

235

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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 TAIWAN

Date: 2019/10/31
 Subscriber: 100504413
 PartySite: 125336
 File No: E324690
 Project No: 4789204924
 PD No: 19059310
 Type: R
 PO Number: U900318

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

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

Issue

<u>Date</u>	<u>Vol</u>	<u>Sec</u>	<u>Pages</u>	<u>Revised Date</u>
	X1		Index Page(s)	
2019/03/12	X1	A146	Cert of Compliance	
2019/03/12	X1	A146	Revised Proc/Rpt Section	

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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

File		Volume	Page	Date:
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NVR	NR7401	E324690-A1-UL	
Business PTZ Internet Camera with Audio and PoE	PVC300	E324690-A2-UL	
Internet Camera with Audio and PoE	VC220	E324690-A3-UL	
Indoor/Outdoor WDR Day/Night PoE Network Camera	VC240	E324690-A5-UL	
Network Camera	IP8151	E324690-A7-UL	
Network Camera	IP8151P	E324690-A8-UL	
Video Sever	CIVS-SENC-1P	E324690-A26-UL	
Network Camera	IP8173H	E324690-A41-UL	
Network Camera	IP8371E	E324690-A42-UL	
Network Camera	IB8381-E, IB8381	E324690-A65-UL	
Network Camera	FE9381-EHV and FE9181-H	E324690-A89-UL	
Network Video Recorder	NR9682, NR9782, NR9682-v2, NR9782-v2	E324690-A146-UL	

CERTIFICATE OF COMPLIANCE

Certificate Number 20191031-E324690
Report Reference E324690-A146-UL
Issue Date 2019-OCTOBER-31

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

**This certificate confirms that
representative samples of**

INFORMATION TECHNOLOGY EQUIPMENT INCLUDING
ELECTRICAL BUSINESS EQUIPMENT
See Addendum page

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)
CAN/CSA C22.2 No. 60950-1-07, (Information Technology
Equipment - Safety - Part 1: General 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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CERTIFICATE OF COMPLIANCE

Certificate Number 20191031-E324690
Report Reference E324690-A146-UL
Issue Date 2019-OCTOBER-31

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Models

Network Video Recorder

NR9682, NR9782, NR9682-v2, NR9782-v2



Bruce Mahrenholz, Director North American Certification Program

UL LLC

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UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2019-05-09 (Information Technology Equipment - Safety - Part 1: General Requirements) CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Listing
CCN:	NWQG, NWGQ7 (Information Technology Equipment Including Electrical Business Equipment)
Product:	Network Video Recorder
Model:	NR9682, NR9782, NR9682-v2, NR9782-v2
Rating:	100-240 Vac, 50-60 Hz, 6.9-2.8 A (for each inlet)
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.

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

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Prepared by: Jeanette Chiou

Reviewed by: Bruce A. Mahrenhalz

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

Electric components were mounted on PWB which is enclosed by metal enclosure and accompanied with maximum two certified redundant power supply (ATX type), DC fan(s), and Hard Disk Drive (H.D.D.) or Solid State Drive (S.S.D.). See Photographs for details

Model Differences

All models are identical except for model designation.

Technical Considerations

- Equipment mobility : stationary
- Connection to the mains : pluggable A
- Operating condition : continuous
- Access location : restricted access location
- Over voltage category (OVC) : OVC II
- Mains supply tolerance (%) or absolute mains supply values : +10%, -10%
- Tested for IT power systems : No
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Class I (earthed)
- Considered current rating of protective device as part of the building installation (A) : 20 A
- Pollution degree (PD) : PD 2
- IP protection class : IP X0
- Altitude of operation (m) : up to 2000 m
- Altitude of test laboratory (m) : less than 2000 m
- Mass of equipment (kg) : Approx. 28.95 kg
- The product was submitted and evaluated for use at the maximum ambient temperature (T_{ma}) permitted by the manufacturer's specification of: 40 °C
- The means of connection to the mains supply is: Pluggable A, Detachable power cord
- The product is intended for use on the following power systems: TN
- The equipment disconnect device is considered to be: Appliance inlet

- The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): All output ports
- The following were investigated as part of the protective earthing/bonding: Metal enclosure
- The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual
- LEDs provided in the product are considered low power devices: Yes
- Maximum normal load: The HDD continuously reads data, the CPU reaches 100%, USB2.0 loads 0.5 A, USB3.0 loads 0.9 A, the disk player plays video and network connection, and is evaluated by an external power supply to 80% load. mode. (Power output plus 100-240 V: 268 W (22.3 A). output of power supply)


Additional Information

Project 4789204924 - Alternate Models NR9682-v2 and NR9782-v2.

Additional Standards

The product fulfills the requirements of: CSA C22.2 No. 60950-1-07 + A1:2011 + A2:2014

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 - Ratings	Ratings (voltage, frequency/dc, current)
Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
Power rating - Model	Model Number
Symbols - Stand-by switch	"Stand-by" to be indicated by  (60417-2-IEC-5009)
Multiple power sources	"Disconnect both power supply cords before servicing"
Replaceable batteries	"CAUTION: Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions."
Restricted Access Location	"Equipment intended for installation in Restricted Access Location" or equivalent. (Instruction)

Safety information	Instruction/Installation/Safety Manual shall be provided with each unit or bulk shipment. See Enclosure ID 6-01.
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Special Instructions to UL Representative

Please verify the Manufacturer has a method to manage distribution of all products with Canadian certification mark not intended include the dual markings.

