1.8	Energy hazards – d.c. mains supply		N/A
	a) Capacitor connected to the d.c. mains supply .		N/A
	b) Internal battery connected to the d.c. mains supply .....		N/A
2.1.1.9	Audio amplifiers .....		N/A
2.1.2	Protection in service access areas		N/A
2.1.3	Protection in restricted access locations		N/A

2.2	<b>SELV circuits</b>		Pass
2.2.1	General requirements	The unit intended to be supplied by SELV.	Pass
2.2.2	Voltages under normal conditions (V) .....	All accessible voltage are less than 42.4Vp or 60Vdc and are classified as SELV	Pass
2.2.3	Voltages under fault conditions (V).....	Under fault conditions voltages never exceed 71 V <sub>peak</sub> and 120 V <sub>dc</sub> and do not exceed 42.4 V peak or 60 V dc for more than 0.2 sec	Pass



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Clause	Requirement - Test	Result - Remark	Verdict
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2.2.4	Connection of SELV circuits to other circuits..... :	SELV circuits are only connected to other SELV circuit	Pass
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2.3	<b>TNV circuits</b>		N/A
2.3.1	Limits	No TNV circuit.	N/A
	Type of TNV circuits .....		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions .....		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed .....		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed .....		—
2.3.5	Test for operating voltages generated externally		N/A

2.4	<b>Limited current circuits</b>		N/A
2.4.1	General requirements		N/A
2.4.2	Limit values		N/A
	Frequency (Hz) .....		—
	Measured current (mA) .....		—
	Measured voltage (V) .....		—
	Measured capacitance (nF or µF) .....		—
2.4.3	Connection of limited current circuits to other circuits		N/A

2.5	<b>Limited power sources</b>		Pass
	a) Inherently limited output	See table 2.5 for details	Pass
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition		N/A



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Clause	Requirement - Test	Result - Remark	Verdict
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	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA).....	See table 2.5 for details	—
	Current rating of overcurrent protective device (A)		—

2.6	<b>Provisions for earthing and bonding</b>		N/A
2.6.1	Protective earthing	Class III equipment.	N/A
2.6.2	Functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG.....		—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG.....		—
	Protective current rating (A), cross-sectional area (mm <sup>2</sup> ), AWG.....		—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min).....		N/A
2.6.3.5	Colour of insulation.....		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type and nominal thread diameter (mm).....		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		—
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A



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Clause	Requirement - Test	Result - Remark	Verdict
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2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

<b>2.7</b>	<b>Overcurrent and earth fault protection in primary circuits</b>		N/A
2.7.1	Basic requirements	Class III equipment.	N/A
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7		N/A
2.7.3	Short-circuit backup protection		N/A
2.7.4	Number and location of protective devices .....		N/A
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel .....		N/A

<b>2.8</b>	<b>Safety interlocks</b>		N/A
2.8.1	General principles	No safety interlocks provided.	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches and relays		N/A
2.8.7.1	Contact gaps (mm) .....		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test (V)		N/A
2.8.8	Mechanical actuators		N/A

<b>2.9</b>	<b>Electrical insulation</b>		Pass
2.9.1	Properties of insulating materials		N/A
2.9.2	Humidity conditioning		N/A



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Clause	Requirement - Test	Result - Remark	Verdict
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	Relative humidity (%), temperature (°C) .....		-
2.9.3	Grade of insulation		N/A
2.9.4	Separation from hazardous voltages		N/A
	Method(s) used .....		-

2.10	<b>Clearances, creepage distances and distances through insulation</b>		Pass
2.10.1	General	Pollution degree 2 applicable.	Pass
2.10.1.1	Frequency .....		N/A
2.10.1.2	Pollution degrees .....	Pollution degree 2 applicable.	Pass
2.10.1.3	Reduced values for functional insulation	Functional insulation	Pass
2.10.1.4	Intervening unconnected conductive parts		N/A
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage	Class III product	N/A
2.10.2.1	General		N/A
2.10.2.2	RMS working voltage		N/A
2.10.2.3	Peak working voltage		N/A
2.10.3	Clearances	See appended table 2.10.3 and 2.10.4	Pass
2.10.3.1	General		Pass
2.10.3.2	Mains transient voltages		N/A
	a) AC mains supply .....		N/A
	b) Earthed d.c. mains supplies .....		N/A
	c) Unearthed d.c. mains supplies .....		N/A
	d) Battery operation .....		N/A
2.10.3.3	Clearances in primary circuits		N/A
2.10.3.4	Clearances in secondary circuits	Functional insulation	Pass
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply .....		N/A
2.10.3.7	Transients from d.c. mains supply .....		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems .....		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A



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Clause	Requirement - Test	Result - Remark	Verdict
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	For an a.c. mains supply .....		N/A
	For a d.c. mains supply .....		N/A
	b) Transients from a telecommunication network .		N/A
2.10.4	Creepage distances	Functional insulation	Pass
2.10.4.1	General		Pass
2.10.4.2	Material group and comparative tracking index		N/A
	CTI tests .....		—
2.10.4.3	Minimum creepage distances		N/A
2.10.5	Solid insulation		N/A
2.10.5.1	General		N/A
2.10.5.2	Distances through insulation		N/A
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		N/A
2.10.5.5.	Cemented joints		N/A
2.10.5.6	Thin sheet material – General		N/A
2.10.5.7	Separable thin sheet material		N/A
	Number of layers (pcs) .....		—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		N/A
	Electric strength test		—
2.10.5.11	Insulation in wound components		N/A
2.10.5.12	Wire in wound components		N/A
	Working voltage .....		N/A
	a) Basic insulation not under stress .....		N/A
	b) Basic, supplementary, reinforced insulation .....		N/A
	c) Compliance with Annex U .....		N/A
	Two wires in contact inside wound component; angle between 45° and 90° .....		N/A
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		N/A



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Clause	Requirement - Test	Result - Remark	Verdict
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage .....		N/A
	- Basic insulation not under stress .....		N/A
	- Supplementary, reinforced insulation .....		N/A
2.10.6	Construction of printed boards		N/A
2.10.6.1	Uncoated printed boards		N/A
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs) .....		N/A
2.10.7	Component external terminations		N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A

3	<b>WIRING, CONNECTIONS AND SUPPLY</b>		Pass
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3.1	<b>General</b>		Pass
3.1.1	Current rating and overcurrent protection	All wires/conductors possess adequate cross-sectional areas for their intended application and internal wiring are adequately insulated.	Pass



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Clause	Requirement - Test	Result - Remark	Verdict
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3.1.2	Protection against mechanical damage	The wires are well routed away from sharp edges , etc. and are adequately fixed to prevent excessive strain on wire and terminals	Pass
3.1.3	Securing of internal wiring	The wires are positioned in such a manner that prevents excessive strain, loosening of terminal connections and damage of conductor.	Pass
3.1.4	Insulation of conductors		N/A
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Insulating materials in electrical connections	No contact pressure through insulating material.	Pass
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors		N/A
	10 N pull test		N/A
3.1.10	Sleeving on wiring		N/A

3.2	<b>Connection to a mains supply</b>		N/A
3.2.1	Means of connection	Class III equipment.	N/A
3.2.1.1	Connection to an a.c. mains supply		N/A
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm) .....		—
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords		N/A
3.2.5.1	AC Power supply cords		N/A
	Type .....		—
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N) .....		—





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	Longitudinal displacement (mm) .....		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	D (mm); test mass (g) .....		—
	Radius of curvature of cord (mm).....		—
3.2.9	Supply wiring space		N/A

<b>3.3</b>	<b>Wiring terminals for connection of external conductors</b>		N/A
3.3.1	Wiring terminals	Class III equipment.	N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm <sup>2</sup> ).....		—
3.3.5	Wiring terminals sizes		N/A
	Rated current (A), type, nominal thread diameter (mm).....		—
3.3.6	Wiring terminals design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Standard wire		N/A

<b>3.4</b>	<b>Disconnection from the mains supply</b>		N/A
3.4.1	General requirement	Class III equipment.	N/A
3.4.2	Disconnect devices		N/A
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energised		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles - single-phase and d.c. equipment		N/A
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A



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3.4.11	Multiple power sources		N/A
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3.5	<b>Interconnection of equipment</b>		Pass
3.5.1	General requirements		Pass
3.5.2	Types of interconnection circuits .....	Interconnection circuits are SELV	Pass
3.5.3	ELV circuits as interconnection circuits	No ELV interconnections.	N/A
3.5.4	Data ports for additional equipment	Complied with LPS, See table 2.5 for details.	Pass

4	<b>PHYSICAL REQUIREMENTS</b>		Pass
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4.1	Stability		N/A
	Angle of 10°	The equipment less than 7 kg	N/A
	Test: force (N) .....	Not floor standing equipment.	N/A

