

CERTIFICATE OF COMPLIANCE

Certificate Number E180881
Report Reference E180881-20200729
Issue Date 2020-JULY-31

Issued to: ADVANTECH CO LTD
1 ALY 20 LN 26, RUEIGUANG RD
NEIHU DISTRICT, TAIPEI
114 TAIWAN

**This certificate confirms that
representative samples of**

COMPONENT - AUDIO/VIDEO, INFORMATION AND
COMMUNICATION TECHNOLOGY EQUIPMENT

2.5" SATA SSD

SQF-S25XXXXXXXXXXXXXXXXXX (where "X" may be any
alphanumeric character or blank or "-" for marketing
purpose)

Have been investigated by UL in accordance with the
component requirements in the Standard(s) indicated on
this Certificate. UL Recognized components are incomplete
in certain constructional features or restricted in
performance capabilities and are intended for installation in
complete equipment submitted for investigation to UL LLC.

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

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

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

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

Look for the UL Recognized Component Mark on the product.



Bruce Mahrenholz, Director North American Certification Program
UL LLC

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File E180881

Project 4789522978

July 29, 2020

REPORT

on

Components - Audio/Video, Information and Communication Technology Equipment

ADVANTECH CO LTD

TAIPEI, 114 TAIWAN

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UL TEST REPORT AND PROCEDURE

Standard:	UL 62368-1, 2nd Edition, 2014-12-01 (Audio/video, Information and Communication Technology Equipment - Part 1: Safety Requirements) CAN/CSA C22.2 No. 62368-1-14, 2nd Edition, 2014-12 (Audio/video, Information and Communication Technology Equipment - Part 1: Safety Requirements)
Certification Type:	Recognized Component
CCN:	AZOT2, AZOT8 (Components – Audio/Video, Information and Communication Technology Equipment)
Complementary Certification CCN:	N/A
Product:	2.5" SATA SSD
Model:	SQF-S25XXXXXXXXXXXXXXXXX (where "X" may be any alphanumeric character or blank or "-" for marketing purpose)
Rating:	(Optional) 5Vdc, 2.0A
Applicant Name and Address:	ADVANTECH CO LTD 1 ALY 20 LN 26 RUEIGUANG RD NEIHU DISTRICT TAIPEI, 114 TAIWAN

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

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UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of this page through to the end of the Engineering Conditions of Acceptability.
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Prepared by: Yasli Tsai

Reviewed by: Chris Kao

Supporting Documentation

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

- A. Authorization - The Authorization page may include additional Factory Identification Code markings.
- B. Generic Inspection Instructions -
 - i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report
 - ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report
- C. Listing Mark/Recognized Component Mark Data Page - details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

Product Description

- This equipment is a class III 2.5" SATA SSD which is intended to use with Audio/Video, information and communication technology equipment.
- The equipment consists of electronic components were mounted on PWB and housing in a metal enclosure by screws.

Model Differences

All models are identical to each other except for model designation.

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

- Classification of installation and use by.....: ☐ Ordinary person ☐ Instructed person
☐ Skilled person ☐ Children likely to be present
- Supply Connection.....: ☐ pluggable equipment ☐ type A ☐ type B
☐ permanent connection
☐ detachable power supply cord
☐ non-detachable power supply cord
☒ not directly connected to the mains
- Equipment mobility: ☐ movable ☐ hand-held ☐ transportable
☐ stationary ☒ for building-in ☐ direct plug-in
☐ rack-mounting ☐ wall-mounted
- Over voltage category (OVC): ☐ OVC I ☐ OVC II ☐ OVC III ☐ OVC IV
☒ other: not directly connected to the mains
- Fundamental Frequency: ☐ 50/60 Hz ☐ 50 Hz ☐ 60 Hz ☐ other_50-60_Hz
- Class of equipment: ☐ Class I ☐ Class II ☒ Class III
☐ Not classified
- Access location: ☐ restricted access location ☒ N/A
- Pollution degree (PD): ☐ PD 1 ☒ PD 2 ☐ PD 3
- IP protection class: ☒ IP X0 ☐ IP ____
- Tested for IT power systems: ☐ Yes ☒ No
- IT testing, phase-phase voltage (V): ☐ ____ ☒ N/A
- Altitude during operation (m): ☐ Up to 2,000 ☒ Up to 5000
- Altitude of test laboratory (m): ☒ Less than 2,000 ☐ Approximately ____
- Mass of equipment (kg): 0.07 Kg max.

Technical Consideration (NOT FOR FIELD REPRESENTATIVE'S USE)

- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 85 degree C or to be determined in the end-product.
- The product is intended for build-in and supplied by a D.C. source (ES1 and PS3) which is separated from A.C. mains by double or reinforced insulation and only ES1 circuit inside the unit.
- Maximum Normal load: The product is equipped on a computer which is provided by the client as a test

fixture and operated continuously with Burn-in test program check 100% disk function.

Engineering Conditions of Acceptability (NOT FOR FIELD REPRESENTATIVE'S USE)

For use only in or with complete equipment where the acceptability of the combination is determined by UL LLC. When installed in an end-product, consideration must be given to the following:

- Safeguards for electrically-caused injury (for ES), electrically-caused fire (for PS), mechanical caused injury (for MS) and thermal burn injury (for TS) should be considered and evaluated in end product investigation.
- The accessibility for ordinary person shall be evaluated in the end product.
- The following end-product enclosures are required: Fire.
- The heating test shall be conducted in the end-use product.
- The power supply terminals and/or connectors are: Suitable for factory wiring only.
- The suitable Symbol/Markings/Instruction and Manual shall be provided and evaluated in the end product.
- Access location is not specified and to be determined in the end-product.

Additional Information

N/A

Additional Standard

The product fulfils the requirements of: N/A

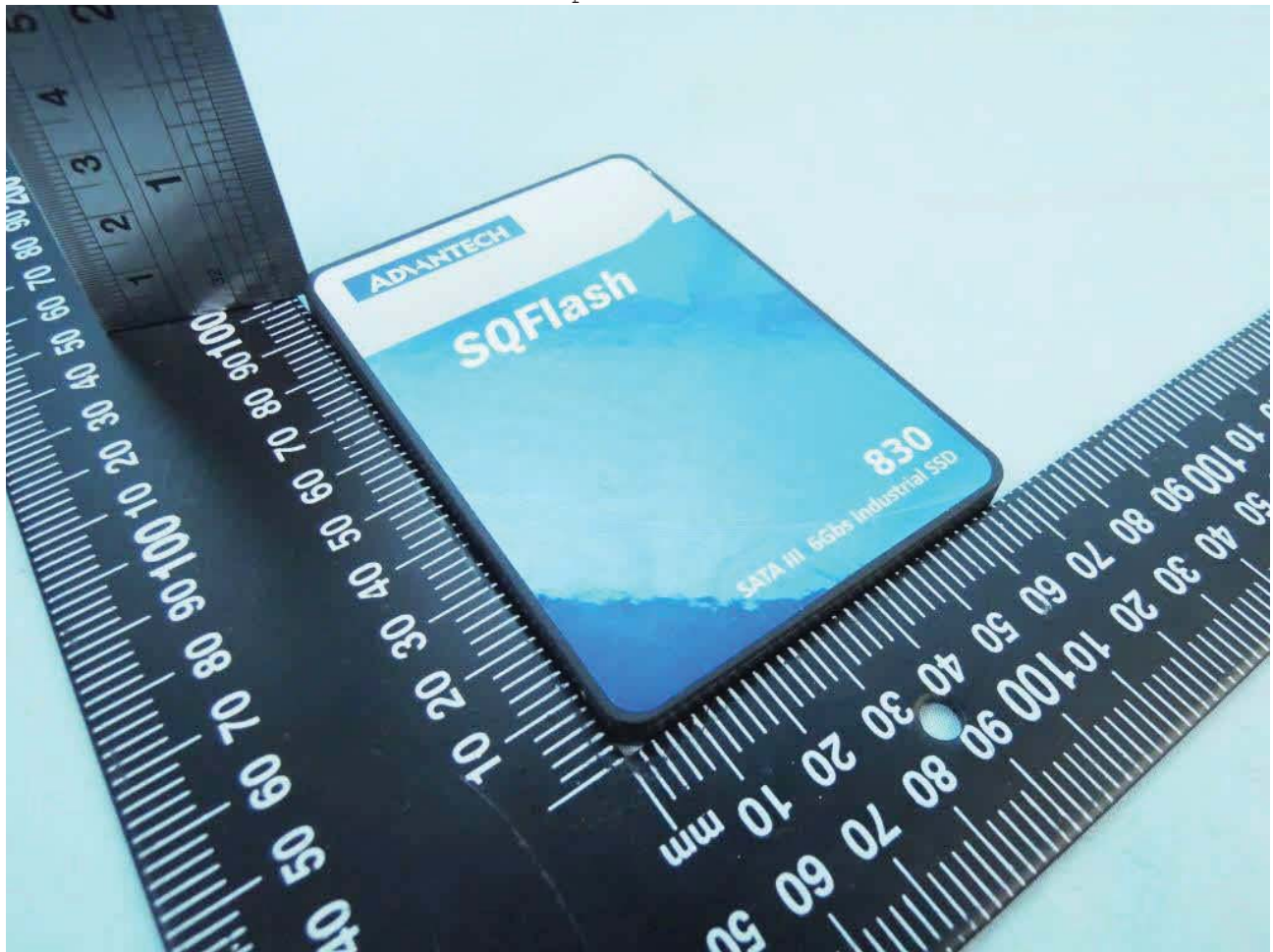
Markings, instructions and instructional safeguards						
Clause Title		Marking or Instruction Details				
		English			French	
Equipment identification marking – Manufacturer identification		Listee's or Recognized company's name, Trade Name, Trademark or File Number				
Equipment identification marking – model identification		Model Number				
Special Instructions to UL Representative						
N/A						
Production-Line Testing Requirements						
<u>Electric Strength Test Special Constructions - Refer to Generic Inspection Instructions, Part AC for further information.</u>						
Model	Component	Removable Parts	Test probe location	V rms	V dc	Test Time, s
N/A						
<u>Earthing Continuity Test Exemptions - This test is not required for the following models:</u>						
All models in this report						
<u>Electric Strength Test Exemptions - This test is not required for the following models:</u>						
All models in this report						
<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>						
N/A						
<u>Sample and Test Specifics for Follow-Up Tests at UL</u>						
Model	Component	Material	Test	Sample(s)	Test Specifics	
N/A						

