

# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20121023-E215284  
**Report Reference** E215284-A30-UL  
**Issue Date** 2012-OCTOBER-23

**Issued to:** LANNER ELECTRONICS INC  
7TH FL 173 SEC 2 DATONG RD  
XIZHI DISTRICT  
NEW TAIPEI CITY  
221 TAIWAN

**This is to certify that  
representative samples of**

INFORMATION TECHNOLOGY EQUIPMENT INCLUDING  
ELECTRICAL BUSINESS EQUIPMENT

Remote Ethernet Device - RED 50xxxxxxx (where x can be  
any alphanumeric character or blank)


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

**Standard(s) for Safety:** UL 60950-1 - (Information Technology Equipment - Safety -  
Part 1: General Requirements)  
CSA C22.2 No. 60950-1-07 - (Information Technology  
Equipment - Safety - Part 1: General Requirements)

**Additional Information:** See the UL Online Certifications Directory at  
[www.ul.com/database](http://www.ul.com/database) for additional information

Only those products bearing the UL Listing Mark for the US and Canada should be considered as  
being covered by UL's Listing and Follow-Up Service meeting the appropriate requirements for US  
and Canada.

The UL Listing Mark for the US and Canada generally includes: the UL in a circle symbol with "C" and

"US" identifiers:  the word "LISTED"; a control number (may be alphanumeric) assigned by UL;  
and the product category name (product identifier) as indicated in the appropriate UL Directory.

Look for the UL Listing Mark on the product.



William R. Carney, Director, North American Certification Programs  
UL LLC

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## UL TEST REPORT AND PROCEDURE

<b>Standard:</b>	UL 60950-1, 2nd Edition, 2011-12-19 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-07, 2nd Edition, 2011-12 (Information Technology Equipment - Safety - Part 1: General Requirements)
<b>Certification Type:</b>	Listing
<b>CCN:</b>	NWGQ, NWGQ7 (Information Technology Equipment Including Electrical Business Equipment)
<b>Product:</b>	Remote Ethernet Device
<b>Model:</b>	RED 50xxxxxxx (where x can be any alphanumeric character or blank)
<b>Rating:</b>	12Vdc, 3300mA (Optional)
<b>Applicant Name and Address:</b>	LANNER ELECTRONICS INC 7TH FL 173 SEC 2 DATONG RD XIZHI DISTRICT NEW TAIPEI CITY 221 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.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Prepared by: Leslie Shih

Reviewed by: C.T Wu

**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.
  - iii. Part AF 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**

Electronic components are mounted on PWB, which are enclosed by Metal enclosure and supplied by external Power Adapter marked with LPS or Limited Power Source.  
(see Enclosure/ Photo ID 3-03 for connectors details.)

**Model Differences**

N/A

**Technical Considerations**

- Equipment mobility : movable or fixed
- Connection to the mains : No mains direct connection
- Operating condition : continuous
- Access location : operator accessible
- Over voltage category (OVC) : N/A
- Mains supply tolerance (%) or absolute mains supply values : No direct connection
- Tested for IT power systems : N/A
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Class III (supplied by SELV)
- Considered current rating of protective device as part of the building installation (A) : N/A

- Pollution degree (PD) : PD 2
- IP protection class : IP X0
- Altitude of operation (m) : Up to 2000
- Altitude of test laboratory (m) : less than 2000 meters
- Mass of equipment (kg) : 1.08
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 40 degree C
- The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): All output connectors
- The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual
- The power supply in this equipment was: Investigated to IEC 60950-1. As part of the investigation of this product, the power supply and its test report were reviewed and found to comply with IEC 60950-1.

**Additional Information**  
N/A

**Additional Standards**  
The product fulfills the requirements of: N/A

**Markings and instructions**

Clause Title	Marking or Instruction Details
Inter-connecting cables - External detachable	Listee's Name and Part number (Marking or Instruction)
Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
Power rating - Model	Model Number
Replaceable batteries	"CAUTION: Risk of Explosion if Battery is replaced by an Incorrect Type.