4.2	<b>Mechanical strength</b>		Pass
4.2.1	General		Pass
4.2.2	Steady force test, 10 N		N/A
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N		Pass
4.2.5	Impact test		Pass
	Fall test		Pass
	Swing test		Pass
4.2.6	Drop test; height (mm) .....		N/A
4.2.7	Stress relief	Class III equipment.	N/A
4.2.8	Cathode ray tubes	No CRT provided.	N/A
	Picture tube separately certified .....		N/A
4.2.9	High pressure lamps	No high pressure lamp provided.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N) ...:	Mounting means withstands four times unit weight or 50N minimum. Force applied: 50N.	Pass



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4.3	<b>Design and construction</b>		Pass
4.3.1	Edges and corners	All edges and corners are judged to be sufficiently well rounded so as not to constitute a hazard.	Pass
4.3.2	Handles and manual controls; force (N).....:		N/A
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts		N/A
4.3.5	Connection by plugs and sockets		N/A
4.3.6	Direct plug-in equipment	Not direct plug-in equipment.	N/A
	Torque .....		—
	Compliance with the relevant mains plug standard .....		N/A
4.3.7	Heating elements in earthed equipment	No heating element.	N/A
4.3.8	Batteries	No battery.	N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
4.3.9	Oil and grease	No oil or grease.	N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases	No liquids or gases.	N/A
4.3.12	Flammable liquids.....:	No flammable liquids.	N/A
	Quantity of liquid (l).....:		N/A
	Flash point (°C).....:		N/A
4.3.13	Radiation		N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg) .....		—
	Measured high-voltage (kV) .....		—
	Measured focus voltage (kV) .....		—
	CRT markings .....		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A



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	Part, property, retention after test, flammability classification .....		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation ....		N/A
4.3.13.5	Laser (including LEDs)		N/A
	Laser class .....		—
4.3.13.6	Other types .....		N/A

4.4	<b>Protection against hazardous moving parts</b>		N/A
4.4.1	General		N/A
4.4.2	Protection in operator access areas		N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A

4.5	<b>Thermal requirements</b>		Pass
4.5.1	General	See appended table 4.5.1 for details	Pass
4.5.2	Temperature tests		Pass
	Normal load condition per Annex L .....	See appended table 4.5.1 for details	-
4.5.3	Temperature limits for materials		Pass
4.5.4	Touch temperature limits		Pass
4.5.5	Resistance to abnormal heat .....		N/A

4.6	<b>Openings in enclosures</b>		Pass
4.6.1	Top and side openings	No opening	Pass
	Dimensions (mm) .....		—
4.6.2	Bottoms of fire enclosures	No opening.	Pass
	Construction of the bottom, dimensions (mm) .....		—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm) .....		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A



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4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks).....:		—

4.7	<b>Resistance to fire</b>		Pass
4.7.1	Reducing the risk of ignition and spread of flame	Method 1: Selection and application of components and materials which minimize the possibility of ignition and spread of flame.	Pass
	Method 1, selection and application of components wiring and materials	See appended table 1.5.1	Pass
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	A fire enclosure is required	Pass
4.7.2.1	Parts requiring a fire enclosure	Fire enclosure covers all parts.	Pass
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		Pass
4.7.3.1	General	See below	Pass
4.7.3.2	Materials for fire enclosures	Metal enclosure	Pass
4.7.3.3	Materials for components and other parts outside fire enclosures	HB Min.	Pass
4.7.3.4	Materials for components and other parts inside fire enclosures	All internal materials are rated V-2 or better or are mounted on a PWB rated V-1 or better. Internal wiring is UL Recognized, rated VW-1 or FT-1. (See appended table 1.5.1)	Pass
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A

5	<b>ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS</b>		Pass
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5.1	<b>Touch current and protective conductor current</b>		N/A
5.1.1	General	Class III equipment	N/A
5.1.2	Configuration of equipment under test (EUT)		N/A



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5.1.2.1	Single connection to an a.c. mains supply		N/A
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit		N/A
5.1.4	Application of measuring instrument		N/A
5.1.5	Test procedure		N/A
5.1.6	Test measurements		N/A
	Supply voltage (V) .....		—
	Measured touch current (mA) .....		—
	Max. allowed touch current (mA) .....		—
	Measured protective conductor current (mA) .....		—
	Max. allowed protective conductor current (mA) :		—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General .....		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to and from telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V) .....		—
	Measured touch current (mA) .....		—
	Max. allowed touch current (mA) .....		—
5.1.8.2	Summation of touch currents from telecommunication networks .....		N/A
	a) EUT with earthed telecommunication ports		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

5.2	<b>Electric strength</b>		N/A
5.2.1	General	Class III equipment	N/A
5.2.2	Test procedure		N/A



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5.3	<b>Abnormal operating and fault conditions</b>		Pass
5.3.1	Protection against overload and abnormal operation	See appended table 5.3 for details	Pass
5.3.2	Motors		N/A
5.3.3	Transformers		N/A
5.3.4	Functional insulation .....	Functional insulation complies with the requirements. (Method C)	Pass
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE .....		N/A
5.3.7	Simulation of faults		Pass
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	No fire, emission of molten metal, or deformation was noted during the tests. After test no dielectric breakdown	Pass
5.3.9.1	During the tests	No fire, emission of molten metal or deformation was noted during the tests.	Pass
5.3.9.2	After the tests		Pass

6	<b>CONNECTION TO TELECOMMUNICATION NETWORKS</b>		N/A
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6.1	Protection of telecommunication network service personnel, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements		N/A
	Supply voltage (V) .....		—
	Current in the test circuit (mA) .....		—
6.1.2.2	Exclusions .....		N/A

6.2	<b>Protection of equipment users from overvoltages on telecommunication networks</b>		N/A
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A



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6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A

6.3	<b>Protection of telecommunication wiring system from overheating</b>		N/A
	Max. output current (A) .....		—
	Current limiting method .....		—

7	<b>CONNECTION TO CABLE DISTRIBUTION SYSTEMS</b>		N/A
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7.1	General		N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A





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A	<b>ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE</b>		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples		N/A
	Wall thickness (mm).....:		—
A.1.2	Conditioning of samples; temperature (°C) .....		N/A
A.1.3	Mounting of samples.....:		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D .....		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples		N/A
	Wall thickness (mm).....:		—
A.2.2	Conditioning of samples; temperature (°C) .....		N/A
A.2.3	Mounting of samples.....:		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C .....		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—



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A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

B	<b>ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)</b>		N/A
B.1	General requirements		N/A
	Position .....		—
	Manufacturer .....		—
	Type .....		—
	Rated values .....		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days) .....		—
	Electric strength test: test voltage (V) .....		—
B.6	Running overload test for DC motors in secondary circuits		N/A
B.7	Locked-rotor overload test for DC motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V) .....		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V) .....		—



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<b>C</b>	<b>ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)</b>		N/A
	Position .....		—
	Manufacturer .....		—
	Type .....		—
	Rated values .....		—
	Method of protection .....		—
C.1	Overload test		N/A
C.2	Insulation		N/A
	Protection from displacement of windings .....		—

<b>D</b>	<b>ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)</b>		N/A
D.1			N/A
D.2	Alternative measuring instrument		N/A

<b>E</b>	<b>ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)</b>		N/A
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<b>F</b>	<b>ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)</b>		Pass
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<b>G</b>	<b>ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES</b>		N/A
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply .....		N/A
G.2.2	Earthed d.c. mains supplies .....		N/A
G.2.3	Unearthed d.c. mains supplies .....		N/A
G.2.4	Battery operation .....		N/A



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G.3	Determination of telecommunication network transient voltage (V) .....		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks ...:		N/A
G.4.2	Transients from telecommunication networks .....		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances .....		N/A

H	<b>ANNEX H, IONIZING RADIATION (see 4.3.13)</b>		N/A
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J	<b>ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)</b>		N/A
	Metal(s) used .....		—

K	<b>ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)</b>		N/A
K.1	Making and breaking capacity	No thermal control.	N/A
K.2	Thermostat reliability; operating voltage (V) .....		N/A
K.3	Thermostat endurance test; operating voltage(V):		N/A
K.4	Temperature limiter endurance; operating voltage (V) .....		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A

L	<b>ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)</b>		Pass
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A



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L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment		Pass

M	<b>ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)</b>		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringling signal		N/A
M.3.1.1	Frequency (Hz) .....		—
M.3.1.2	Voltage (V) .....		—
M.3.1.3	Cadence; time (s), voltage (V) .....		—
M.3.1.4	Single fault current (mA) .....		—
M.3.2	Tripping device and monitoring voltage.....		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V).....		N/A

N	<b>ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)</b>		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A

P	<b>ANNEX P, NORMATIVE REFERENCES</b>		Pass
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Q	<b>ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)</b>		N/A
	a) Preferred climatic categories .....		N/A
	b) Maximum continuous voltage .....		N/A