4.1.2	TABLE: list of critical components					Pass
Object/part or Description	Manufacturer/ trademark	type/model	technical data	Product Category CCN(s)	Required Marks of Conformity	Supplement ID
01. Label	Various	Various	105 degree C, if maximum surface temperature not specified.	PGDQ2, PGJ12	UL	--
02. Enclosure	--	--	Metal (Aluminum and steel), 0.62 mm thickness minimum. See Enclosure ID Illustration-1 for details.	--	--	--
03. IC Thermal Pad (One provided to SSD2)	Various	Various	V-2 min. See Enclosure ID Illustration-2 for details.	QMFZ2	UL	--
03a. IC Thermal Pad (One provided to SSD2) (Alternate)	Various	Various	Flammability level is ignored, when small parts (4g max. or 1750 mm ³ maximum) are mounted on V-1 class material. See Enclosure ID Illustration-2 for details.	--	--	--
04. DDR Thermal Pad (One provided to SSD1, four provided to SSD2)	Various	Various	V-2 min. See Enclosure ID Illustration-3 for details.	QMFZ2	UL	--
04a. DDR Thermal Pad (One provided to SSD1, four provided to SSD2) (Alternate)	Various	Various	Flammability level is ignored, when small parts (4g max. or 1750 mm ³ maximum) are mounted on V-1 class material. See Enclosure ID Illustration-3 for details.	--	--	--
05. Printed wiring boards	Various	Various	Rated V-1 minimum, 105 degree C minimum	ZPMV2	UL	--
06. Connectors and Receptacles (ES1 circuits for filling fire enclosure opening)	Various	Metal/Plastic	Copper alloy pins housed in bodies of plastic rated V-2 minimum.	QMFZ2,	UL	--
06a. Connectors and	Various	Various	Metal/Plastic Copper alloy pins	QMFZ2	UL	--

Receptacles (ES1 circuits not for filling fire enclosure opening) (Alternate)			housed in bodies of plastic rated V-1 minimum.			
06b. Connectors and Receptacles (ES1 circuits) (Alternate)	Various	Various	--	ECBT2, DUXR2 or DUXR	UL	--
07. Internal plastic part	Various	Various	Minimum V-2 or VTM-2	QMFZ2	UL	--
07a. Internal Plastic Part Materials (Optional) (Alternate)	--	--	Flammability level is ignored, when small parts (4g max. or 1750mm ³ maximum) are mounted on V-1 class material	--	--	--
07b. Internal Plastic Part Materials (Optional) (Alternate)	--	--	Flammability level is ignored, when small parts (4g max. or 1750mm ³ maximum) are separated from electrical parts (other than insulated wires and cables) by at least 13 mm of air or by a solid barrier of V-0 class material	--	--	--

ENCLOSURES

<u>Type</u>	<u>Supplement Id</u>	<u>Description</u>
Figure	Figure-1	Overall View (For SSD1)-01
Figure	Figure-2	Overall View (For SSD1)-02
Figure	Figure-3	Overall View (For SSD2)-01
Figure	Figure-4	Overall View (For SSD2)-02
Figure	Figure-5	Overall View (For SSD3)-01
Figure	Figure-6	Overall View (For SSD3)-02
Figure	Figure-7	Connector View
Figure	Figure-8	Internal View (For SSD1)
Figure	Figure-9	Internal View (For SSD2)-01
Figure	Figure-10	Internal View (For SSD2)-02
Figure	Figure-11	Internal View (For SSD3)-01
Figure	Figure-12	Internal View (For SSD3)-02
Figure	Figure-13	Main board View (For SSD1)-01
Figure	Figure-14	Main board View (For SSD1)-02
Figure	Figure-15	Main board View (For SSD2)-01
Figure	Figure-16	Main board View (For SSD2)-02
Figure	Figure-17	Main board View (For SSD3)-01
Figure	Figure-18	Main board View (For SSD3)-02
Diagram	Illustration-1	Enclosure dimension drawing
Diagram	Illustration-2	IC Thermal Pad dimension drawing
Diagram	Illustration-3	DDR Thermal Pad dimension drawing



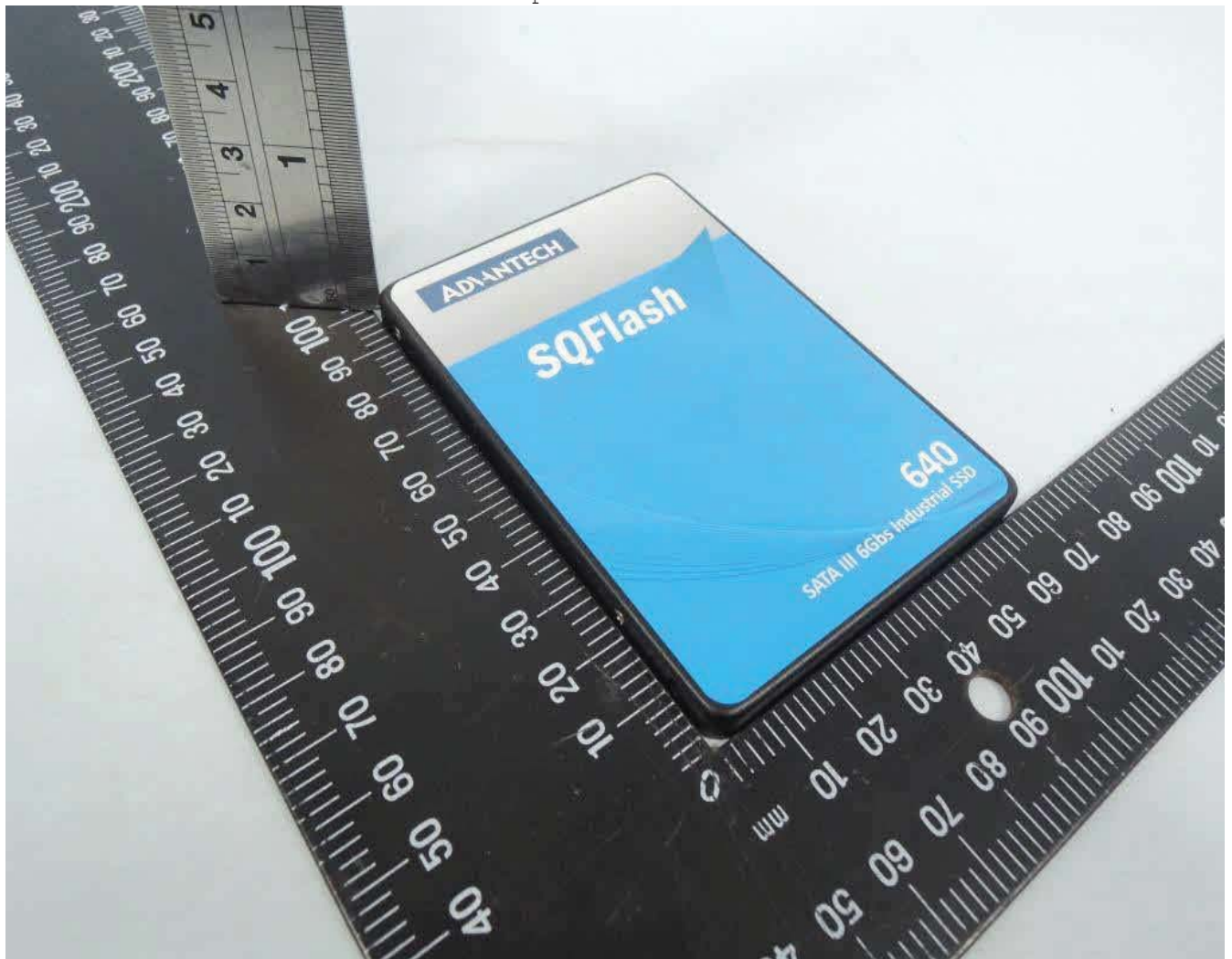
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N202144918