	Dispose of Used Batteries According to the Instructions."
<b>Special Instructions to UL Representative</b>	
N/A	

<b>Production-Line Testing Requirements</b>							
<b><u>Electric Strength Test Special Constructions - Refer to Generic Inspection Instructions, Part AC for further information.</u></b>							
Model	Component	Removable Parts	Test probe location	V rms	V dc	Test Time, s	
--	--	--	--	--	--	--	
<b><u>Earthing Continuity Test Exemptions - This test is not required for the following models:</u></b>							
All models.							
<b><u>Electric Strength Test Exemptions - This test is not required for the following models:</u></b>							
All models.							
<b><u>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:</u></b>							
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<b><u>Sample and Test Specifics for Follow-Up Tests at UL</u></b>							
Model	Component	Material	Test	Sample(s)		Test Specifics	
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1.5.1	<b>TABLE: list of critical components</b>					Pass
Object/part or Description	Manufacturer/ trademark	type/model	technical data	Product Category CCN(s)	Required Marks of Conformity	Supplement ID
01. Label	Various	Various	Min 55 degree C	PGDQ2 or PGJ12	UL	
02. Power supply cord (Optional)	Various	Various	Detachable, Type SVT or SPT-2, min 18 AWG, min 125 V with NEMA 5-15P or 250 V with NEMA 6-15P. Max 4.5 m long, min 1.5 m long. Other end terminated with Appliance coupler	(ZJCZ and RTRT and AXUT), or ELBZ	UL	
03. Connectors and Receptacles (secondary SELV circuits)	--	--	Metal/plastics, Copper alloy pins housed in bodies of plastic rated V-2 min, see Enclosure/ Photo ID 3-03 for details.	DUXR2 or QMFZ2 or ECBT2 or RTRT2	UL	3-03
04. Interconnecting Cable (Optional)	Various	Various	Rated min 30 V, min 60 degree C, Max 3.05 m long, jacketed, "VW-1" or "FT-1" or "FT4" or "CM" or "CMX" or "CMUC" or "CMH"	DVPJ or AVLV2 or DUZX	UL	
05. Internal Wiring (Secondary SELV)	Various	Various	FEP, PTFE, PVC, TFE, neoprene, polyimide or surface marked "VW-1" or "FT-1". Rated min 60 degree C, 30 V	AVLV2	UL	3-04
06. Internal Plastic Part Materials	Various	Various	Min V-2	QMFZ2	UL	
07. Metal enclosure	--	--	Iron or steel or aluminum, min 0.8 mm thickness and see Enclosure 4-01 for details	--	--	4-01
08. PWB	Various	Various	V-1 or better, min 105 degree C	ZPMV2	UL	3-07
09. Switching Power Adapter	FSP Group Inc.	FSP040-DGAA1XX (X can be 0-9, A-Z or	I/P: 100-240Vac, 50-60Hz, 1.3A O/P: 12Vdc, 3.33A,	QQGQ	UL	