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	c) Pulse current .....		N/A
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<b>R</b>	<b>ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES</b>		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A

<b>S</b>	<b>ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)</b>		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A

<b>T</b>	<b>ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)</b>		N/A
			—

<b>U</b>	<b>ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)</b>		N/A
	Separate test report		—

<b>V</b>	<b>ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)</b>		N/A
V.1	Introduction		N/A
V.2	TN power systems		N/A

<b>W</b>	<b>ANNEX W, SUMMATION OF TOUCH CURRENTS</b>		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A



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W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A

X	<b>ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)</b>		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A

Y	<b>ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)</b>		N/A
Y.1	Test apparatus .....		N/A
Y.2	Mounting of test samples .....		N/A
Y.3	Carbon-arc light-exposure apparatus .....		N/A
Y.4	Xenon-arc light exposure apparatus .....		N/A

Z	<b>ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)</b>		N/A
---	--	--	-----

AA	<b>ANNEX AA, MANDREL TEST (see 2.10.5.8)</b>		N/A
----	--	--	-----

BB	<b>ANNEX BB, CHANGES IN THE SECOND EDITION</b>		N/A
----	--	--	-----



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Clause	Requirement - Test	Result - Remark	Verdict
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1.5.1	TABLE: List of critical components					Pass
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity <sup>1)</sup>	
Power adapter (optional)	--	--	O/P: 12Vdc, 0.4A Minimum.	IEC 60950-1:2001 EN 60950-1:2001	TUV or VDE or Nemko or Demko or Fimko or Semko	
Power from power over Ethernet adapter base unit (optional)	--	--	O/P: 48Vdc, 0.2A Minimum.	IEC 60950-1:2001 EN 60950-1:2001	TUV or VDE or Nemko or Demko or Fimko or Semko	
Power from AC source (optional)	--	--	O/P: 24Vac, 50/60Hz, 0.4A Minimum.	IEC 60950-1:2001 EN 60950-1:2001	TUV or VDE or Nemko or Demko or Fimko or Semko	
PWB	--	--	V-1 or better, 105 °C.	UL 796	UL	
Transformer (T1)	Coilcraft, Inc.	POE13F-12L	105 °C	--	--	
Cable Glands	AVC INDUSTRIAL CORP.	MG20A - 14 - ST	Overall 30 by 27 by 45 mm	--	--	
O ring	MIN YEE INDUSTRIAL INC	612001200G	Overall $\Phi$ 52mm, 1.5 mm thickness	--	--	
O ring	MIN YEE INDUSTRIAL INC	612001300G	Overall $\Phi$ 53.7mm, 1.78 mm thickness	--	--	
Enclosure	--	--	Al, 5.1 mm thickness minimum, cylinder, diameter 60 mm, high 150 mm.	--	--	
Supplementary information:						





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Clause	Requirement - Test	Result - Remark	Verdict
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1.6.2	TABLE: Electrical data (in normal conditions)						Pass
U (V)	I (A)	I rated (A)	P (W)	Fuse #	I fuse (A)	condition/status	
--	--	--	--	--	--	For Model: IP8330	
12Vdc	0.385	0.4	4.62	--	--	Maximum normal load	
48Vdc	0.114	0.2	5.48	--	--	Maximum normal load	
--	--	--	--	--	--	Maximum normal load	
24Vac/50Hz	0.336	0.4	3.9	F1	0.336	Maximum normal load	
24Vac/60Hz	0.345	0.4	3.9	F1	0.345	Maximum normal load	
--	--	--	--	--	--	For Model: IP8332	
12Vdc	0.325	0.4	3.9	--	--	Maximum normal load	
48Vdc	0.112	0.2	5.40	--	--	Maximum normal load	
--	--	--	--	--	--	Maximum normal load	
24Vac/50Hz	0.326	0.4	4.3	F1	0.326	Maximum normal load	
24Vac/60Hz	0.330	0.4	4.3	F1	0.330	Maximum normal load	

**“Maximum normal load” was defined as follows:** Unit transfer video signal from RJ-45 connected to the computer and working continuously.

2.2.3	TABLE: SELV Reliability Test							Pass
No. Accessible Part From - To	Component No. (Voltage Limiting)	Fault	Test Voltage	Test time (Duration)	Fuse No.	Fuse Current (A)	Result Specify Maximum Vpk or V dc	
T1Pin 11,12 – 7,8	D2	short	24Vac	--	--	--	0	
T1 pin 11,12 to metal enclosure	--	short	24Vac	--	--	--	0	

Note(s):

2.5	TABLE: Limited Power Source Measurements						Pass
(Inherently limited)							
Output Tested	Measured		Single Fault Condition	Maximum			Comments
	From	To		Uoc	Isc 5s	VA 5s	
RJ-45 All pins	V+	V-	--	0	--	--	--



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Clause	Requirement - Test	Result - Remark	Verdict
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2.6.3.4	TABLE: Earthing Test			N/A
Accessible Conductive Part	Current (Amps)	Voltage Drop (Volts)	Resistance (Ω)	

Note(s):

2.10.2	TABLE: Working Voltage Measurement Test		Pass
Clearance and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	
D5 Pin 4 – GND	--	50.4Vdc	
L2 Pin 4 – GND	--	50.4Vdc	
T1 Pin 1,2 – GND	--	50.4Vdc	
T1 Pin 3 – GND	--	2.32Vdc	
T1 Pin 5,6 – GND	--	6.96Vdc	
T1 Pin 7,8 – GND	18.2Vac	--	
T1 Pin 10 – GND	15.8Vac	--	
T1 Pin 11,12 – GND	92.0Vac	--	

Note(s):

4.5	TABLE: Temperature rise measurements						Pass
test voltage (V).....	See below	See below	--	--	--	--	—
t1 (°C).....	--	--	--	--	--	--	—
t2 (°C).....	--	--	--	--	--	--	—
maximum temperature T of part/at:	T (°C)					allowed Tmax (°C)	
--	Maximum Normal Load at 12 Vdc, Label (down)	Maximum Normal Load at 12 Vdc,(Shift to Tma 50°C) Label (down)	Maximum Normal Load at 12 Vdc, Label (up)	Maximum Normal Load at 12 Vdc,(Shift to Tma 50°C) Label (up)	--	--	
01.Ambient	23.5	50.0	23.5	50.0	--	--	
02.AC Terminal	36.6	63.1	36.6	63.1	--	70	
03.DC jack	37.1	63.6	37.2	63.7	--	--	
04.RJ45 body	37.2	63.7	37.4	63.9	--	--	
05.C3 body	38.5	65.0	38.3	64.8	--	85	
06.PWB under D3	38.7	65.2	38.8	65.3	--	105	
07.L1 coil	39.4	65.9	39.4	65.9	--	105	
08.PWB under L3	36.9	63.4	37.2	63.7	--	85	



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Clause	Requirement - Test		Result - Remark		Verdict	
09.BT1 body	41.5	68.0	41.4	67.9	--	85
10.F1 body	41.5	68.0	41.3	67.8	--	80
For SOC board	--	--	--	--	--	--
11.PWB under U3	47.7	74.2	47.7	74.2	--	105
For POWER board	--	--	--	--	--	--
12.T1 core	42.5	69.0	42.4	68.9	--	105
13.T1 coil	42.6	69.1	42.6	69.1	--	105
14.U2 body	43.5	70.0	43.5	70.0	--	100
15.C1 body	40.3	66.8	40.4	66.9	--	85
16.L4 coil	45.3	71.8	46	72.5	--	105
For SENSOR board	--	--	--	--	--	--
17.PWB under U4	41.9	68.4	42.1	68.6	--	105
18.Metal enclosure outside near top	32.9	59.4	33.7	60.2	--	70
Test duration:	2.4hrs	2.4hrs	1.1 hrs	1.1 hrs	--	--
--	Maximum Normal Load at 48 Vdc, Label (down)	Maximum Normal Load at 48 Vdc,(Shift to Tma 50°C) Label (down)	Maximum Normal Load at 48 Vdc, Label (up)	Maximum Normal Load at 48 Vdc,(Shift to Tma 50°C) Label (up)	--	--
01.Ambient	23.3	50.0	23.0	50.0	--	--
02.AC Terminal	39.3	66.0	39.1	66.1	--	70
03.DC jack	40.4	67.1	40.2	67.2	--	--
04.RJ45 body	40.7	67.4	40.7	67.7	--	--
05.C3 body	41.6	68.3	41.7	68.7	--	85
06.PWB under D3	42.7	69.4	42.6	69.6	--	105
07.L1 coil	43.8	70.5	43.9	70.9	--	105
08.PWB under L3	40.9	67.6	40.9	67.9	--	105
09.BT1 body	45.3	72.0	45.3	72.3	--	85
10.F1 body	45.1	71.8	45.3	72.3	--	80
For SOC board	--	--	--	--	--	--
11.PWB under U3	51.4	78.1	51.7	78.7	--	105
For POWER board	--	--	--	--	--	--
12.T1 core	53.2	79.9	54.3	81.3	--	105
13.T1 coil	54.6	81.3	55.5	82.5	--	105
14.U2 body	50.6	77.3	50.1	77.1	--	100
15.C1 body	44.7	71.4	45.3	72.3	--	85
16.L4 coil	51.5	78.2	51.7	78.7	--	105
For SENSOR board	--	--	--	--	--	--
17.PWB under U4	45.0	71.7	45.3	72.3	--	105
18.Metal enclosure outside near top	36.1	62.8	34.5	61.5	--	70
Test duration:	2.6hrs	2.6hrs	1.1 hrs	1.1 hrs	--	--
--	Maximum Normal Load at	Maximum Normal Load at 24Vac	Maximum Normal Load at	Maximum Normal Load at 24Vac	--	--