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
N/A	--	--	--	--	--	--

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

No exemptions

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

No exemptions

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:

No exemptions

Sample and Test Specifics for Follow-Up Tests at UL

Model	Component	Material	Test	Sample(s)	Test Specifics
N/A	--	--	--	--	--

1.5.1	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	60 degree C if maximum surface temperature not specified.	PGDQ2 or PGJ12	UL	
02. Metal Enclosure	--	--	SGCC, minimum 1.2 mm thickness. See enclosure ID 4-01 for overall dimension.	--	--	
03. Redundant Power Supply	SYSGRATION LTD	EFRP-S2550Czzzzz (where "z" may be 0-9, A-Z, a-z or used 1-5 digits)	I/P: 100-240V~, 6.9-2.8A, 50-60Hz; O/P: DC5V/20A, DC3.3V/20A, DC12V/45A, DC-12V/0.5A, +5Vsb/2.5A, max. output power DC5V/ 248.41 W, DC3.3V/ 148.58 W, DC12V/ 1378.1 W, DC-12V/ 17.49 W, +5Vsb/ 45.94 W, total output power continuous shall not exceed 550 watts, 50 degree C, Class I.	QQGQ2	UL	
03-1. Redundant power modules (two provided)	SYSGRATION LTD	EFRP-S550Czzzzz (where "z" may be 0-9, A-Z, a-z or used 1-5 digits)	I/P: 100-240V~, 6.9-2.8A, 50-60Hz; O/P: DC12V/45A, +5Vsb/2.5A, max. output power DC12V/692.15W, +5Vsb/23.52W, total output power continuous shall not exceed 550 watts, 50 degree C, Class I.	QQGQ2	UL	
04. PWB	Interchangeable	Interchangeable	V-1 or better, minimum 105 degree C.	ZPMV2	UL	
05. RTC Battery (Lithium type) (BAT1)	--	CR2032	Provided with one Diodes (D16) and one 1K ohm Resistor (R426) for reverse charging protection. DC3V, maximum	BBCV2	UL	

			abnormal charging current 10mA., non-rechargeable .			
06. Poly switch(PS4, PS5, PS7, PS8) for USB 3.0 port on motherboard	POLYTRONICS TECHNOLOGY CORP	SMD1812P260TF T	8Vdc, Ih:2.6A, It:5.0A.	XGPU2	UL	
07. Poly switch(PS6) for USB port on motherboard	POLYTRONICS TECHNOLOGY CORP	SMD2920P400TF	15Vdc, Ih:4.0A, It:8.0A.	XGPU2	UL	
08. Poly switch(PS1,PS2) for DVI, HDMI, DP1 port on motherboard	POLYTRONICS TECHNOLOGY CORP	SPR-P150	6Vdc, Ih:1.5A, It:3.0A.	XGPU2	UL	
09. System Fan (three provided)	SUNONWEALTH ELECTRIC MACHINE INDUSTRY CO LTD	PF80251B2-0000-S99	DC12V, 285 mA / Max. 328 mA, 57CFM, 4500rpm.	GPWV2	UL	
10. System Fan (one provided)	SUNONWEALTH ELECTRIC MACHINE INDUSTRY CO LTD	PF80381BX-0000-S99	DC12V, 4000 mA / Max. 4400 mA, 141.9 CFM, 14000 rpm.	GPWV2	UL	
11. CPU Fan (one provided)	Everflow Precision Electronic (Dong Guan) Co Ltd	RB6020BU	DC12V, 1.1 A, 28.78 CFM, 5800 rpm.	GPWV2	UL	
11-1. Heatsink (CPU1_HS1)	--	--	Aluminum. Overall see attachments See enclosure ID 4-02 for overall dimension.	--	--	
12. Heatsink (PCH1_HS1)	--	--	Aluminum. Overall see attachments See enclosure ID 4-03 for overall dimension.	--	--	
13. Hard Disk Drive (H.D.D.) (Optional)	Interchangeable	Interchangeable	3.5" Generic, rated DC5V/0.68A, DC12V/0.55A max.	NWGQ2	UL	
13a. Hard Disk Drive (H.D.D.) (Optional) (Alternate)	Interchangeable	Interchangeable	2.5" Generic, rated DC5V/0.68A, DC12V/0.55A max	NWGQ2	UL	
14. Solid State Drive	--	--	2.5" Generic, rated DC5V, 1.5A	--	--	

(S.S.D.) (Optional)			maximum.			
15. RAID card (Optional)	Interchangeable	Interchangeable	SELV.	--	--	
15-1. Heatsink	--	--	Aluminum. Overall see attachments See enclosure ID 4-04 for overall dimension.	--	--	
15-2. PWB	Interchangeable	Interchangeable	V-1 or better, minimum 105 degree C.	ZPMV2	UL	
16. Connectors and Receptacles (Sec.) (ELV, SELV)	--	RS-232, DVI, DP1, HDMI, USB, RJ-45, Audio Out, MIC	Minimum 30 V	ECBT2, RTRT2	UL	
16a. Connectors and Receptacles (Sec.) (ELV, SELV) (Alternate)	--	RS-232, DVI, DP1, HDMI, USB, RJ-45, Audio Out, MIC	Copper alloy pins housed in bodies of (QMFZ2), and V-2 minimum.	QMFZ2	UL	
17. Internal Wiring (SELV)	Interchangeable	Interchangeable	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; minimum 30V, 60 degree C.	AVLV2	UL	
18. Interconnecting Cable (Optional)	Interchangeable	Interchangeable	Detachable, minimum 30 V, minimum 60 degree C, Max 3.05 m long, FEP, PTFE, PVC, TFE, neoprene, polyimide, marked VW-1 or FT-1 or better.	AVLV2	UL	
18a. Interconnecting Cable (Optional) (Alternate)	Interchangeable	Interchangeable	Type CMP or CMR or CMG or CM or CMX or CMUC or CMH, 3.05 m long maximum.	DUXR or DUZX	UL	
18b. Interconnecting Cable (Optional) (Alternate)	Interchangeable	Interchangeable	Maximum length 3.05 m. FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1 or FT-1. Minimum 80 degree C. Minimum 30 V.	AVLV2 DUZX, DUXR, DUXR2	UL	
19. Power Supply Cord (Optional)	Interchangeable	Interchangeable	Detachable, minimum 1.5 m and maximum 4.5 m long, minimum 16 AWG, flexible cord. Type SVT or SPT-2, minimum 125 V, 10 A, with	ZJCZ and RTRT and AXUT or ELBZ	UL	

			NEMA 5-15P. Other end appliance coupler.			
20. Internal plastic part materials	Interchangeable	Interchangeable	Minimum V-2 or minimum VTM-2	QMFZ2	UL	