N202144919



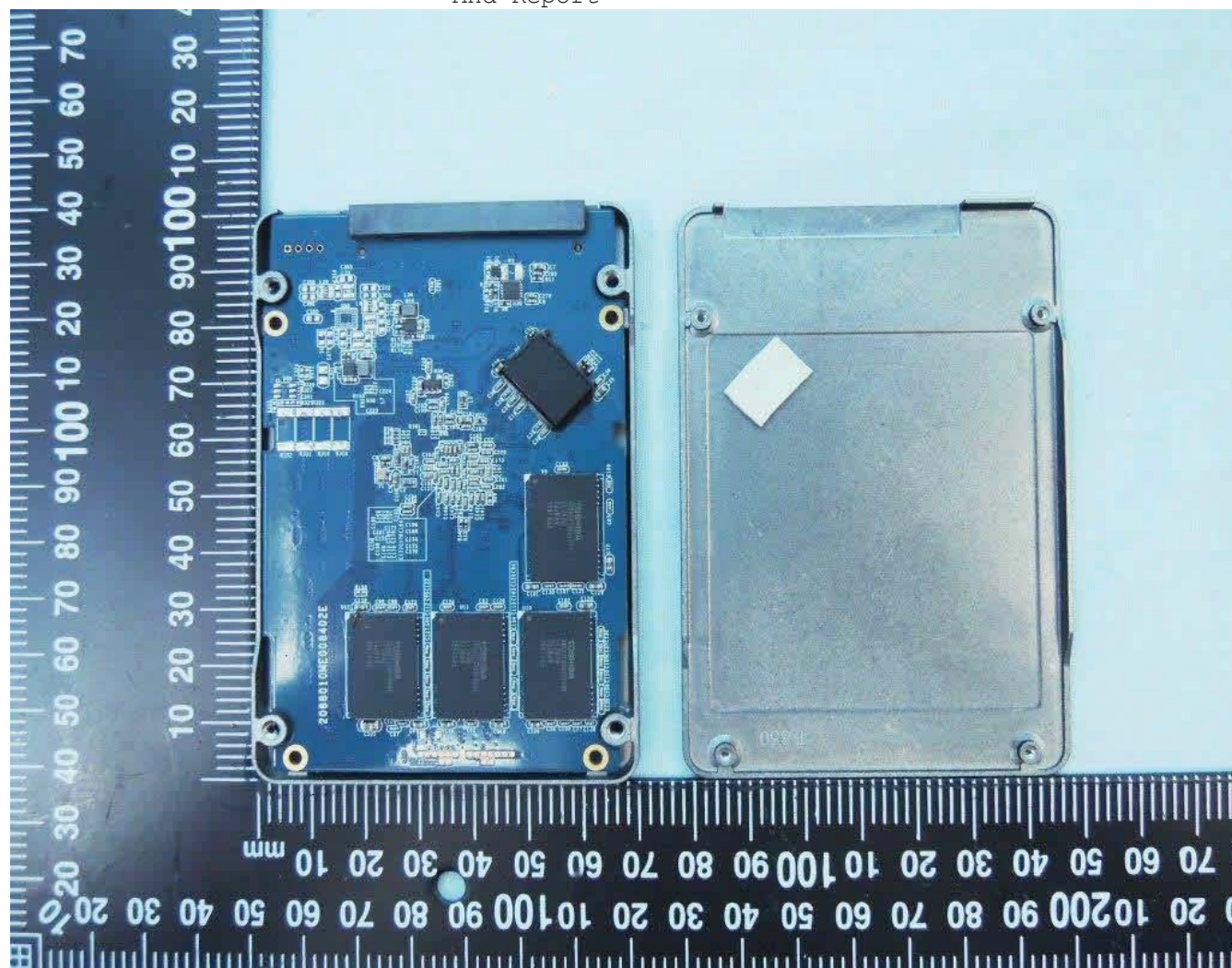
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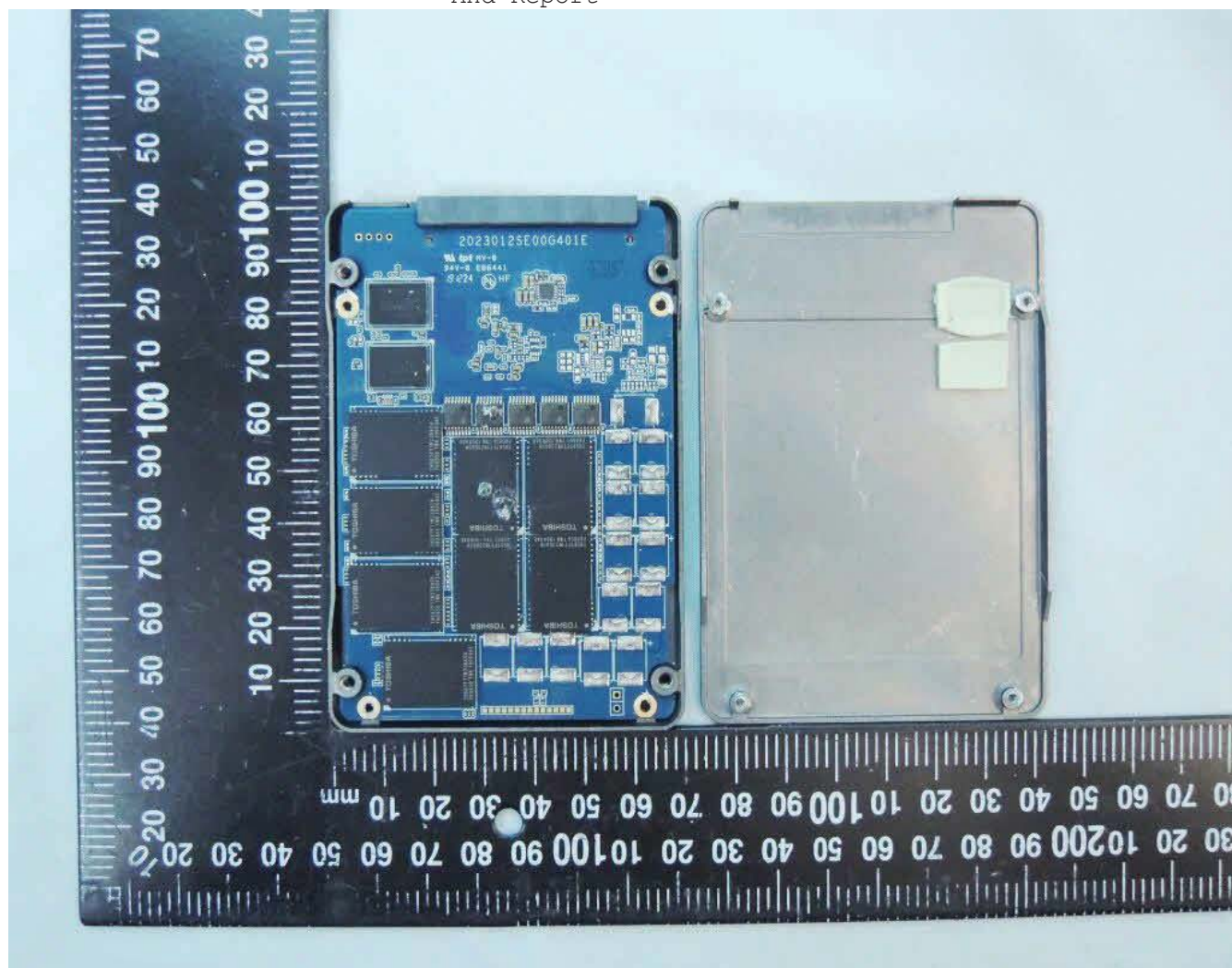
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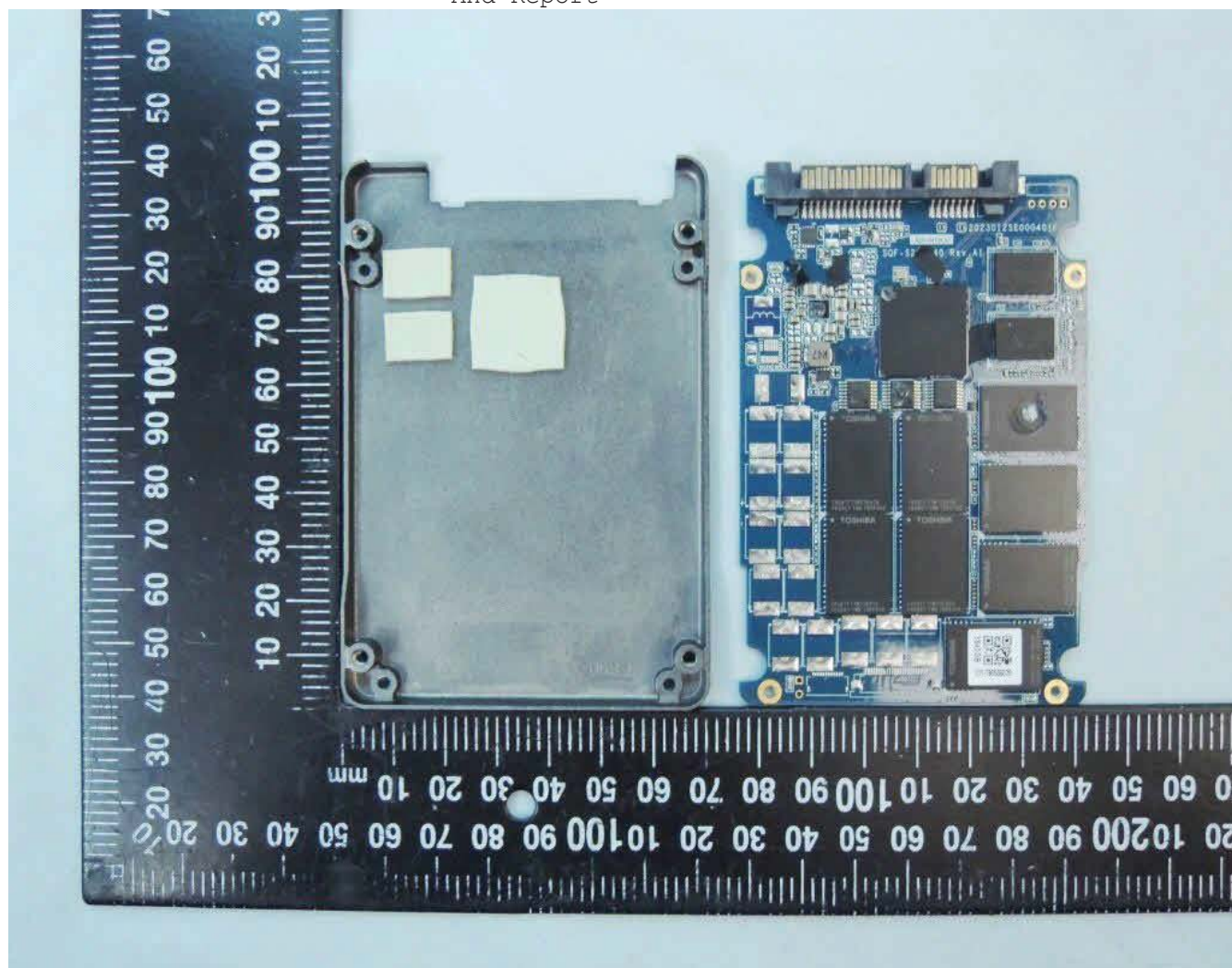