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Clause	Requirement - Test	Result - Remark	Verdict
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	24Vac 60Hz, Label (down)	60Hz,(Shift to Tma50°C) Label (down)	24Vac 60Hz, Label (up)	60Hz,(Shift to Tma 50°C) Label (up)		
01.Ambient	23.5	50.0	23.0	50.0	--	--
02.AC Terminal	40.4	66.9	39.9	66.9	--	70
03.DC jack	41.3	67.8	40.9	67.9	--	--
04.RJ45 body	41.2	67.7	40.1	67.1	--	--
05.C3 body	43.3	69.8	43.1	70.1	--	85
06.PWB under D3	43.5	70.0	43.1	70.1	--	105
07.L1 coil	44.4	70.9	44.2	71.2	--	105
08.PWB under L3	41.3	67.8	40.9	67.9	--	105
09.BT1 body	46.1	72.6	46.2	73.2	--	85
10.F1 body	47.0	73.5	47.2	74.2	--	80
For SOC board	--	--	--	--	--	--
11.PWB under U3	51.6	78.1	51.9	78.9	--	105
For POWER board	--	--	--	--	--	--
12.T1 core	52.6	79.1	53.3	80.3	--	105
13.T1 coil	53.9	80.4	54.2	81.2	--	105
14.U2 body	50.3	76.8	49.8	76.8	--	100
15.C1 body	45.4	71.9	44.9	71.9	--	85
16.L4 coil	51.4	77.9	51.3	78.3	--	105
For SENSOR board	--	--	--	--	--	--
17.PWB under U4	45.3	71.8	45.3	72.3	--	105
18.Metal enclosure outside near top	35.8	62.3	34.7	61.7	--	70
Test duration:	1.4 hrs	1.4 hrs	4.0 hrs	4.0 hrs	--	--
temperature T of winding:		R <sub>1</sub> (Ω)	R <sub>2</sub> (Ω)	T (°C)	allow ed Tma x (°C)	insulation class
--		--	--	--	--	--

supplementary information:

Comments:

The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in 1.6.1 at voltages as described in 1.6.5.

With a specified ambient temperature of 50°C, the max. temperature is calculated as follows:

Components with:

- max. absolute temp. of 105 degree C (Choke)
- max. absolute temp. of 85 degree C (Capacitor)
- max. absolute temp. of 105 degree C (PCB)
- max. absolute temp. of 100 degree C (Photo coupler)
- max. absolute temp. of 80 degree C (Polyswitch)

- User accessible area:

- material is metal (70 degree C)



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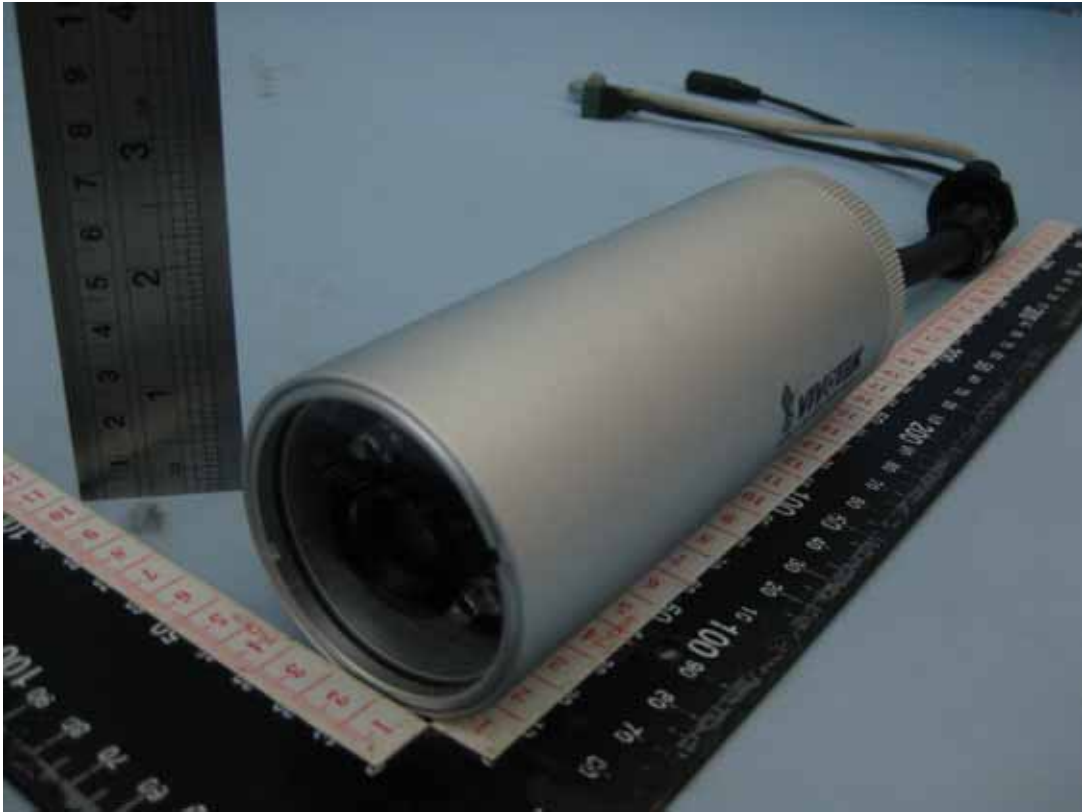
Clause	Requirement - Test	Result - Remark	Verdict
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5.3	TABLE: Fault condition tests						Pass
	ambient temperature (°C)				See below		—
	model/type of power supply				--		—
	manufacturer of power supply				--		—
	rated markings of power supply				--		—
component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result	
--	--	--	--	--	--	<b>5.3.1, 5.3.4, 5.3.7 - COMPONENT FAILURE TEST</b>	
01.U1 pin 6 – 7	short	48Vdc	3.1hrs	--	--	NT,NC,CT Measured current :0.114A Ambient: 23.5/ 50.0°C L1 coil: 45.2/ 71.7°C T1 core: 56.0/ 82.5°C T1 coil: 56.8/ 83.3°C U2 body: 52.8/ 79.3°C L4 coil: 55.9/ 82.4°C	
02.R7	short	48Vdc	3.3 hrs	--	--	NT,NC,CT Measured current :0.114A Ambient: 23.6/ 50.0°C L1 coil: 45.4/ 71.8°C T1 core: 56.1/ 82.5°C T1 coil: 56.7/ 83.1°C U2 body: 52.5/ 78.9°C L4 coil: 55.7/ 82.1°C	
03.R10	short	48Vdc	2.6 hrs	--	--	NT,NC,CT Measured current :0.114A Ambient: 23.0/ 50.0°C L1 coil: 42.2/ 69.2°C T1 core: 52.2/ 79.2°C T1 coil: 53.0/ 80.0°C U2 body: 49.1/ 76.1°C L4 coil: 52.0/ 79°C	
supplementary information:							
(COMPONENT FAILURE TEST; ABNORMAL OPERATION TEST; TRANSFORMER ABNORMAL OPERATION TEST) Result Abbreviations: IP - Internal protection operated (list component). CD - Components damaged (list damaged components). NB - No indication of dielectric breakdown. NT - Tissue paper remained intact. CT - Constant Temperature Obtained.							