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	Overall view-3
Photographs	3-04	Overall view-4
Photographs	3-05	Overall view-5
Photographs	3-06	Overall view-6
Photographs	3-07	Overall view-7
Photographs	3-08	Internal view-1
Photographs	3-09	Internal view-2
Photographs	3-10	Internal view-3
Photographs	3-11	Main board view-1
Photographs	3-12	Main board view-2
Photographs	3-13	Main board view-3
Photographs	3-14	Optional RAID card view-1
Photographs	3-15	Optional RAID card view-2
Diagrams	4-01	Overall enclosure
Diagrams	4-02	Heatsink (CPU1_HS1)
Diagrams	4-03	Heatsink (PCH1_HS1)
Manuals	6-01	Installation for Grounding





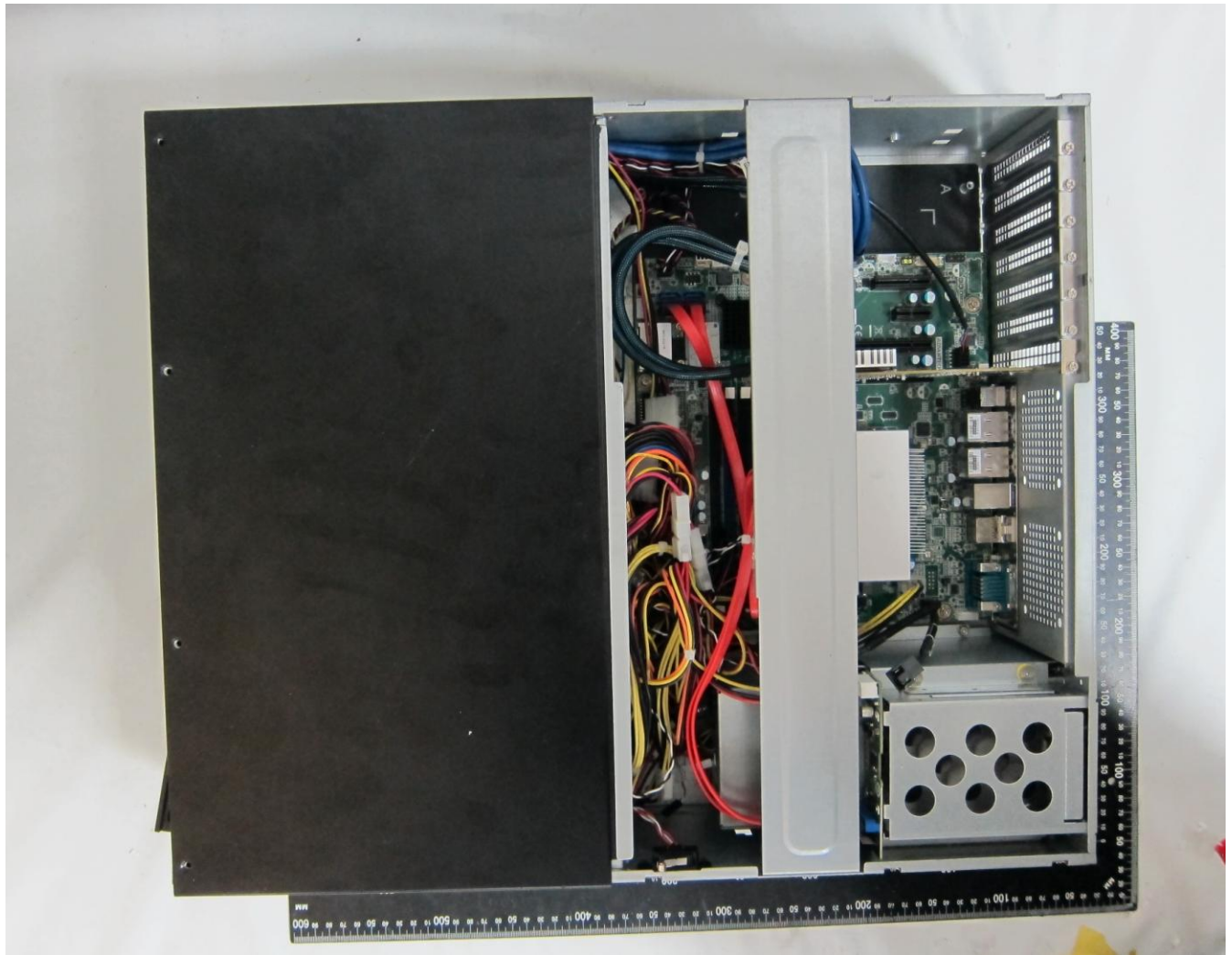


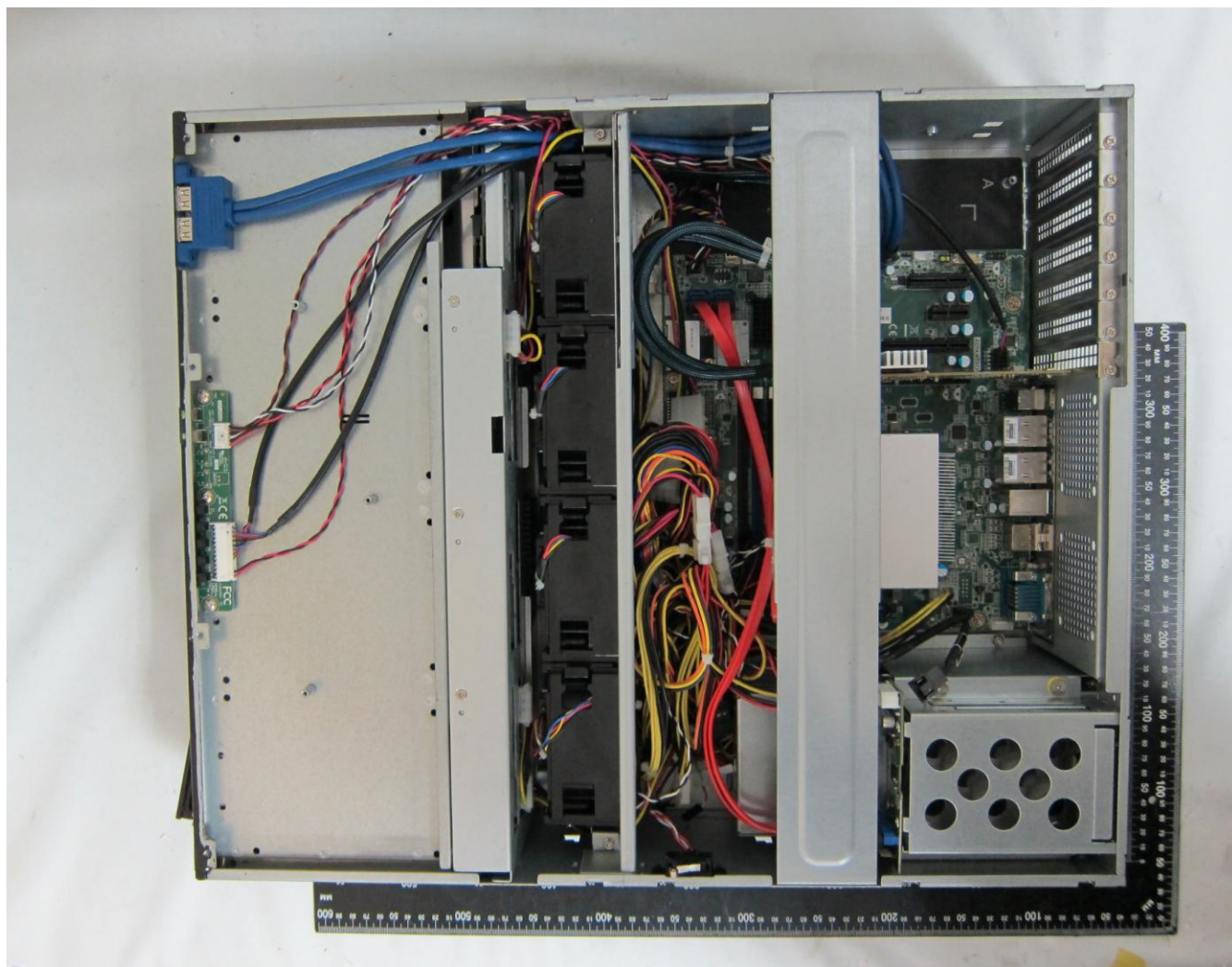


