


Test Report

Test Standard: EN 50155 (sub-clause 12.2.1, 12.2.2 & 12.2.9)
Railway applications - Electronic equipment used on rolling stock

Applicant: VIVOTEK INC.
6F, No.192, Lien-Cheng Rd., Chung-Ho, New Taipei City, 235, Taiwan, R.O.C.

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

Product: Network Camera

Trade Name: 

Model No.: MD8562

Tested Power Supply: DC 48V from PoE Power Adapter (230Vac/50Hz)

Date of Final Test: Sep. 16, 2011

Revision of Report: Rev. 05

Test Engineer: Bill Lin

Report Issued: 2011/11/03

Approved: 
Gimmy Tsai

Prepared by

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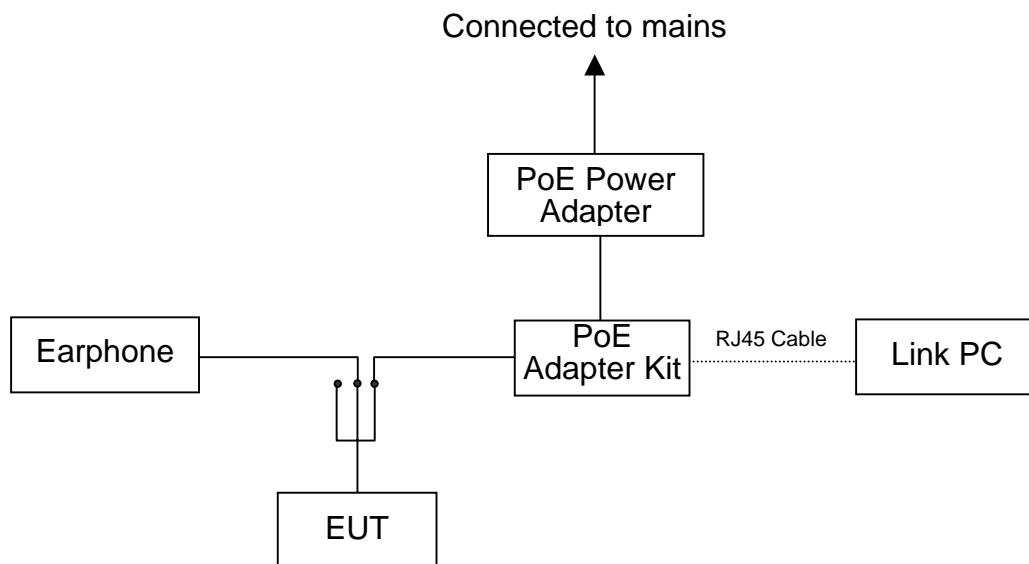
1 General Information

1.1 Measured Mode

The test modes for final test are as following:

- Mode 1: PoE Mode

1.2 Configuration of EUT Setup



2 Details of Tested Supporting System

2.1 Link PC

PC31

Model Number	:	SGH017PFWL
CPU Speed	:	Intel Core 2 Duo E5400
RAM	:	2GB DDR3 1333MHz
EMC Compliance	:	CE, TUV, NCC, BSMI: R33275
Hard Disk Driver	:	250GB Serial ATA2 3.0Gb/s 7200rpm
Manufacturer	:	HP
Switching Power Supply	:	LiteOn, PS-4321-9HP, 320W
Power Cord	:	Non-shielded, Detachable, 1.8m, w/o core
RJ45 Cable	:	Non-shielded, Detachable, 1.8m, w/o core

2.2 Earphone

MIC14

Model Number	:	EM-3500
Serial Number	:	N/A
EMC Compliance	:	CE, FCC
Manufacturer	:	KINYO
Audio Cable	:	Non-Shielded, Un-detachable, 2.5m

2.3 PoE Adapter Kit

Model Number	:	WAPPOE
Manufacture	:	LINKSYS
PoE Power Adapter	:	Mode No.: SA06L48-V; Manufacture: LINKSYS Input: 100-240Vac, 50/60Hz, 0.6A Output: 48Vdc, 0.4A Power Cable: Non-shielded, Un-detachable, 1.8m, with core

3 Characteristic Test

3.1 Visual Inspection

3.1.1 Inspection Requirement

The visual inspection shall be carried out to ensure that the equipment construction meets its specified requirements.

3.1.2 Test Procedures

Test Procedures were referred to EN 50155 sub-clause 12.2.1

3.1.3 Inspection Result

Pass.

3.2 Performance (Supply variations)

3.2.1 Instrument

Instrument	Manufacturer	Model	Serial No.	Next Cal. Date
Digital Multimeter	HOLA	DM-1220	729075	2012/01/20
Special Power System	T-POWER	TFC-1002S	T-9B023-17	N.C.R.

Note: The above equipments are within the valid calibration period.

3.2.2 Test Requirement

A.C. supplied equipment:

Test performed to prove correct functioning at:

- Nominal voltage and frequency;
- The upper and lower limits of voltage and frequency in all combinations.