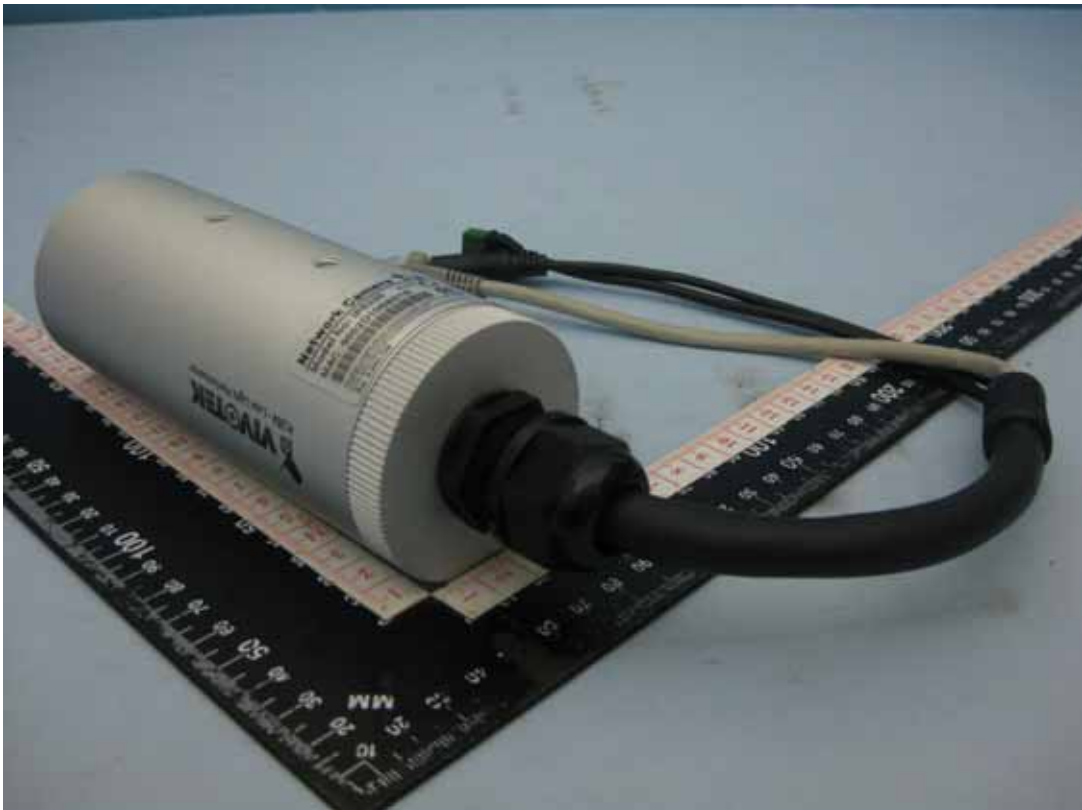


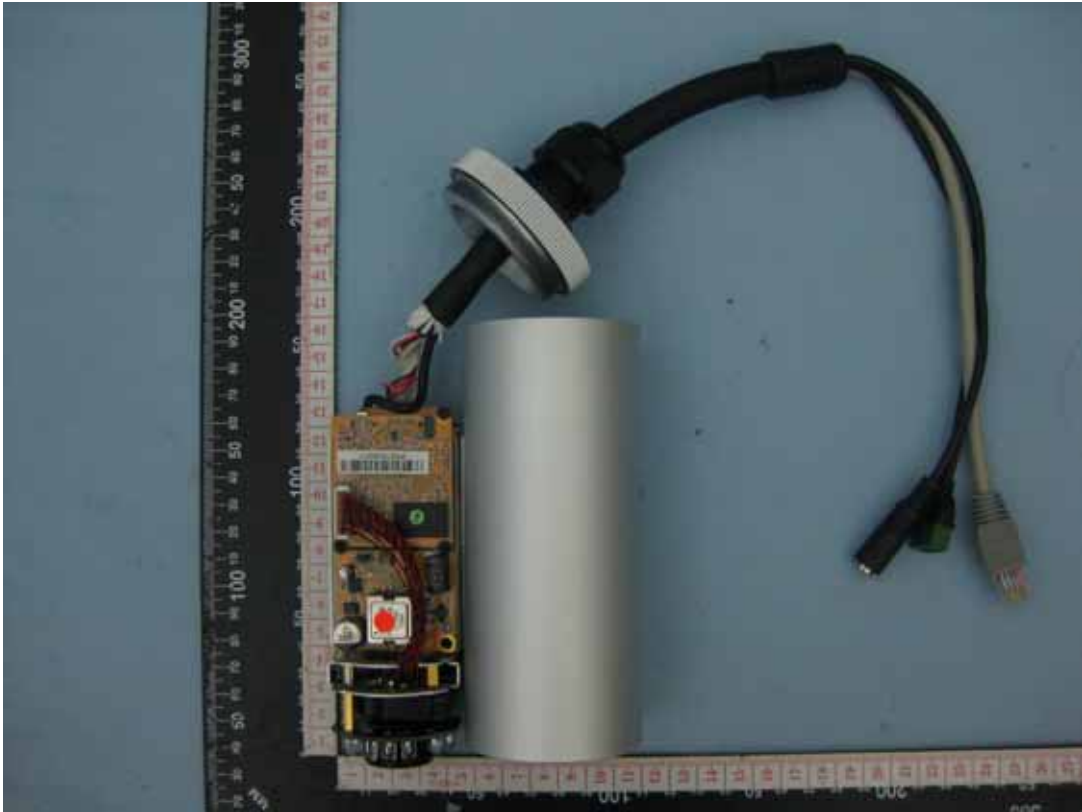
## Enclosure

Supplement Id	Description
01	Overall View-1
02	Overall View-2
03	Internal View-1
04	Internal View-2
05	Main board components side view
06	Main board foil side view
07	Power board components side view
08	Power board foil side view
09	SOC board components side view
10	SOC board foil side view
11	SENSOR board components side view for IP8330
12	SENSOR board foil side view for IP8330
13	SENSOR board components side view for IP8332
14	SENSOR board foil side view for IP8332
15	IR board components side view
16	IR board foil side view
17	IP 66 test cert.