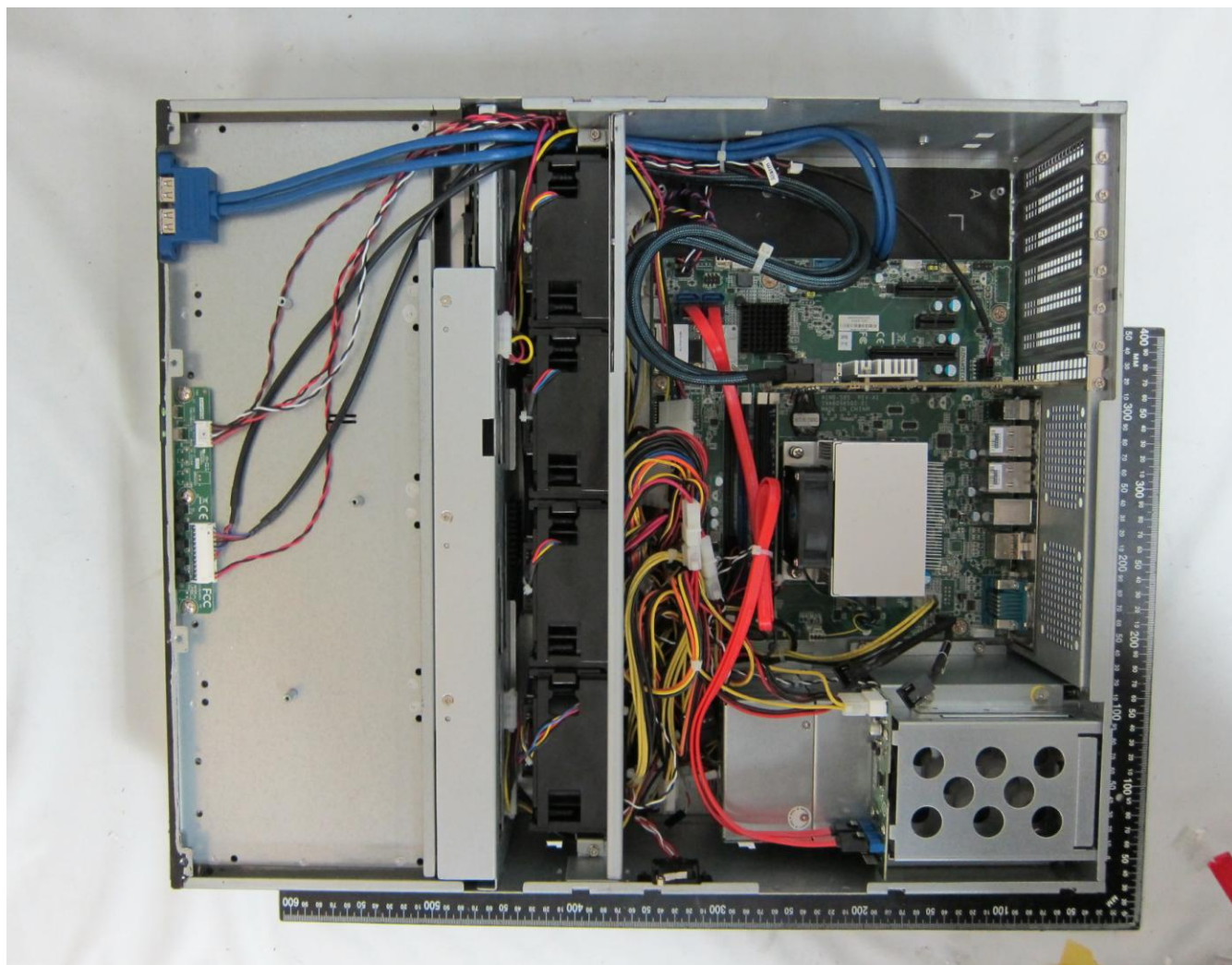


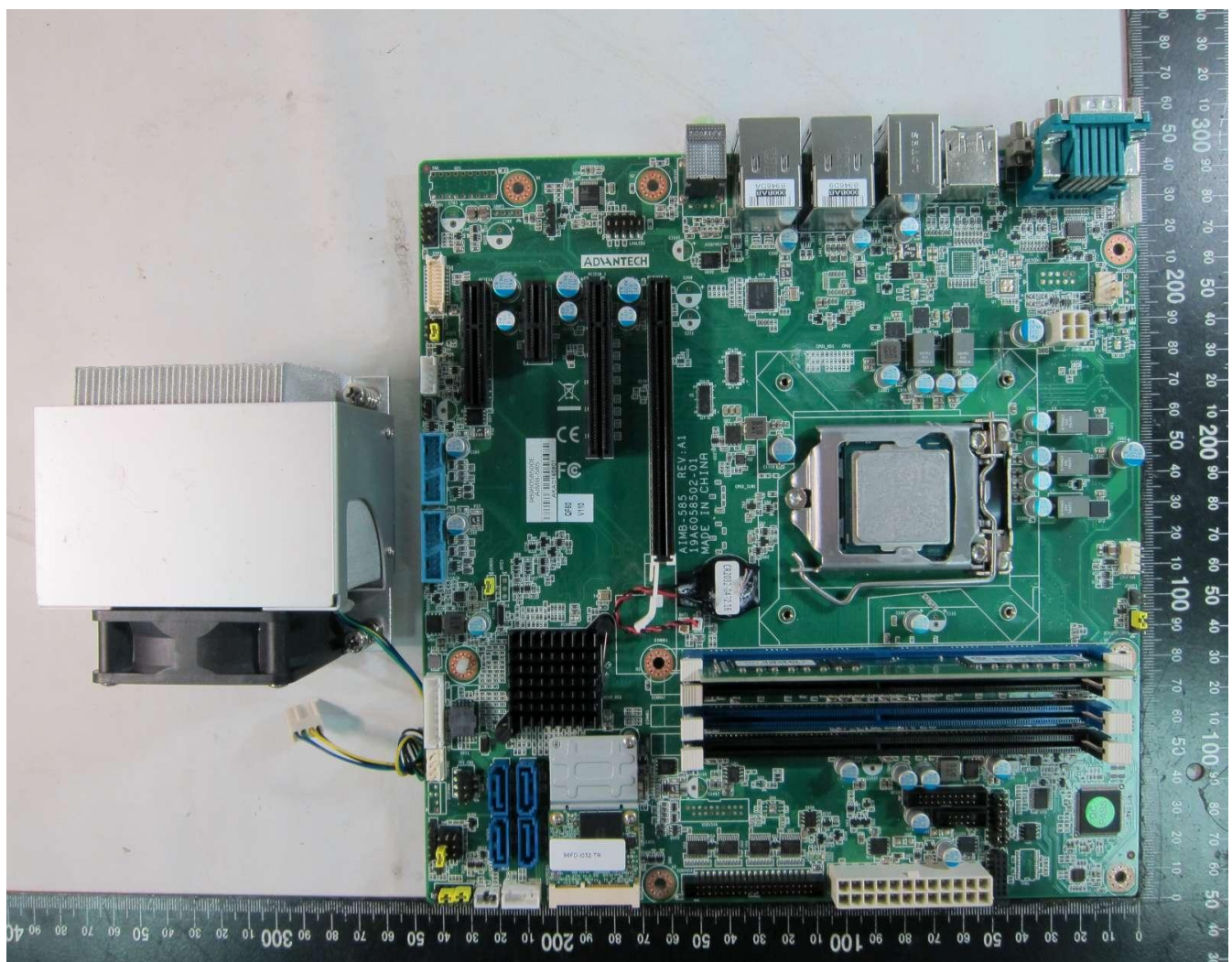




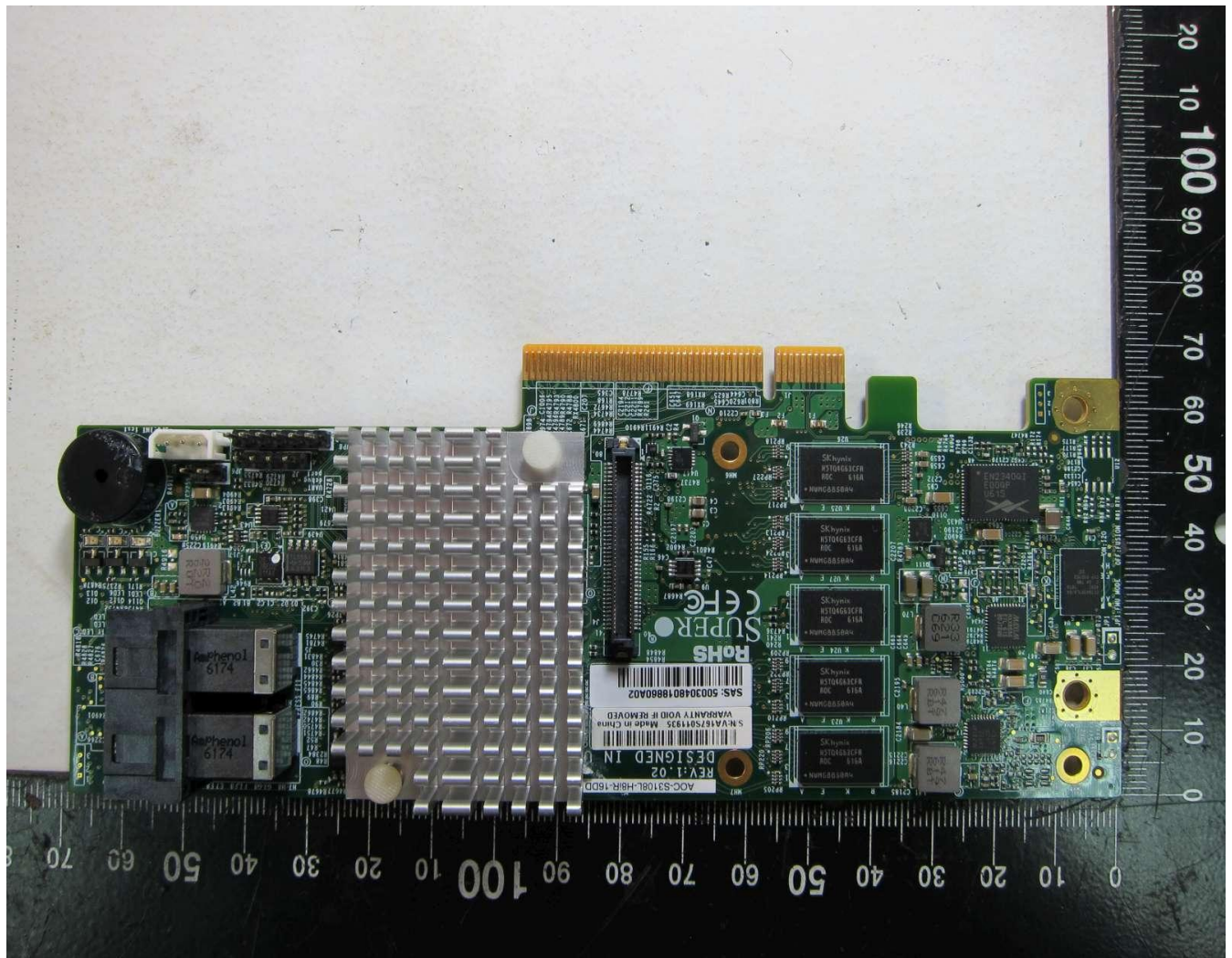


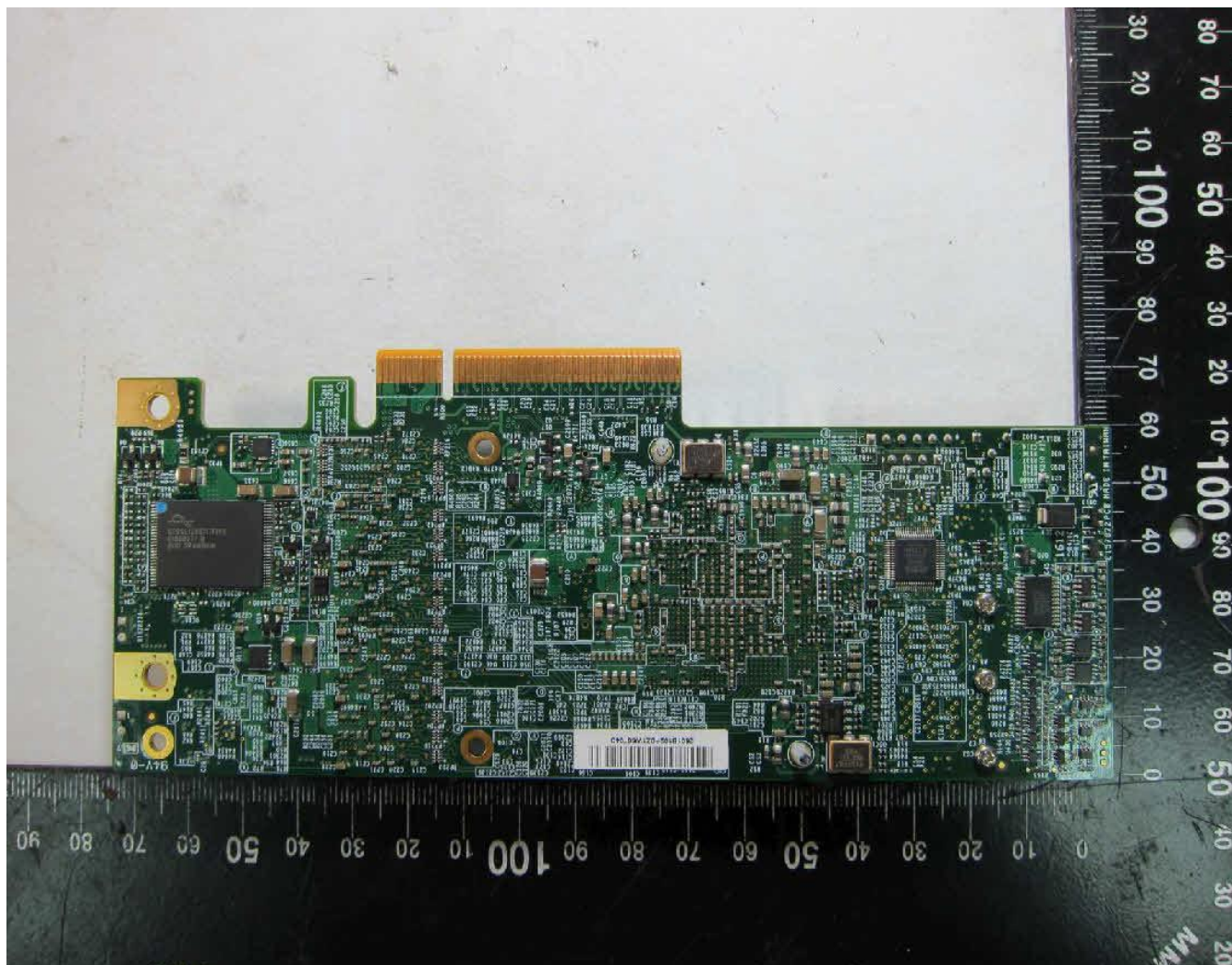


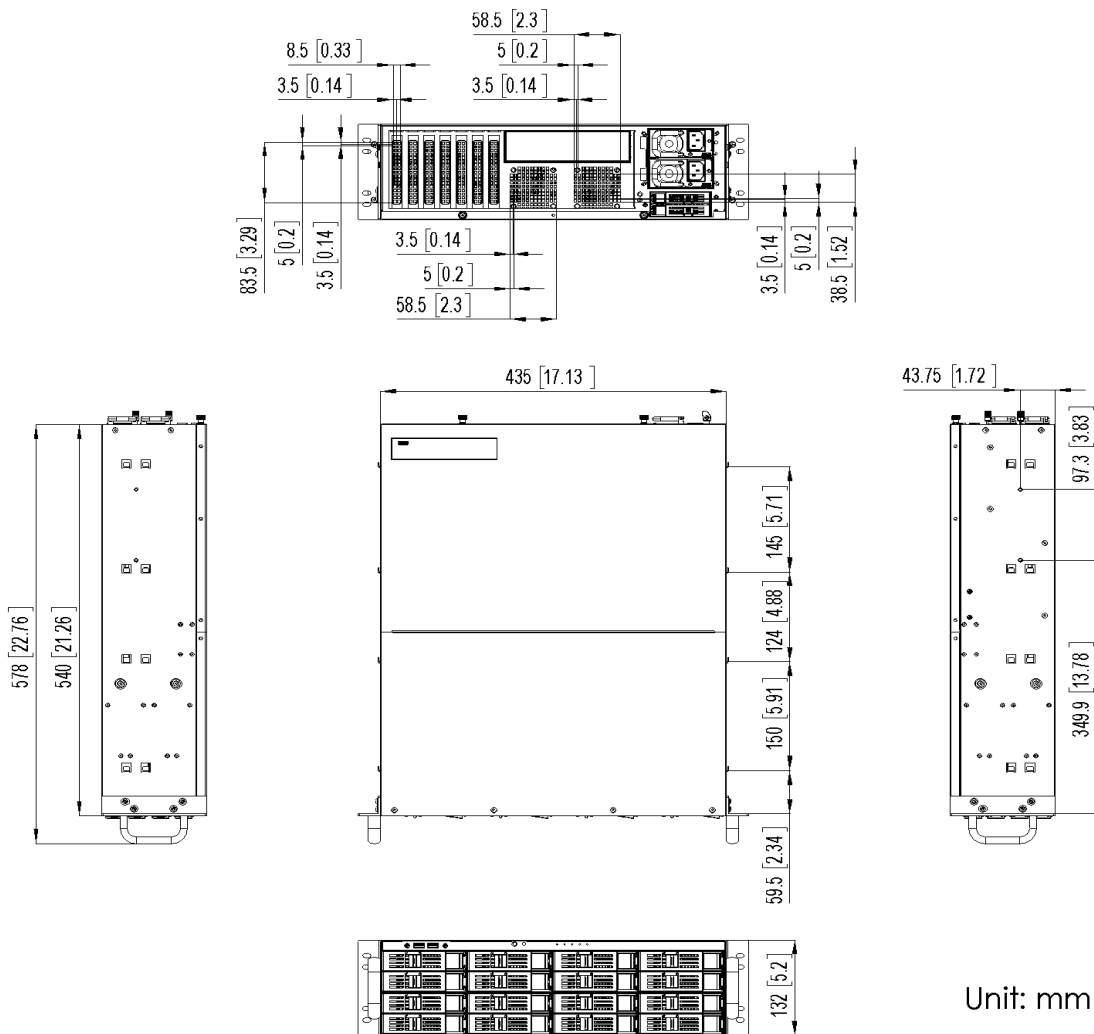




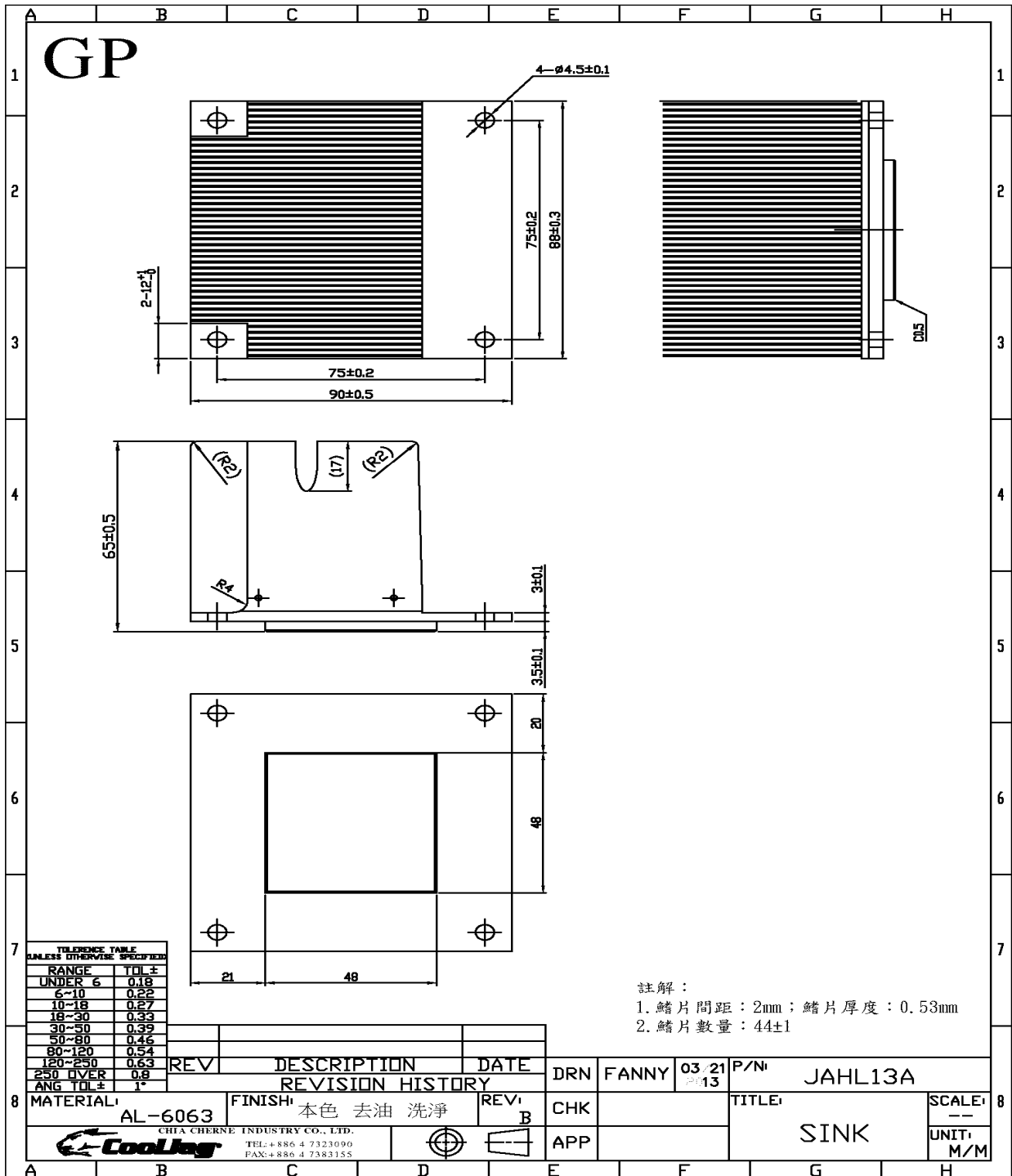








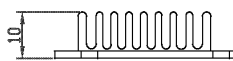
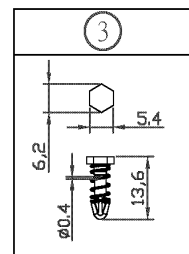
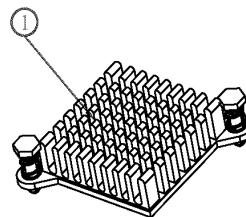
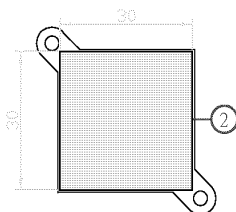
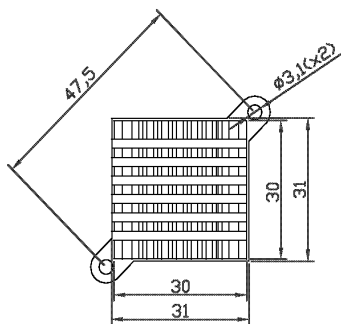
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真空成型盤包裝

配件表單

項目	配件料號	配件名稱	規格敘述	數量
①	HACM439003	heat sink	HEAT SINK 30.0x30.0x10.0(剖溝) Ø3.1x2孔	1PCS
②	C2SU00600006	導熱背膠	T725_30x30x0.13t mm	1PCS
③	O2SU02000003	塑膠扣具	164818B	2PCS