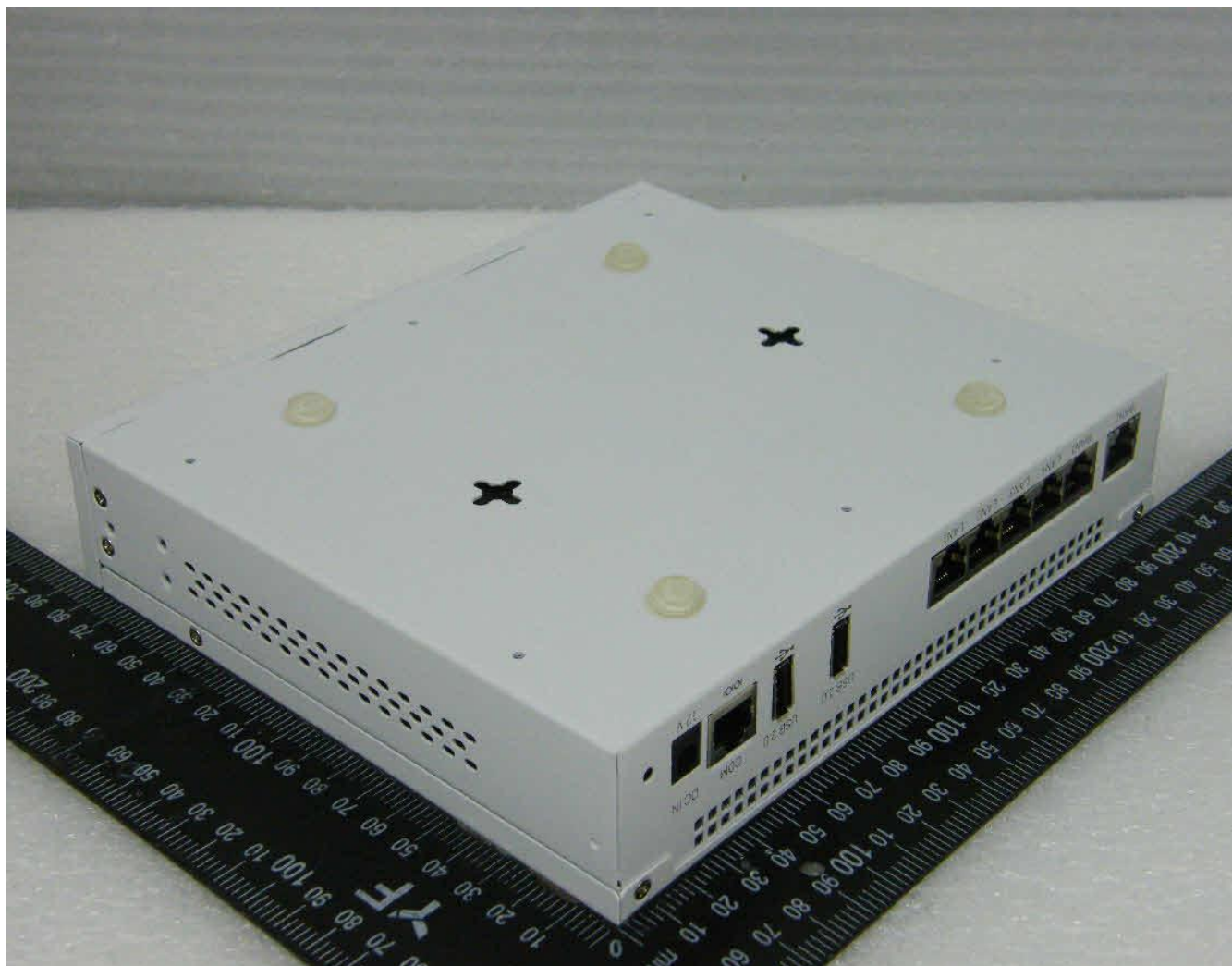
		blank)	with LPS, Class I, 40 degree C			
10. RTC battery (BAT1)	Various	CR2032	Non rechargeable, 3V, max abnormal charging current 5 mA or 10 mA, user replaceable against charging current by a diode (Q13) and a resistor (R382) rated 1k ohm	BBCV2	UL	3-06
11. Poly switch (FS2) for USB ports	Various	Various	Vmax=6-30V, max. 2.6A Ih=0.5A min., Isc=100, Tmoa=85 min., CA=1(125 max.), 2, 3, 4. Poly switch must be provided if USB port presents	XGPU2	UL	
12. Heatsink for U17	--	--	Aluminum type, see Enclosure 4-02 for details	--	--	4-02
13. Heatsink for U13	--	--	Aluminum type, see Enclosure 4-03 for details	--	--	4-03

## Enclosures

<u>Type</u>	<u>Supplement Id</u>	<u>Description</u>
Photographs	3-01	Overall view-1
Photographs	3-02	Overall view-2
Photographs	3-03	Connector view
Photographs	3-04	Inside view-1
Photographs	3-05	Inside view-2
Photographs	3-06	Main board
Photographs	3-07	Main board_solder side
Diagrams	4-01	Enclosure drawing
Diagrams	4-02	Heatsink for U17
Diagrams	4-03	Heatsink for U13
Schematics + PWB		
Manuals		
Miscellaneous		