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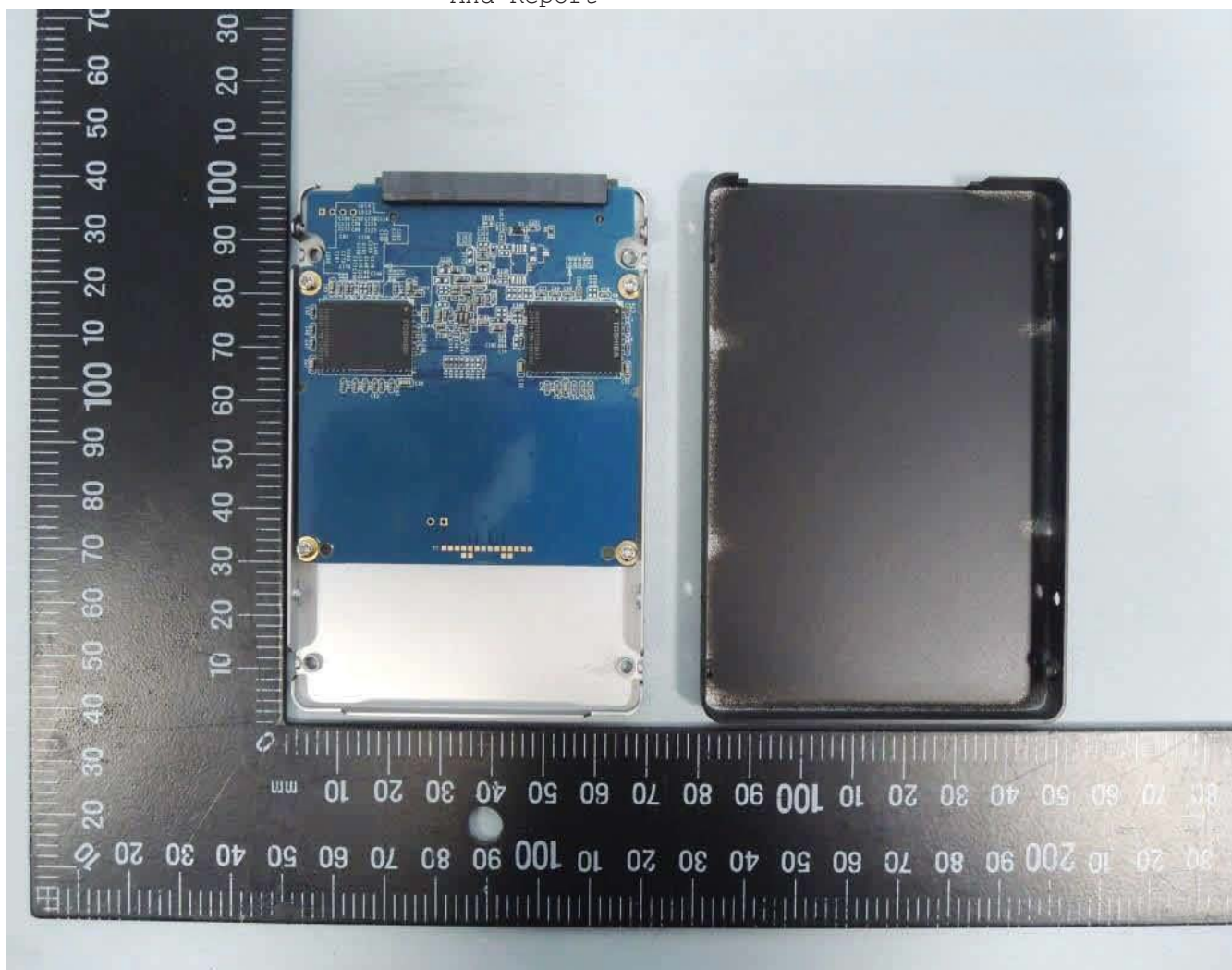
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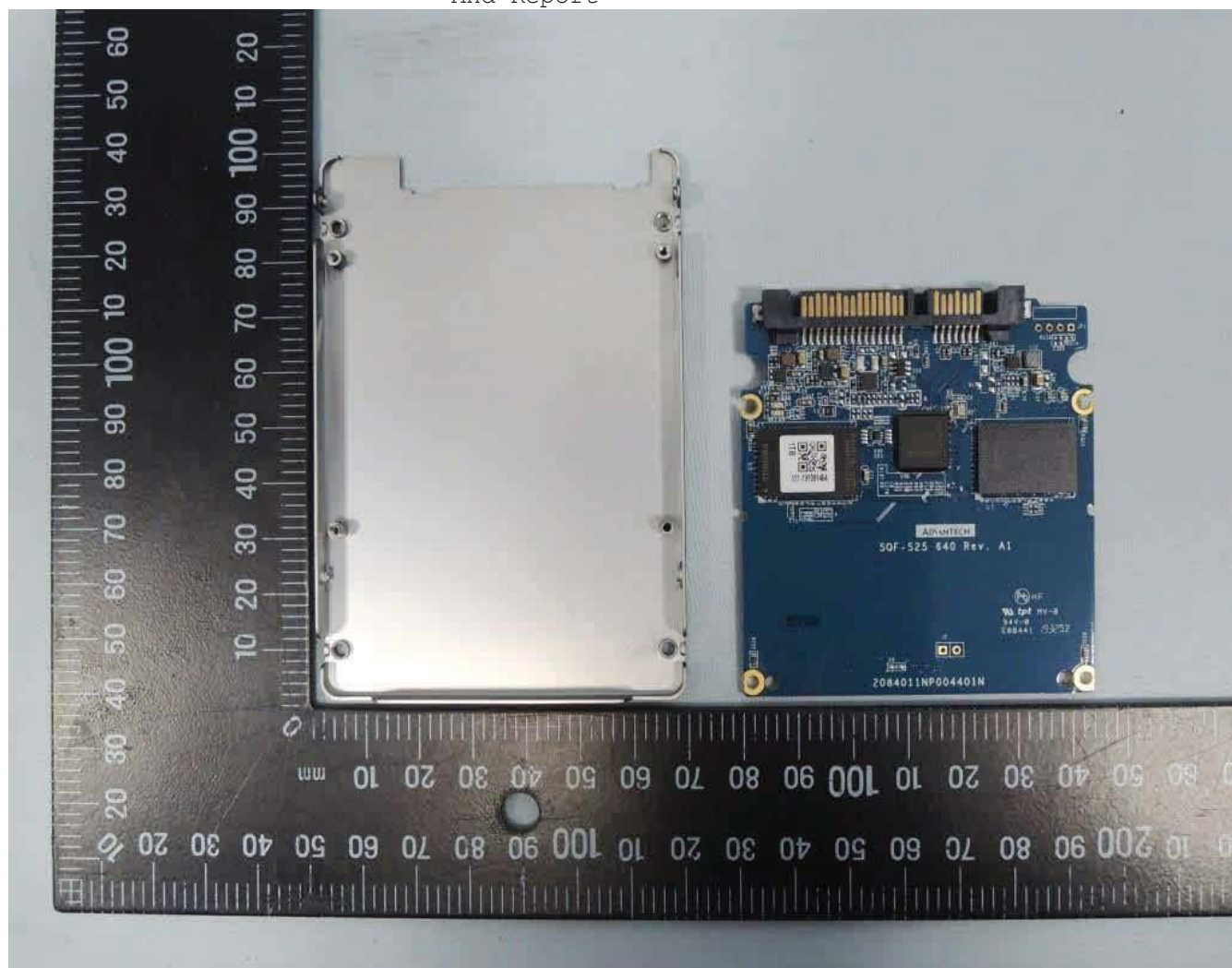
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