A視圖(背膠貼位)

A視圖

外觀處理：陽極電鍍黑色

△		
△		
△	106.11.15	新製
版次	日期	設變說明

=亞晶電腦企業有限公司=

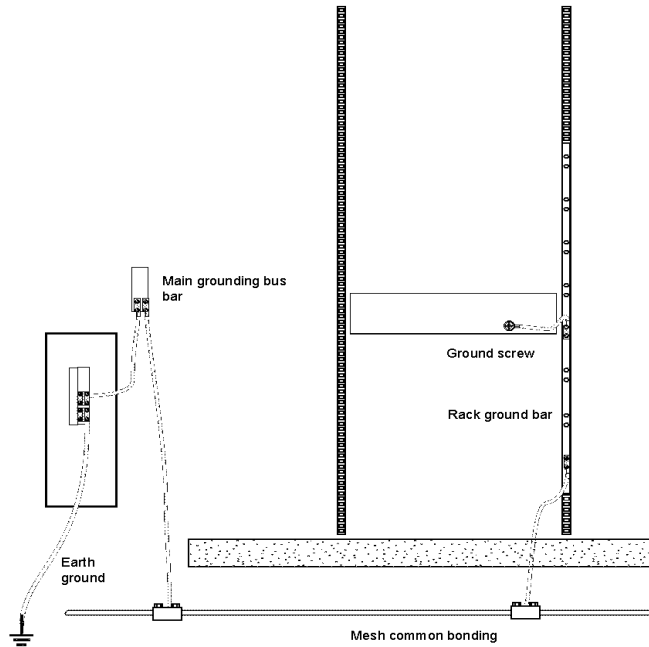
ASIACRYSTAL COMPUTER ENTERPRISE CO., LTD.
11F., NO.120-11 CHUNG SHAN ROAD, SEC.3,
CHUNG HO CITY, TAIPEI HSIEN, TAIWAN, R.O.C

AcE
TEL: 886-2-2226-4717
FAX: 886-2-2226-4714

使模用號	GO-2A319	亞料晶號	CM439017
單位	mm	品名規格	CM439_B,T725(30)
版本	A	材質	AL-6063-T5
日期	2017/11/15	TOLERANCES :	±0.3mm
製圖確認	製圖員	文管中心	
KAI	David	VIC	

Grounding Requirements

1. The enclosure is designed to be rack-mounted, in an equipment room which has limited human access.
2. In addition to the grounding via the power cords, make sure your equipment rack is properly grounded. If the equipment rack is