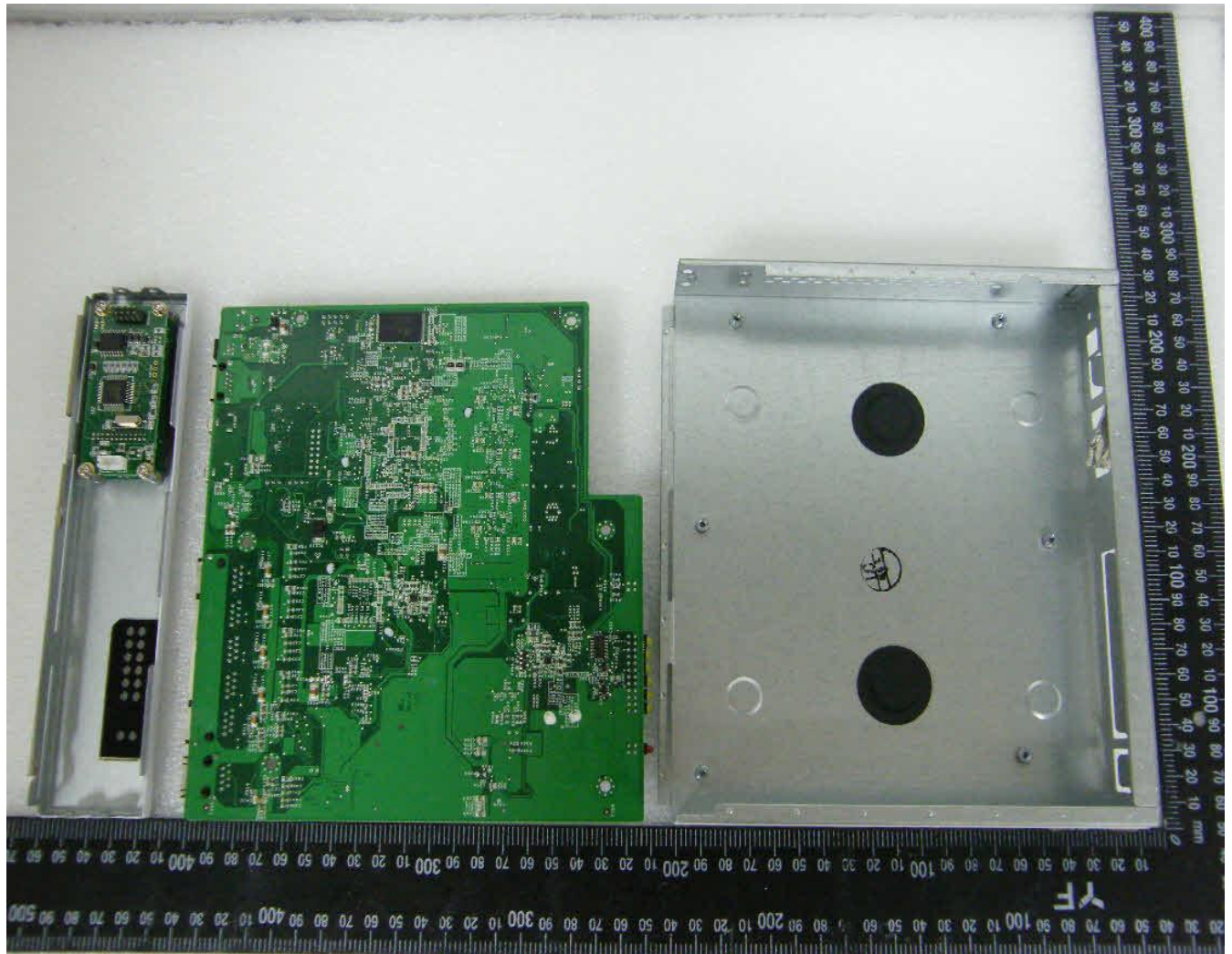






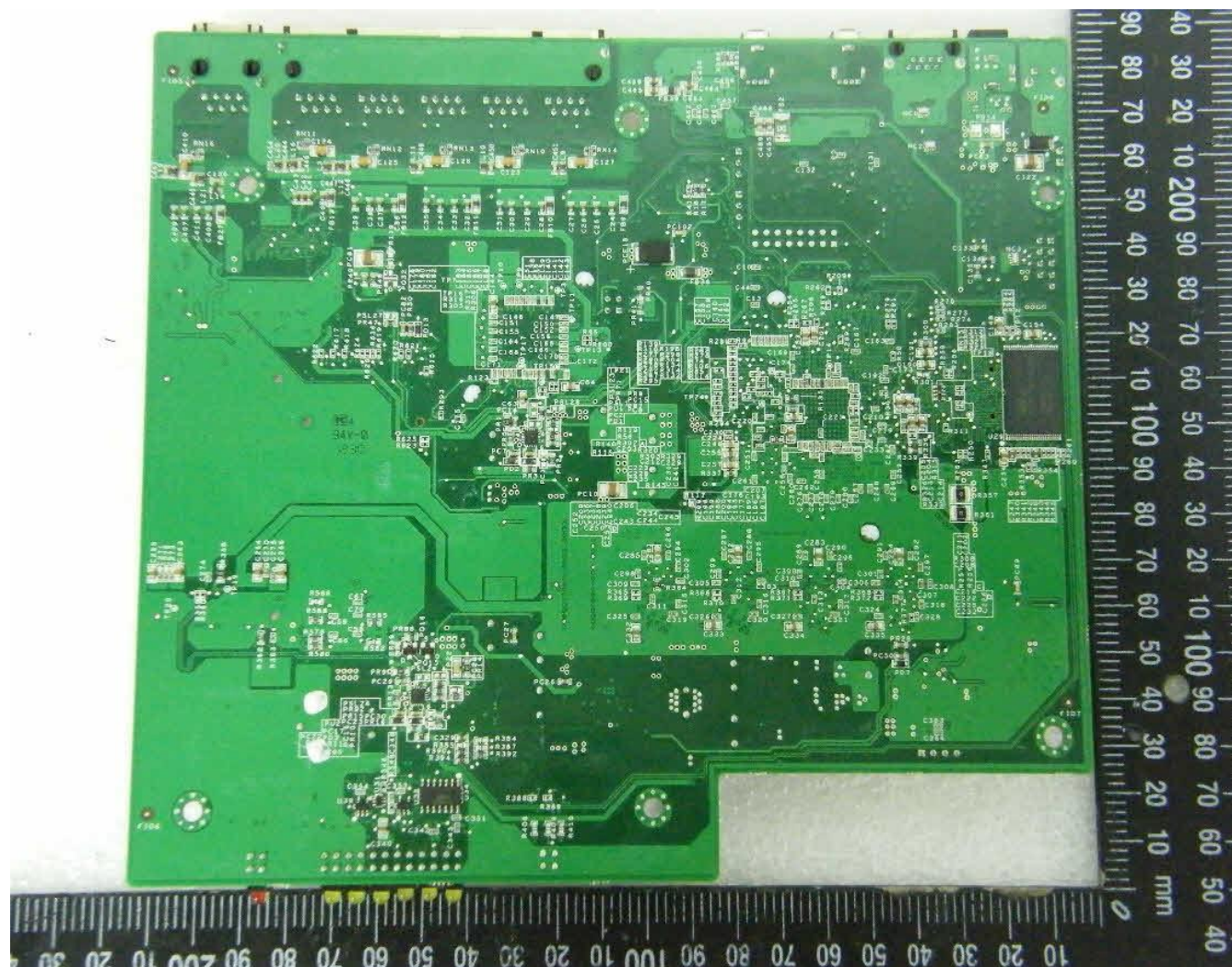








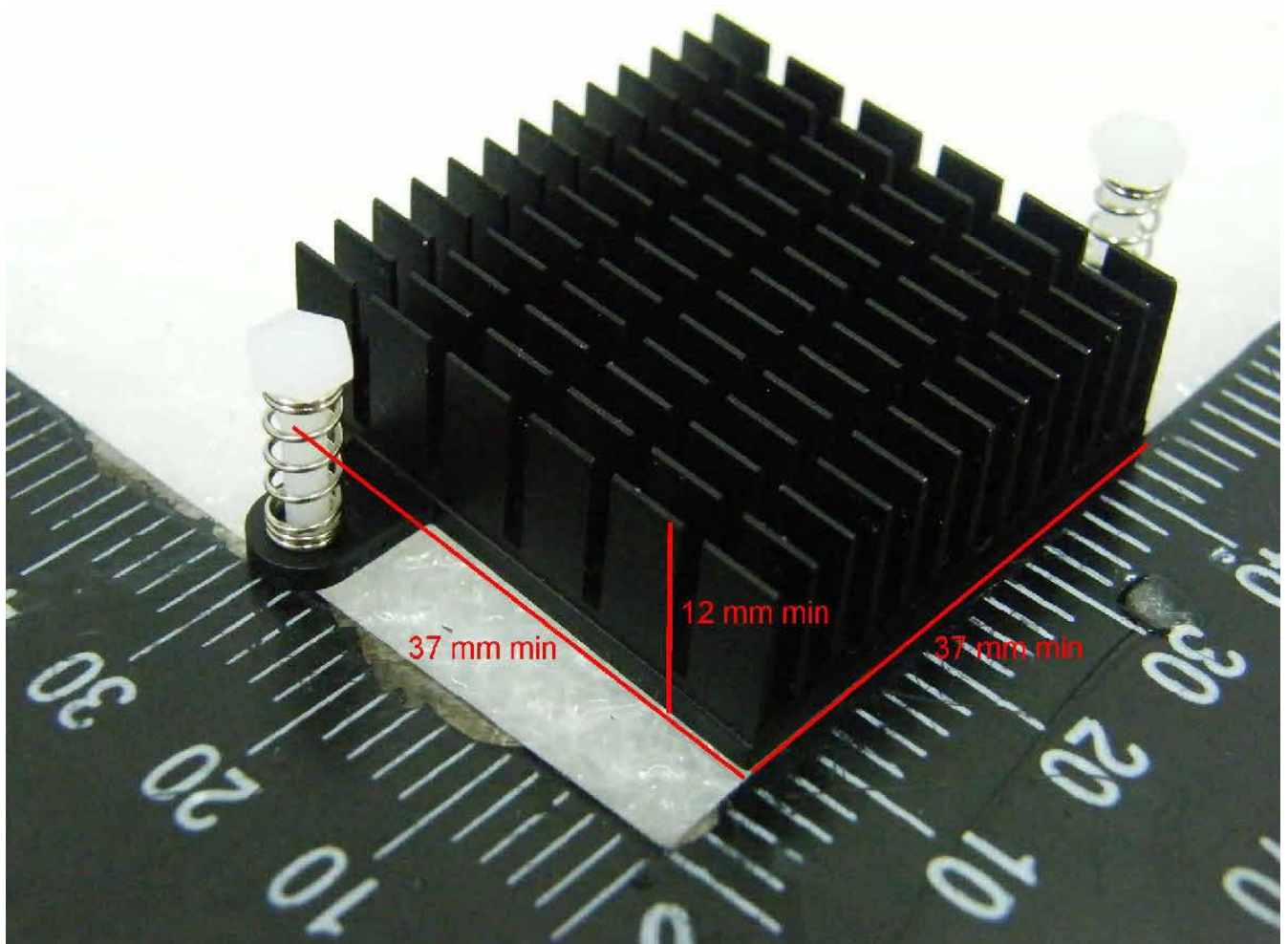


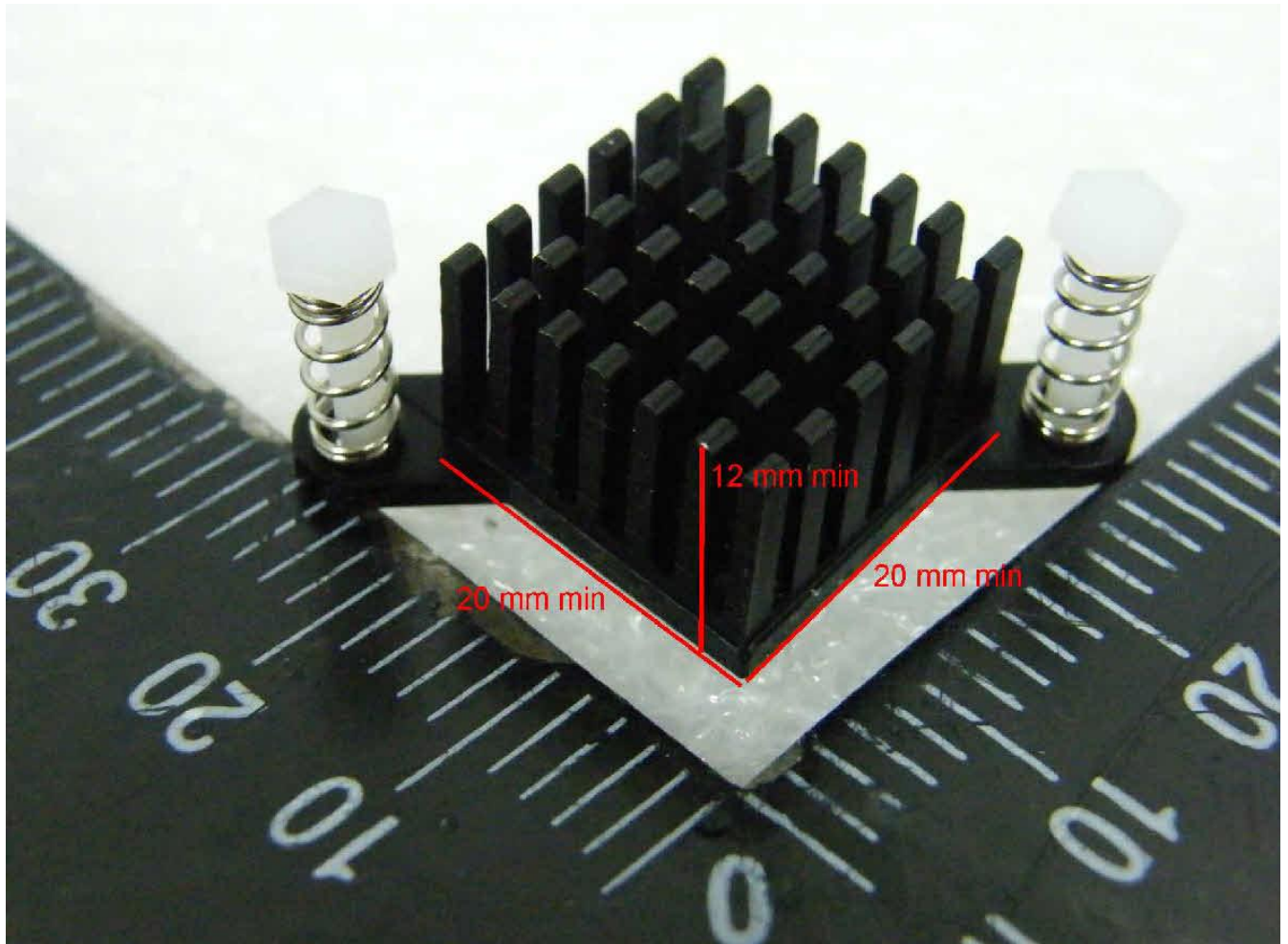












## Test Record

**Test Record No. 1**

- The manufacturer submitted representative production samples of Remote Ethernet Device, model RED 50xxxxxx (where x can be any alphanumeric character or blank).
- Unless otherwise noted, all tests were conducted by Neutron Engineering Inc., Neihu District, Taipei City, Taiwan under TPTDP program.
- Tests performed on Model RED 50 were considered to be representative of Model RED 50xxxxxx.
- Test results reported relate only to the items tested.

The following tests were conducted:

Test	Testing Location/Comments
End Product Reference Page	
General Guidelines	
Input: Single-Phase (1.6.2)	
Limited Power Source Measurements (2.5)	
Loading - Wall and Ceiling Mounted Equipment (4.2.10)	
Lithium Battery Reverse Current Measurement (4.3.8)	
Heating (4.5.1, 1.4.12, 1.4.13)	
Abnormal Operation (5.3.1 - 5.3.9)	

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 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	2-01	CSA_CRD
Datasheet	2-02	Test datasheets