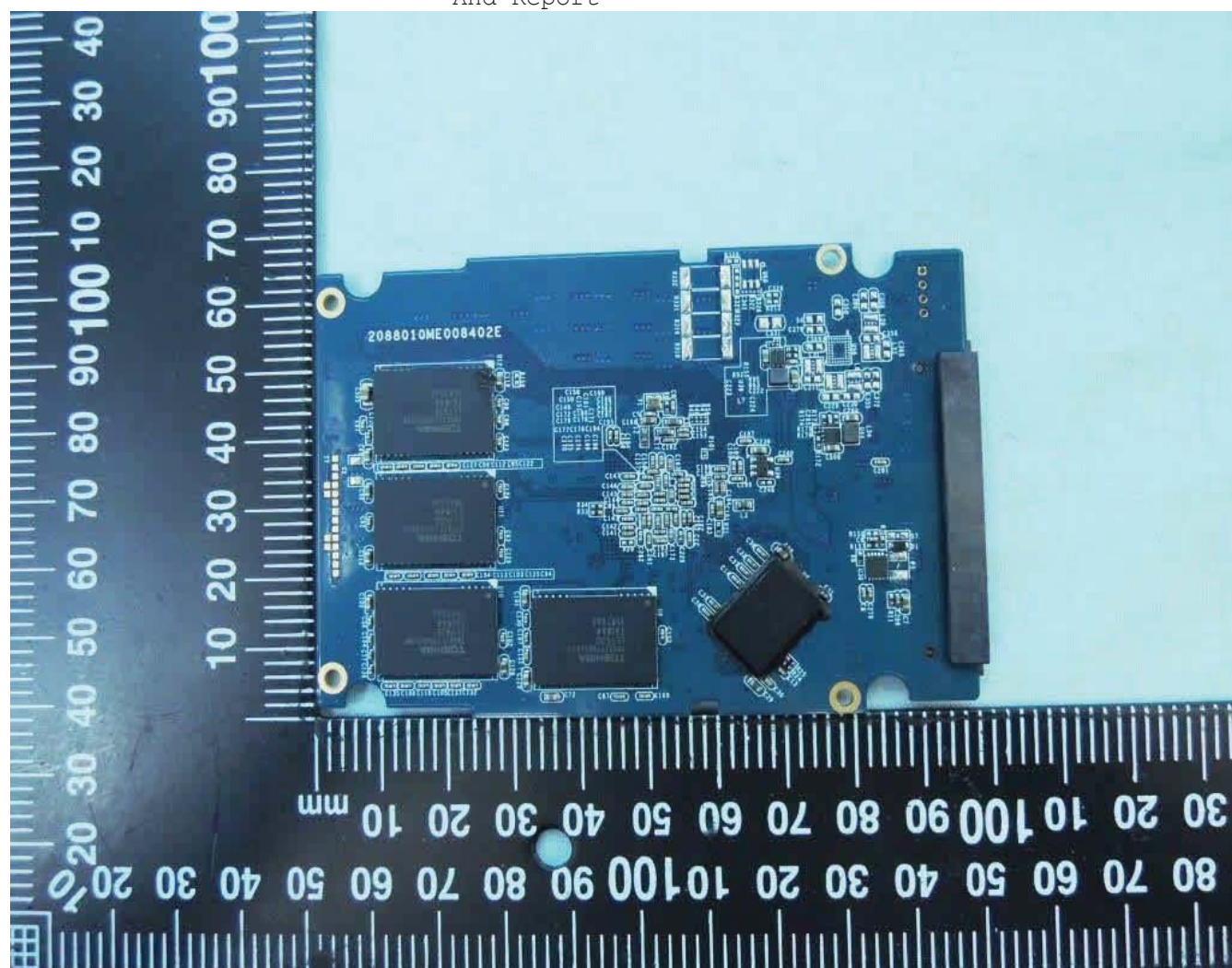
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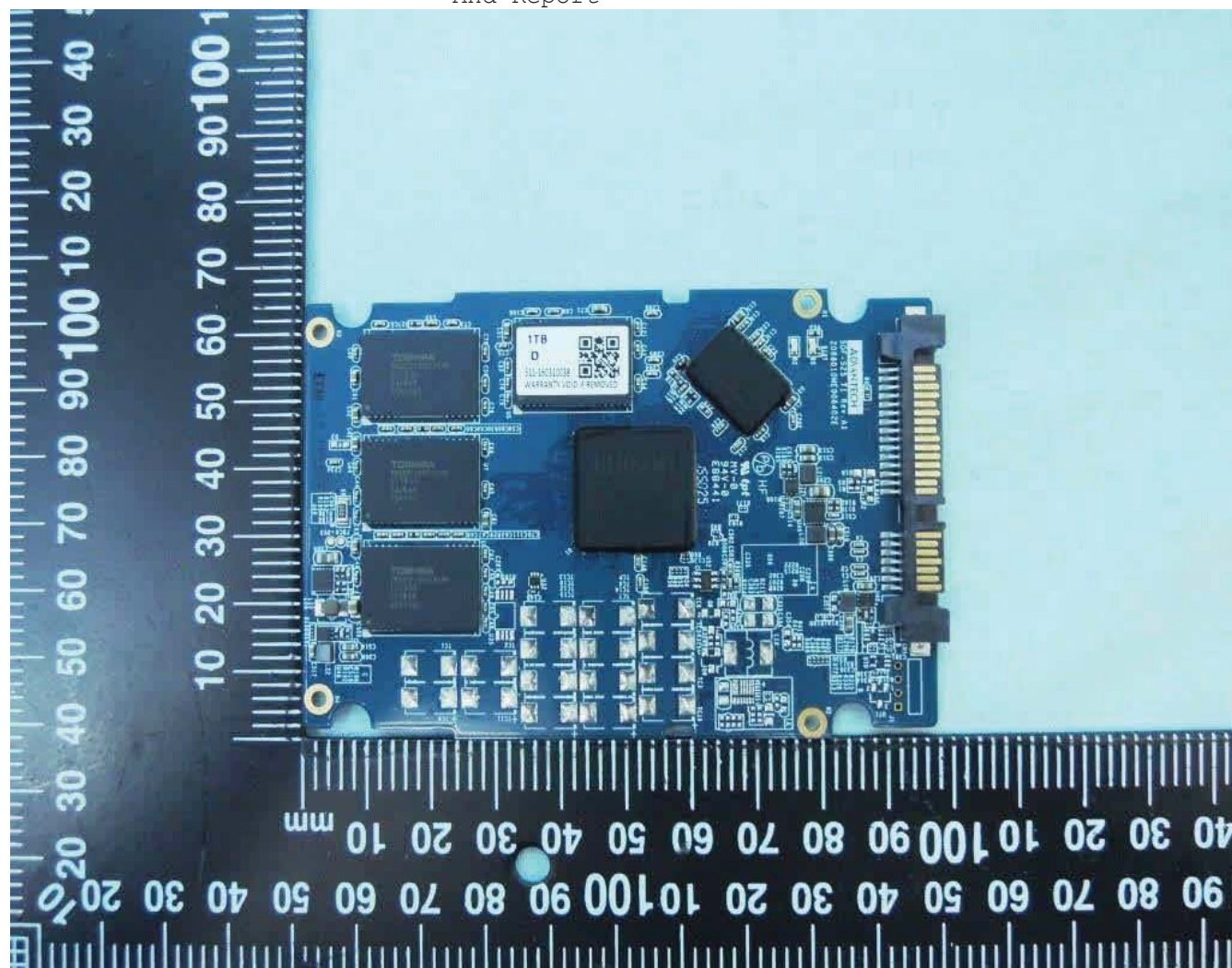
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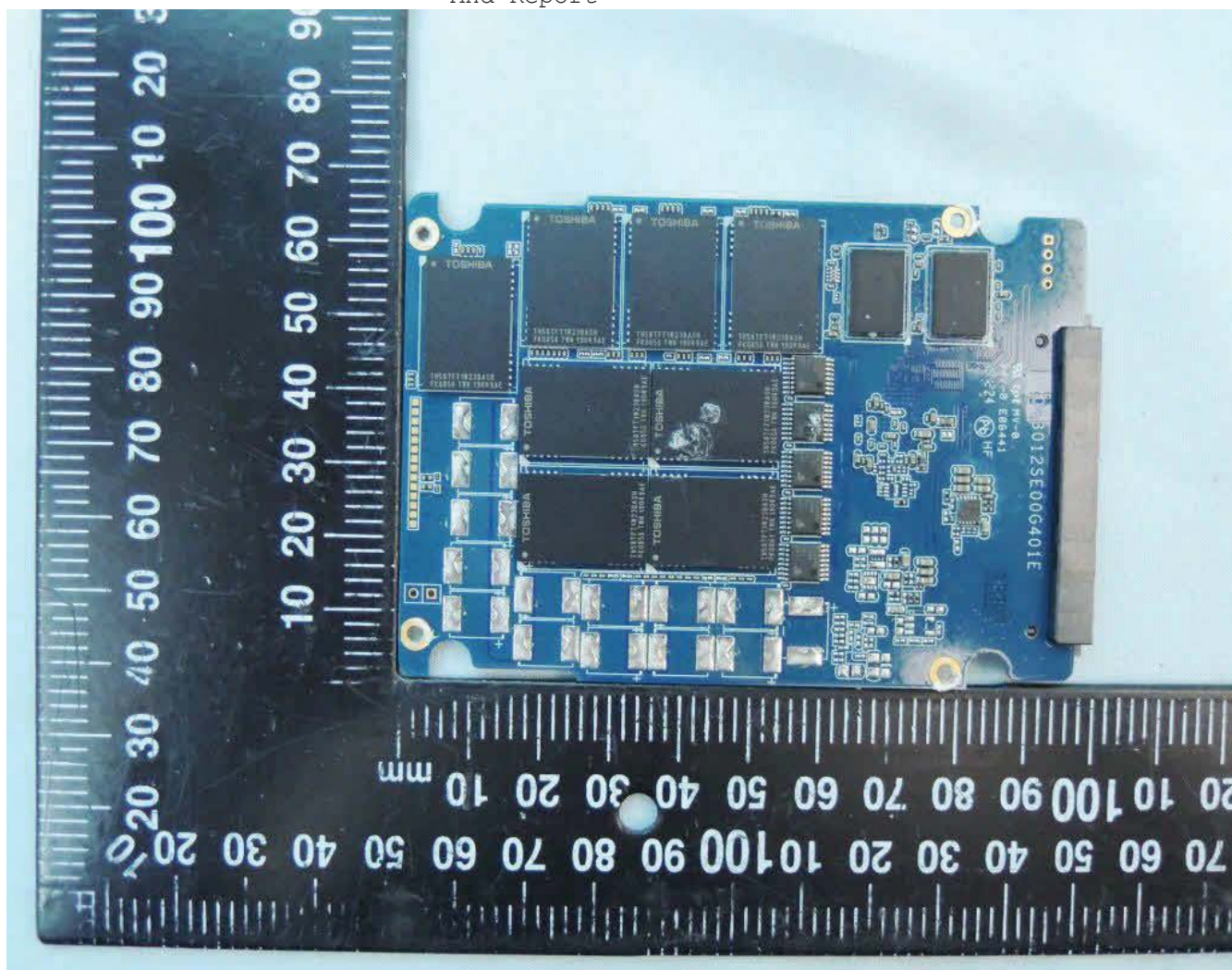