not properly grounded, connect the ground wire to a grounding bus bar, which is then connected to an earth ground.
3. Use a ground wire of a copper cross section at least 16AWG.



Test Record No. 1

- The manufacturer submitted representative production sample of Network Video Recorder, Model NR9682 and NR9782, for full investigation.

- Unless otherwise indicated, all Tests were based upon previous evaluation under the CB scheme. The CB Scheme Test Certificate Ref. No. DK-81330-UL, dated 2019-03-11, and Test Report No. SU0041-18006, dated 2019-03-05, were prepared by UL (Demko).

- Test results reported relate only to the items tested.

The following tests were waived:

Test	Rationale for Waiving
Input: Single-Phase (1.6.2)	Refer to CB Report
Limited Power Source Measurements (2.5)	Refer to CB Report
Protective Bonding II (2.6.3.4, 2.6.1)	Refer to CB Report
Humidity (2.9.1, 2.9.2, 5.2.2)	Refer to CB Report
Stability (4.1)	Refer to CB Report
Steady Force (4.2.1 - 4.2.4)	Refer to CB Report
Impact (4.2.5, 4.2.1, Part 22 10.2)	Refer to CB Report
Lithium Battery Reverse Current Measurement (4.3.8)	Refer to CB Report
Heating (4.5.1, 1.4.12, 1.4.13)	Refer to CB Report
Touch Current (Single-Phase; TN/TT System) (5.1, Annex D)	Refer to CB Report
Electric Strength (5.2.2)	Refer to CB Report
Abnormal Operation (5.3.1 - 5.3.9)	Refer to CB Report
Overload of Operator Accessible Connector (5.3.7)	Refer to 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	2-01	CRD

Issue Date: 2019-03-12

Page 2 of 3

Report Reference #

E324690-A146-UL

Revision Date: 2019-10-28

Test Record

Test Record No. 2

No test for lateral transfer from X2.

Test Record No. 3

The manufacturer submitted representative production for Network Video Recorder, Models NR9682-v2, NR9782-v2. Unless otherwise indicated, all evaluations were based upon previous evaluation under the CB scheme. The CB Certificate DK-81330-A1-UL, Dated 2019-10-24, and CB Test Report SU0041-18006-A1, Dated 2019-10-22 were prepared by UL International Demko A/S.

The CRD is not necessary, since the construction was reviewed in the CB report.