3.2.3 Test Procedures

Test Procedures were referred to EN 50155 sub-clause 12.2.2 & 5.1.1.1

3.2.4 Test Result

Temperature: 32.0 °C ; Humidity: 38 % ; Atm pres: 101 Kpa ; Test Engineer: Bill

Mode 1: PoE Mode

(Nominal: 230VAC/50Hz)

Test voltage	Result / Observation
Nominal Voltage / Nominal Frequency	230VAC / 50Hz Pass
Upper Voltage / Lower Frequency	240VAC / 50Hz Pass
Upper Voltage / Upper Frequency	240VAC / 60Hz Pass
Lower Voltage / Lower Frequency	100VAC / 50Hz Pass
Lower Voltage / Upper Frequency	100VAC / 60Hz Pass

3.3 Insulation Test

3.3.1 Instrument

Instrument	Manufacturer	Model	Serial No.	Next Cal. Date
Withstand Voltage/insulation tester	EXTECH	7142	1344529	2012/12/22

Note: The above equipments are within the valid calibration period.

3.3.2 Test Requirement

(1) Insulation measurement Test: 500VDC

- The insulation resistance test carried out at 500 VDC and the values recorded.
- The test repeated after the voltage withstand test.

Test acceptance requirements:

There shall be no fundamental deterioration from the initial measurement.

(2) Voltage withstand test:

- 500 VAC or 700 VDC for nominal battery voltages below 72 V (or 50 VAC)
- 1000 VAC or 1400 VDC for nominal battery voltages from 72 V up to 125 V, (or from 50 to 90 VAC), and
- 1500 VAC or 2100 VDC for nominal battery voltages above 125 V and up to 315 V, (or from 90 to 225 VAC)

Test acceptance requirements:

Neither disruptive discharge nor flashover shall occur.

3.3.3 Test Procedures

Test Procedures were referred to EN 50155 sub-clause 12.2.9

3.3.4 Test Result

Temperature: 25.3 °C ; Humidity: 41 % ; Atm pres: 101 Kpa ; Test Engineer: Roy

Mode 1: PoE Mode

1. Initial Insulation measurement Test: 500VDC

Test Item	Insulation measurement test (Before)	Resistance	Insulation measurement test (After)	Resistance
POWER to GND	>10G	Ω	>10G	Ω
LAN to GND	>10G	Ω	>10G	Ω
PoE to GND	>10G	Ω	>10G	Ω
Radio to GND	>10G	Ω	>9980M	Ω
PoE to LAN	< 1M	Ω	< 1M	Ω
PoE to POWER	>10G	Ω	>10G	Ω
PoE to Radio	>10G	Ω	>10G	Ω
LAN to POWER	>10G	Ω	>9992M	Ω
LAN to Radio	>10G	Ω	>10G	Ω
POWER to Radio	>10G	Ω	>9987M	Ω

2. Voltage withstand test: 1500VAC

Test was performed after initial insulation measurement

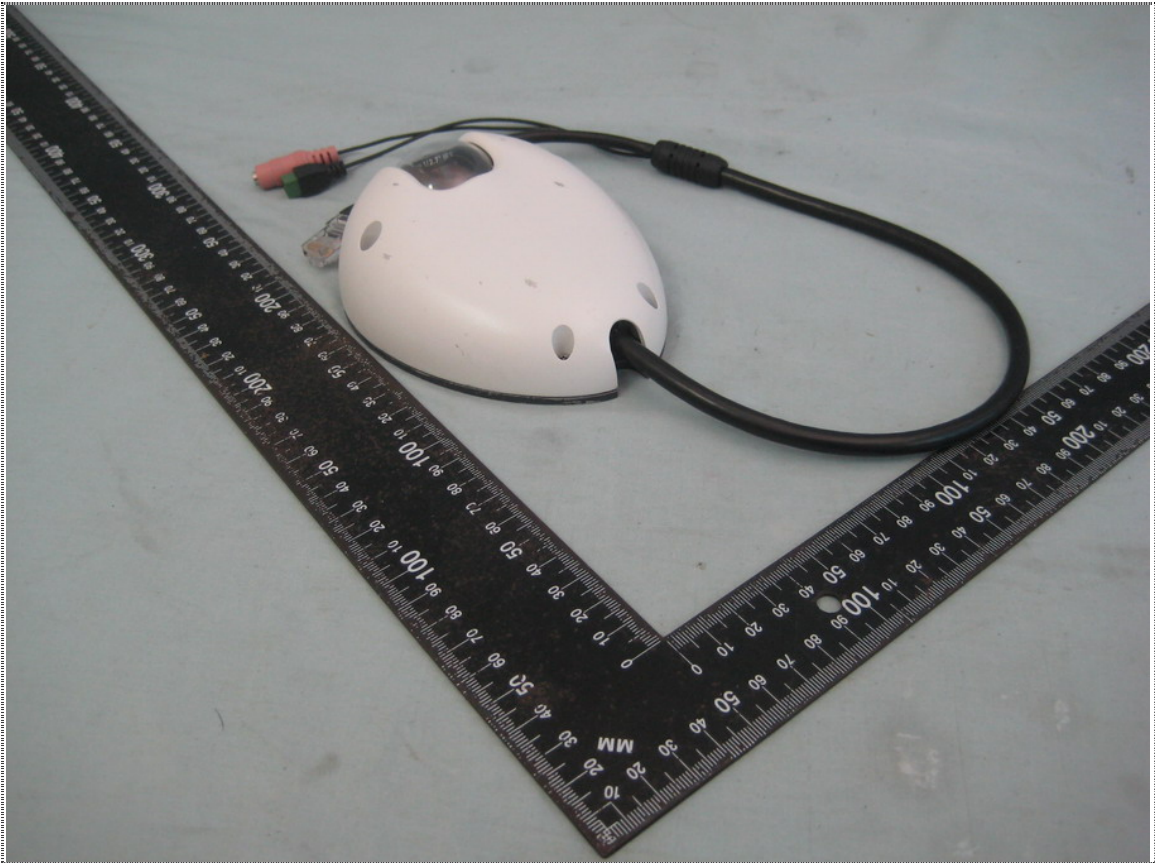
Test Item	Current	Result
Power to GND	0.0001 mA	PASS