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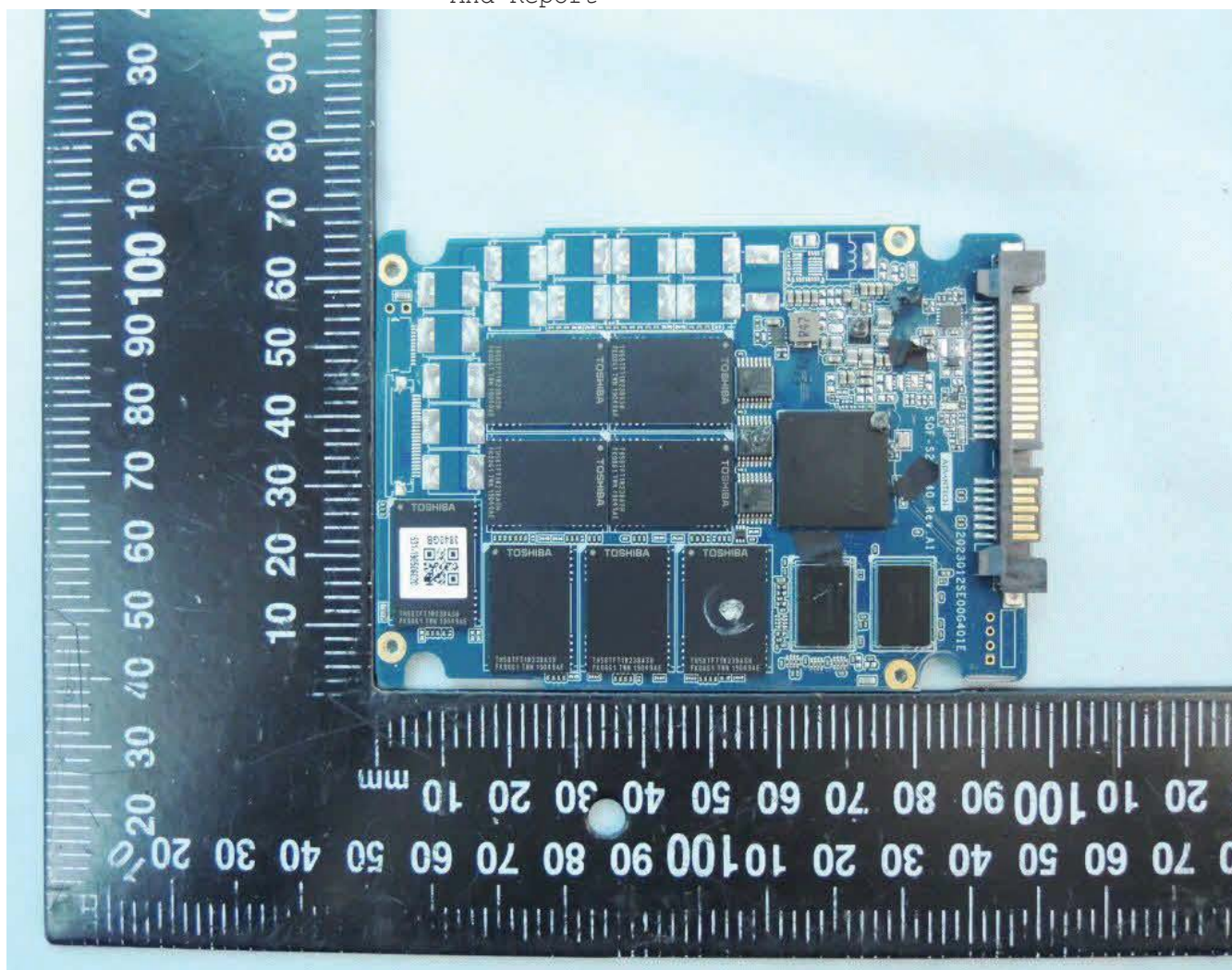
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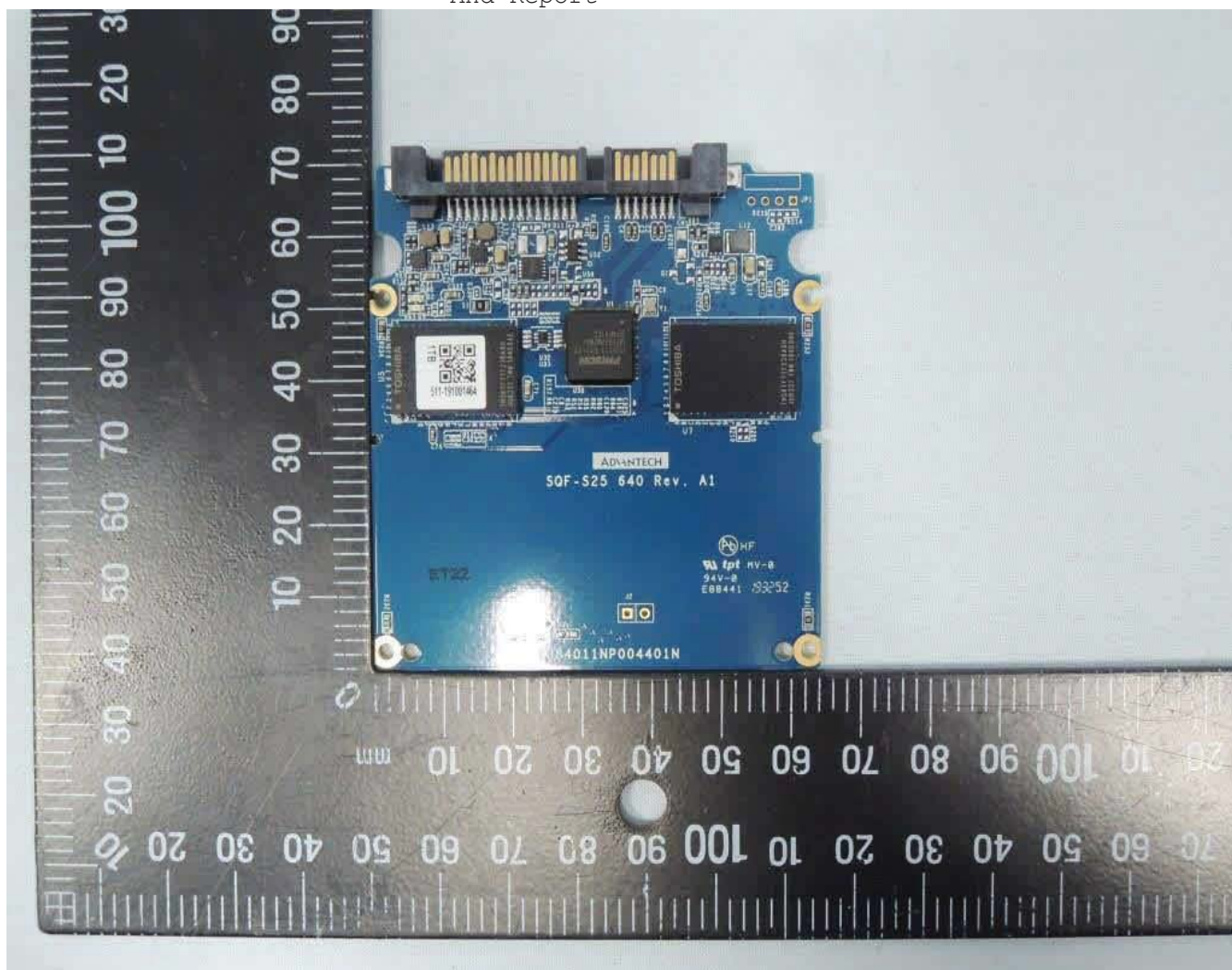
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