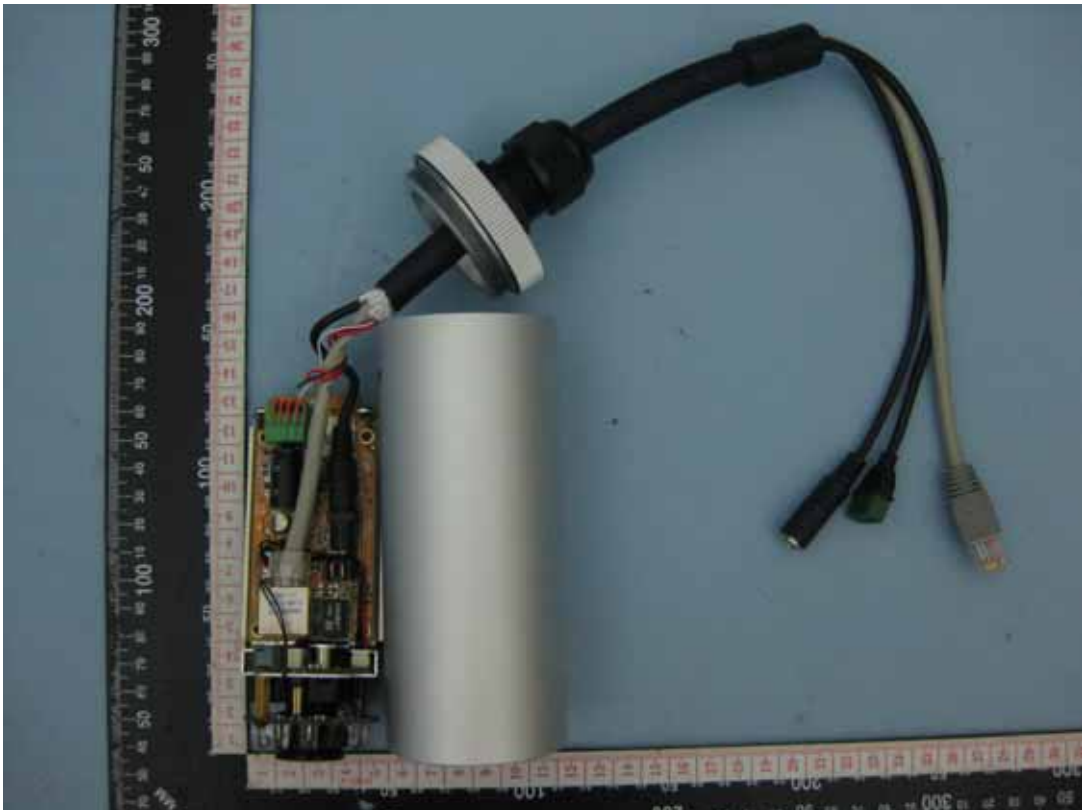


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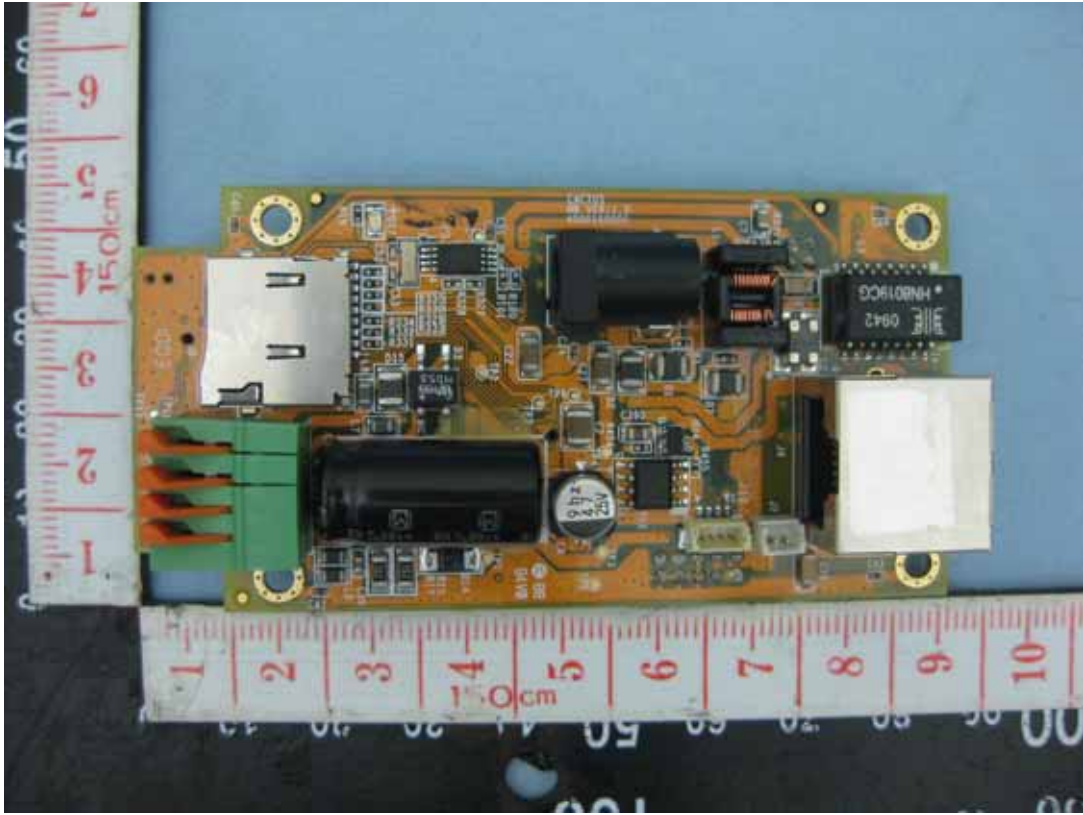




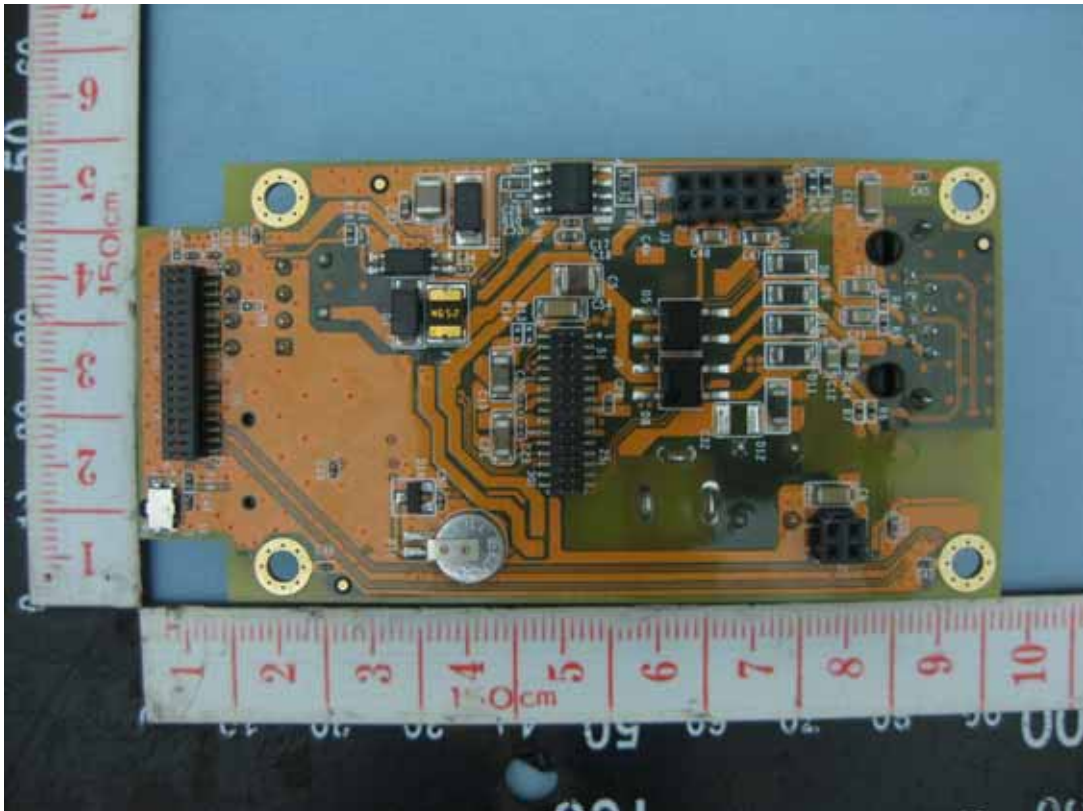
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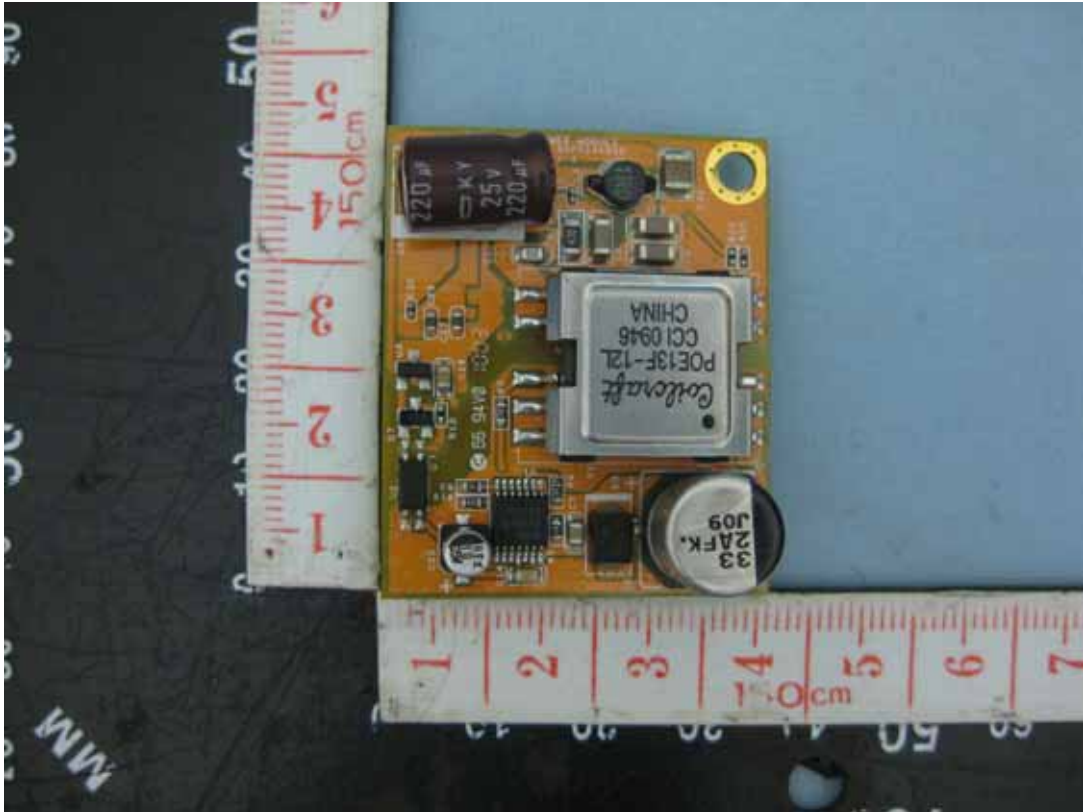