2. Voltage withstand test: 500VAC

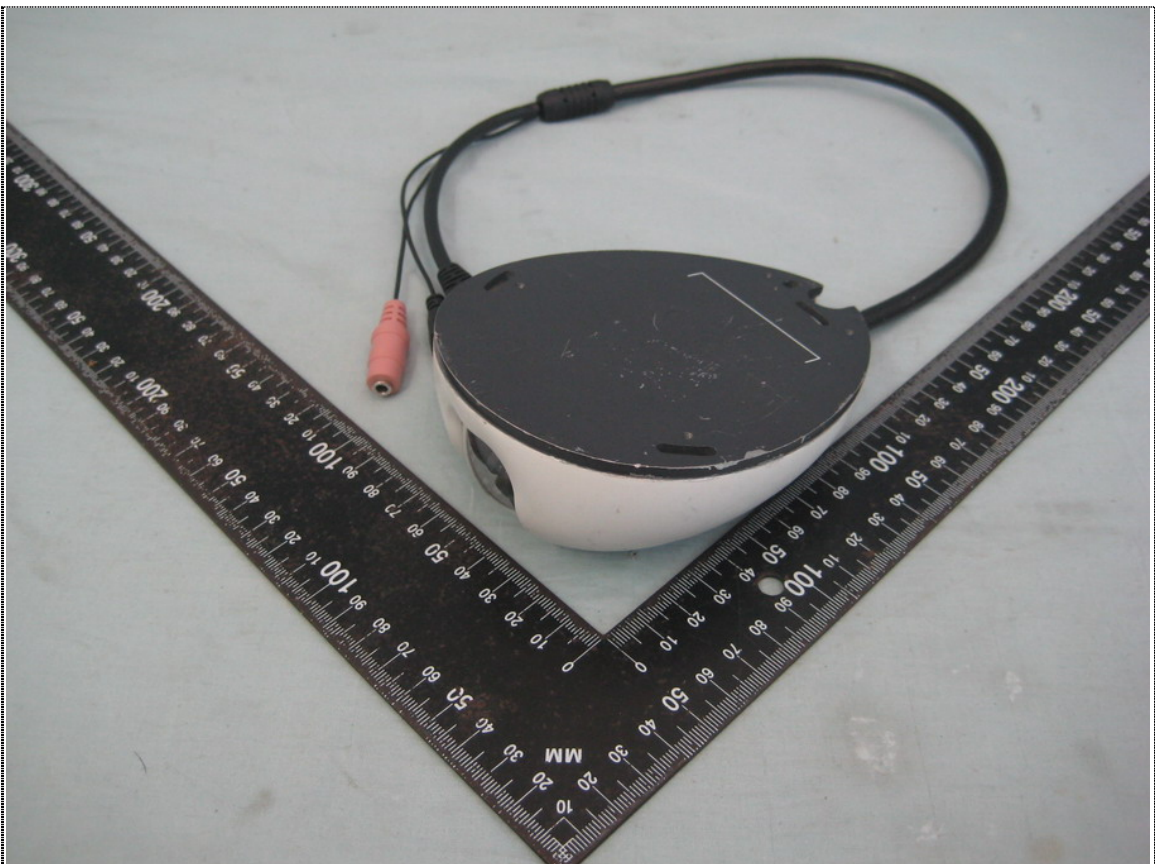
Test was performed after initial insulation measurement

Test Item	Current	Result
LAN to GND	0.0001 mA	PASS
PoE to GND	0.0001 mA	PASS
Radio to GND	0.0001 mA	PASS
PoE to LAN	>20 mA	PASS
PoE to DC	0.0002 mA	PASS
PoE to Radio	0.0001 mA	PASS
LAN to POWER	0.0003 mA	PASS
LAN to Radio	0.0001 mA	PASS
POWER to Radio	0.0001 mA	PASS

4 Photographs of EUT



Front View of EUT



Rear View of EUT