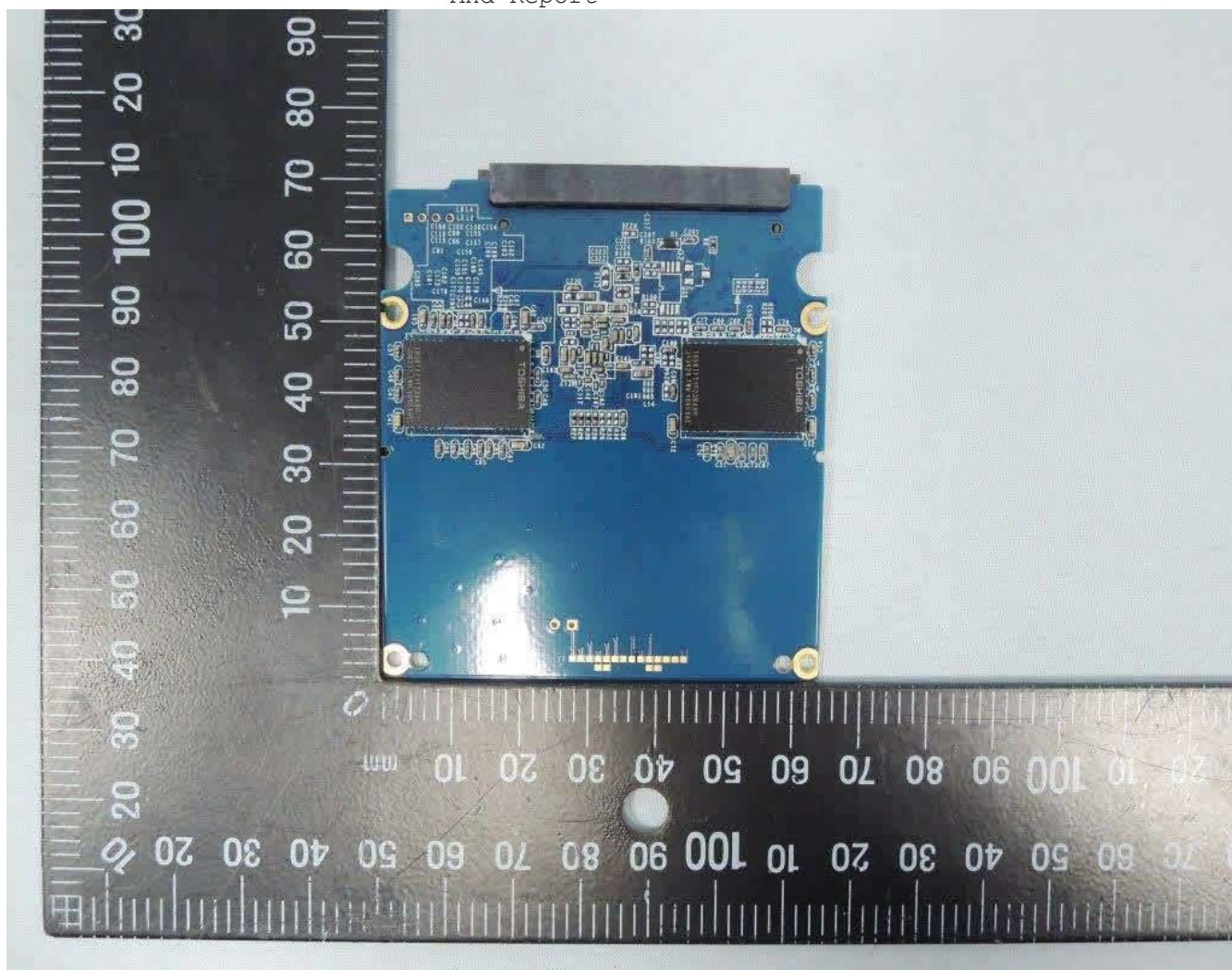
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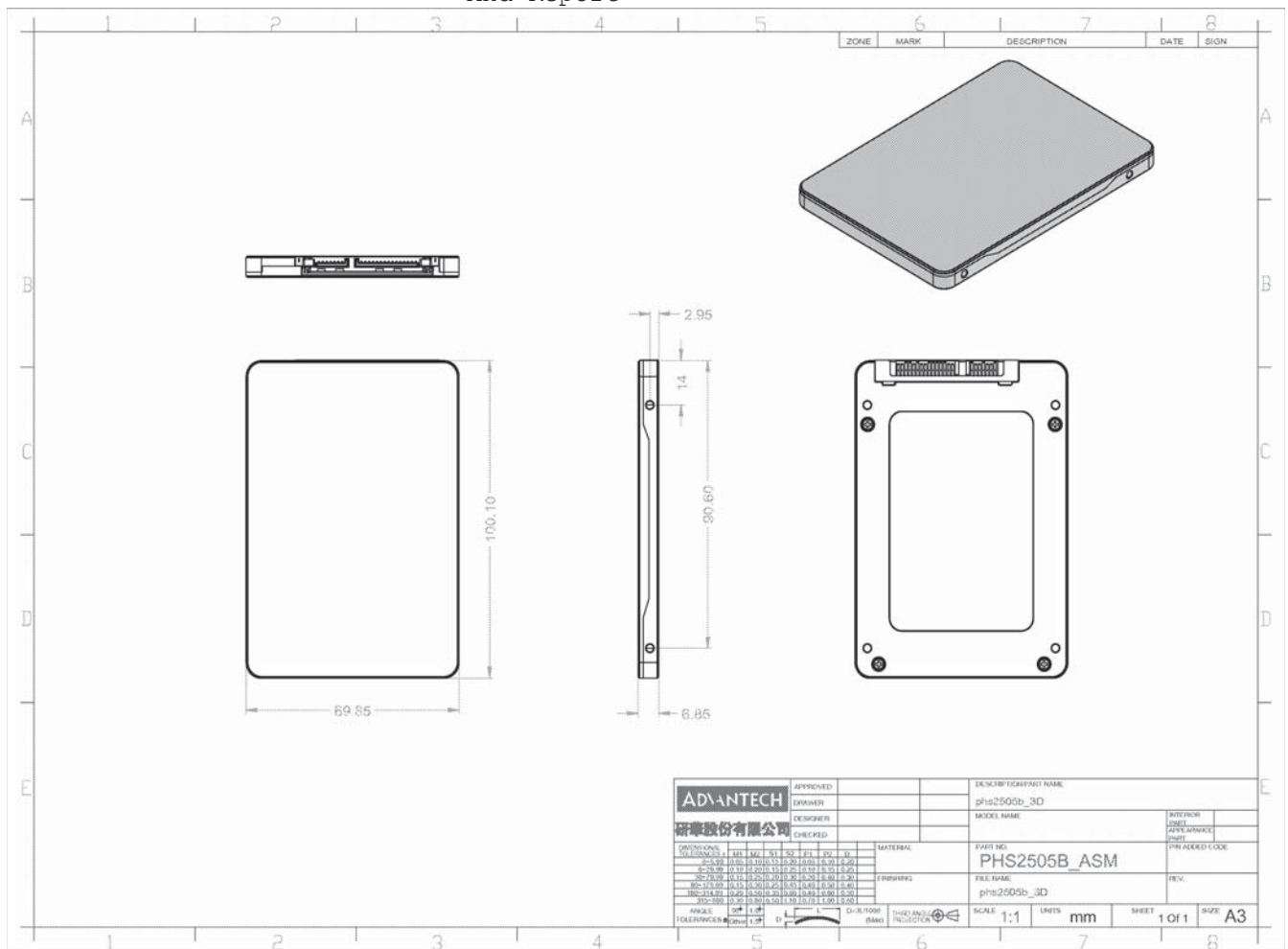
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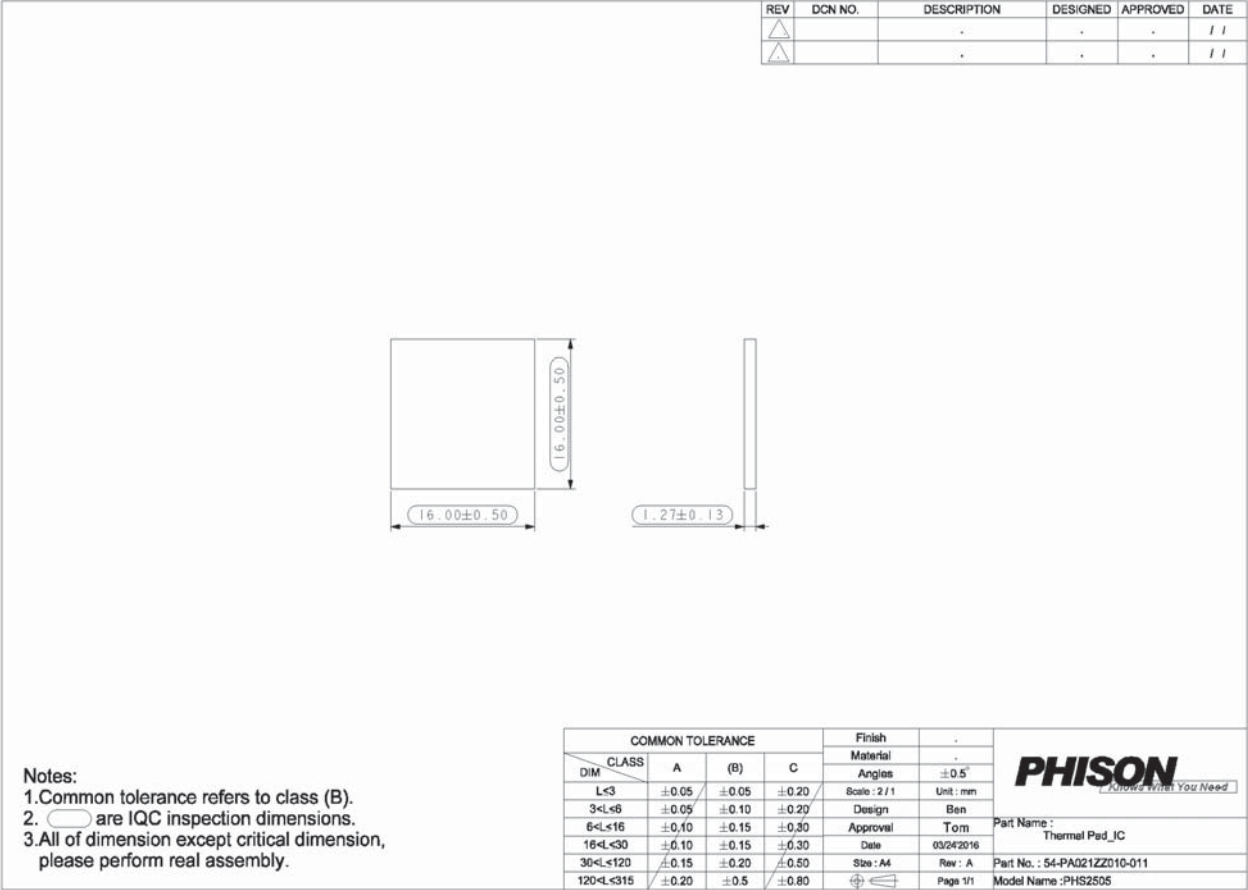