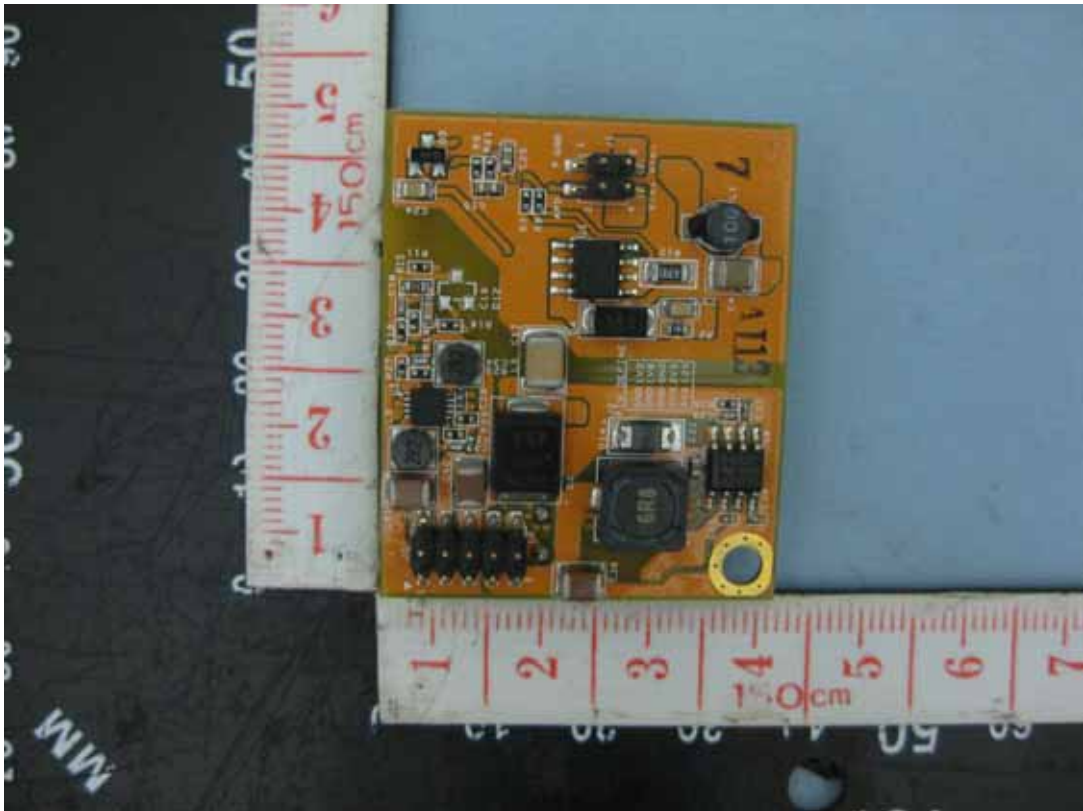


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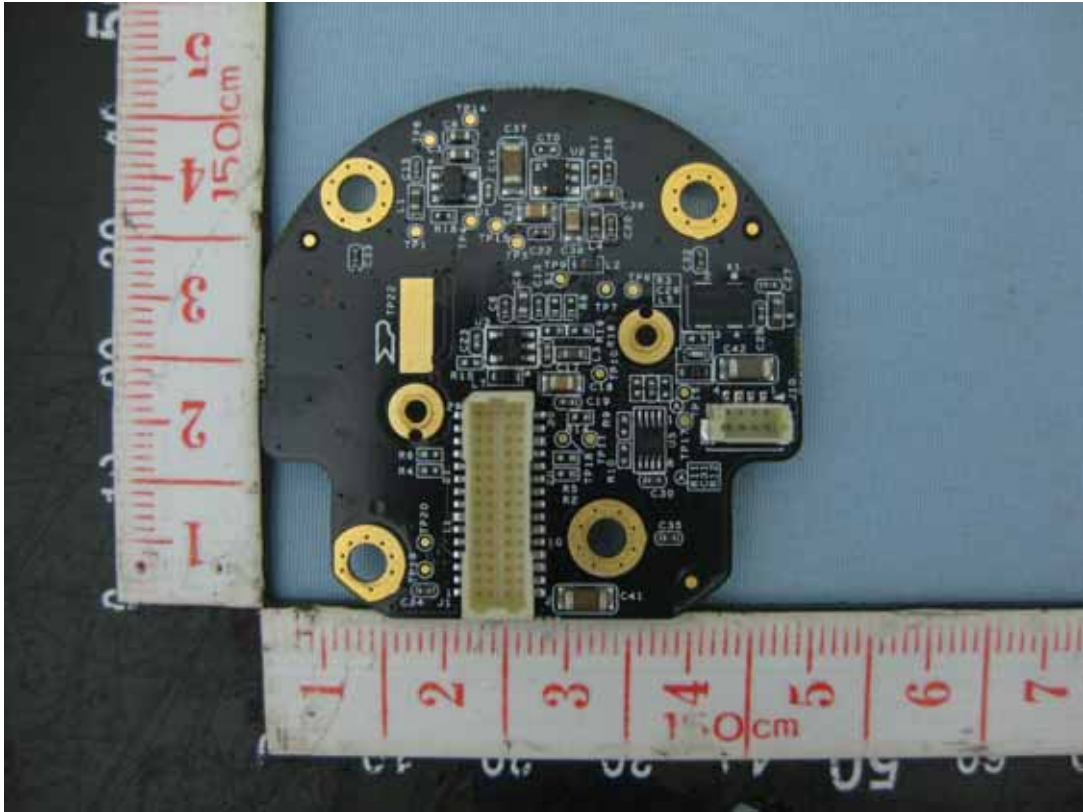
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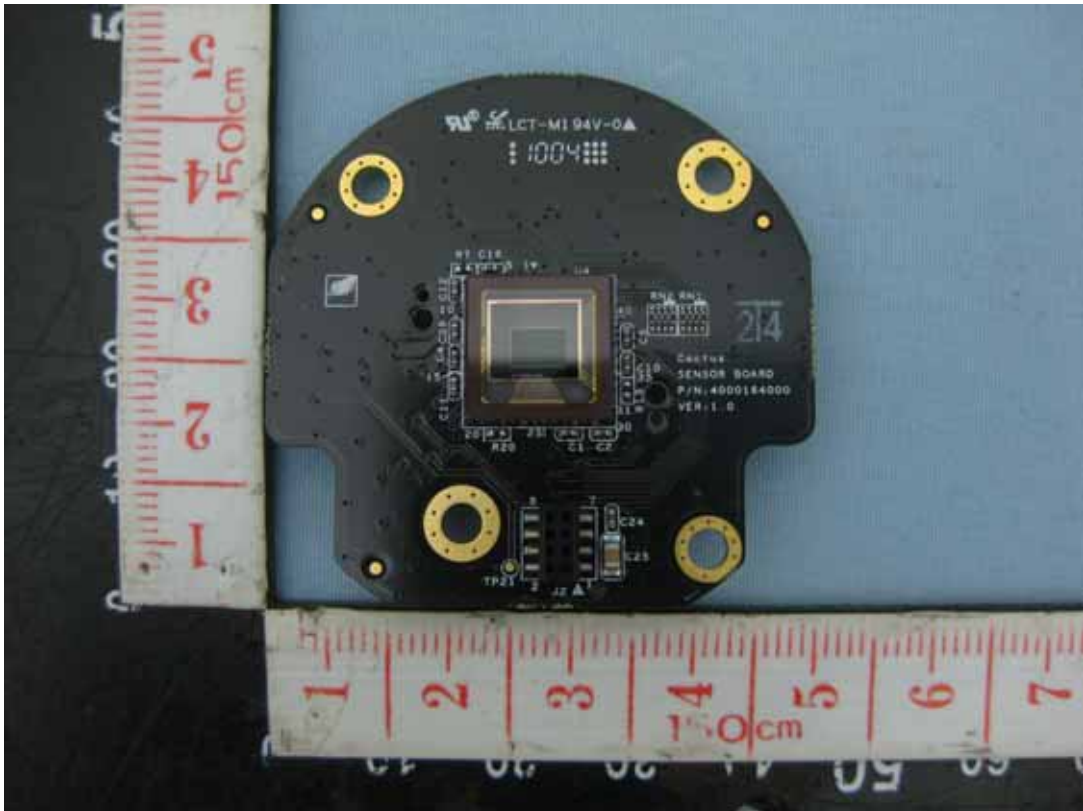


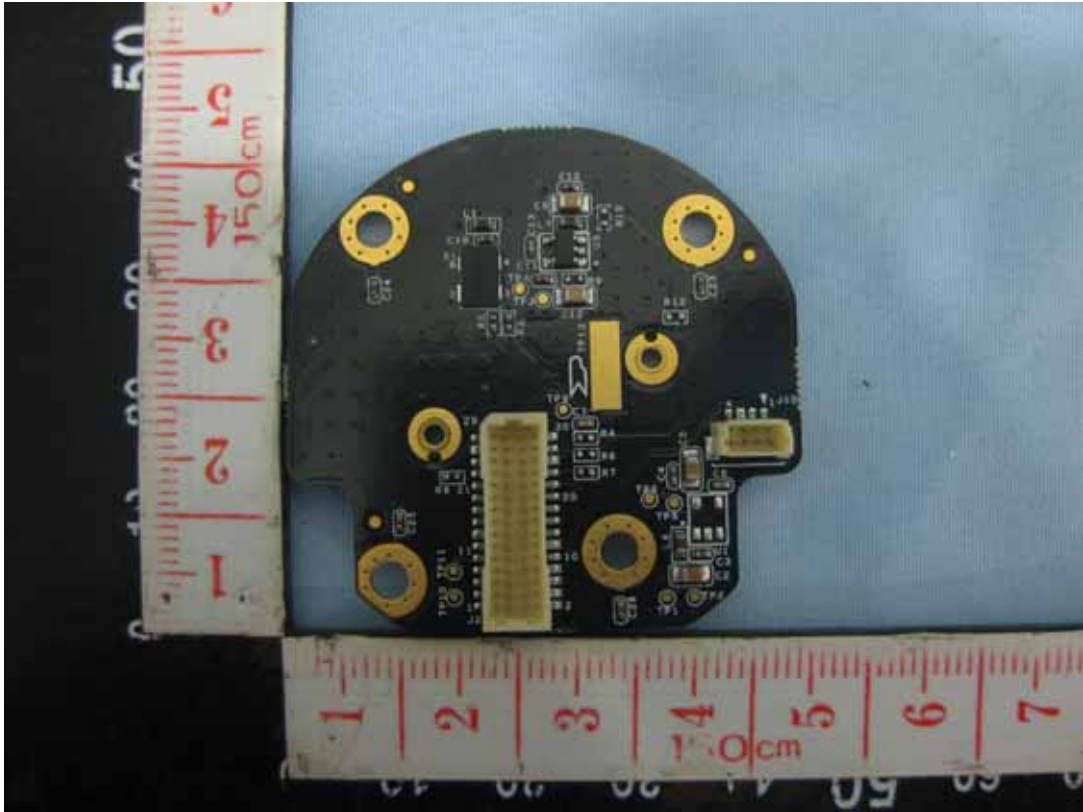
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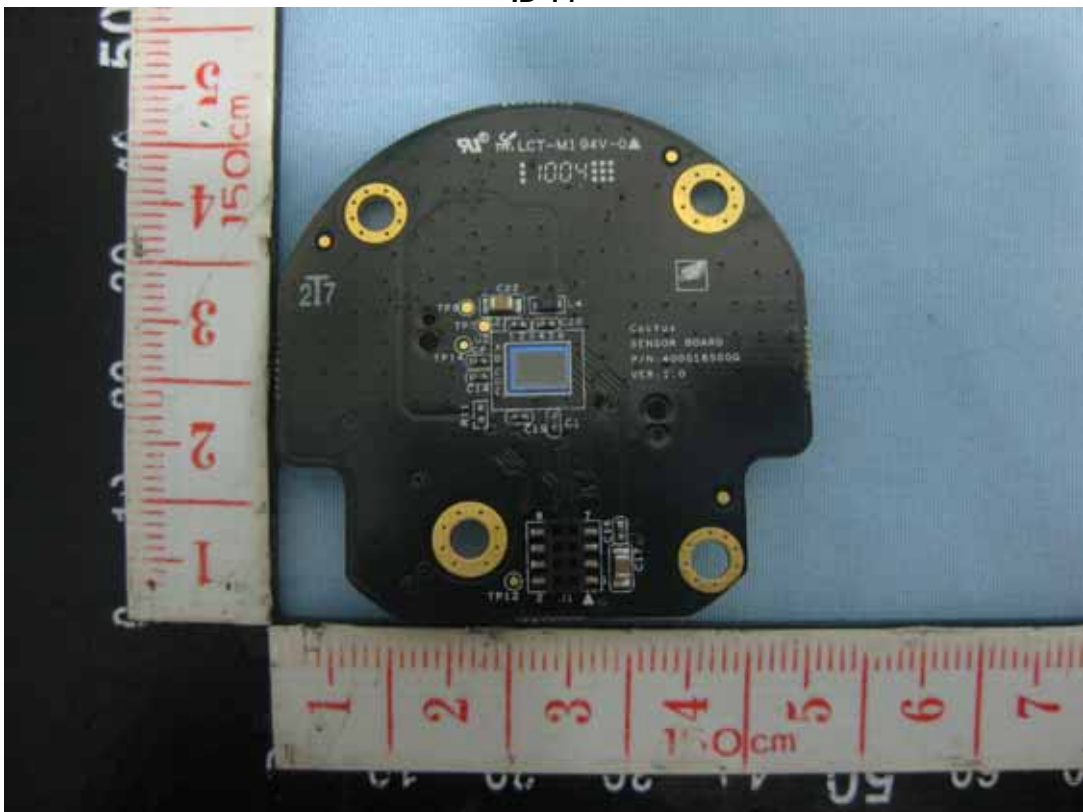


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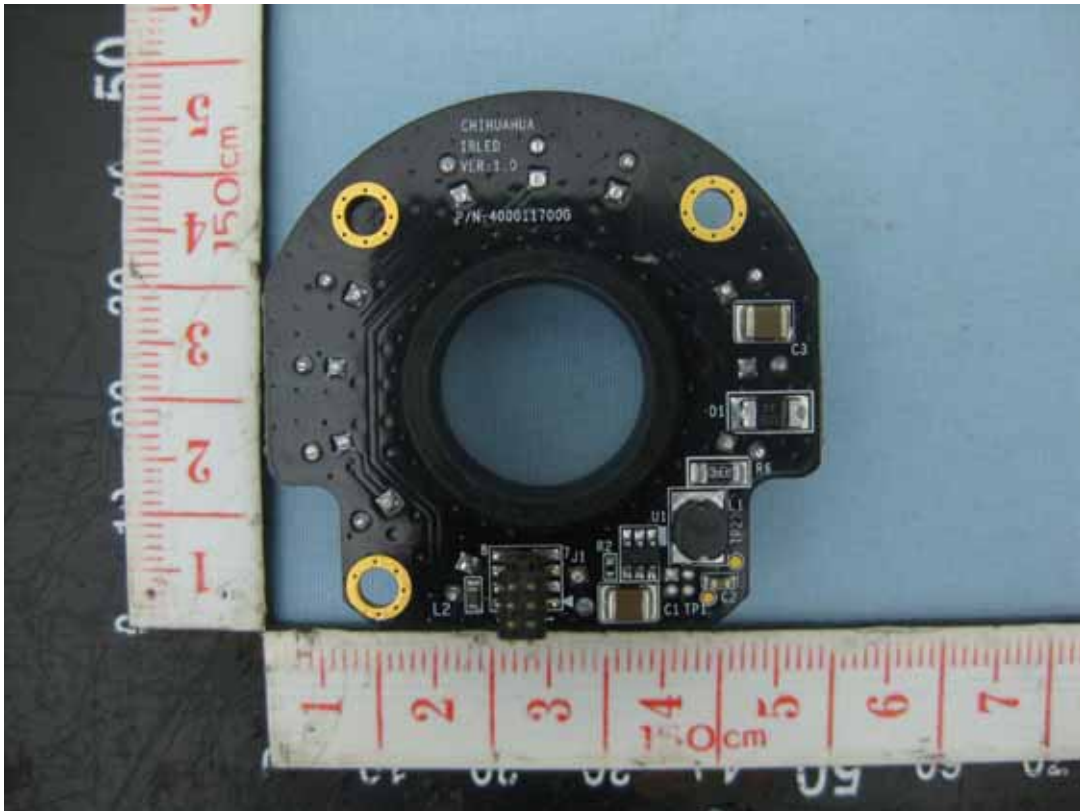


ID-14





ID-16





Underwriters  
Laboratories

April 30, 2010  
E324690  
10CA19718

1 of 1

To Mr. Eric Liu

Reference: File E324690 Project 10CA19718  
Subject: LETTER REPORT FOR IP66 EVALUATION ON NETWORK BULLET CAMERA, MODEL  
IP8330, IP8332

Dear Mr Eric,

We have completed our investigation, and this letter will serve as our report.  
For the file record, our evaluation only covers the applicable tests needed  
for IP66 in accordance with the requirements of IEC 60529, Degrees of  
Protection, 2.1 Ed.

Samples of MODEL IP8330, IP8332 were tested. The following table details the  
models tested, the test, the standard clauses and the results.

Models	Test	Standard Clause	Results
NETWORK BULLET CAMERA, MODEL IP8330, IP8332	IP 6X	IEC 60529, Edition 2.1, Revision Date October 2009, CLAUSE 13	Compliance
	IP X6	IEC 60529, Edition 2.1, Revision Date October 2009, CLAUSE 14	Compliance

See the attached Appendix containing the applicable test data discussed in  
the table above.

Should you have any questions or comments concerning the above, please feel  
free to contact the undersigned.

Sincerely,

Cloud Chen  
Engineer  
Conformity Assessment Services, 3012CTAI

Reviewed by:

William Bartunek  
Senior Staff Engineer  
Conformity Assessment Services