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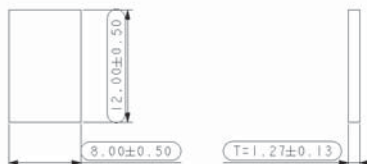


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REV	DCN NO.	DESCRIPTION	DESIGNED	APPROVED	DATE
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△		.	.	.	11



Notes:

- 1.Common tolerance refers to class (B).
2.  are IQC inspection dimensions.
- 3.All of dimension except critical dimension, please perform real assembly.

COMMON TOLERANCE				Finish	.
DIM	CLASS	A	(B)	C	Material
L≤3	±0.05	±0.05	±0.20	±0.20	±0.5°
3<L≤6	±0.05	±0.10	±0.20	±0.20	Scale : 2 / 1
6<L≤16	±0.10	±0.15	±0.30	±0.30	Unit : mm
16<L≤30	±0.10	±0.15	±0.30	±0.30	Design Ben
30<L≤120	±0.15	±0.20	±0.50	±0.50	Approval Tom
120<L≤315	±0.20	±0.5	±0.80	±0.80	Date 10/07/2015
				Size : A4	Rev : A
				Page 1/1	Part Name : Thermal Pad_DDR-Bottom
					Part No. : 54-PQ007ZZ014-011
					Model Name : PHS2507E

PHISON

... Knows What You Need

Test Record No. 1

SAMPLES:

The manufacturer submitted representative production sample of 2.5" SATA SSD, models SQF-S25XXXXXXXXXXXXXXXXX (where "X" may be any alphanumeric character or blank or "-" for marketing purpose)

GENERAL:

All tests and evaluations were conducted by International Standards Laboratory (ISL) under the CB Scheme of UL International Demko A/S as detailed under Test Certif. Ref. No. DK-100375-UL, Test Report Ref. No. CB200602-01-A0.

Test results reported relate only to the items tested.

The following tests were conducted:

Test	Testing Location/Comments
--	--

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

The following tests were waived:

Test	Rationale for Waiving
5.4.1.4, 6.3.2, 9.0, B.2.6 TEMPERATURE MEASUREMENT	See CB Report
ANNEX B.2.5 INPUT TEST	See CB Report
ANNEX F.3.10 TEST FOR THE PERMANENCE OF MARKINGS	See CB Report

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

Type	Supplement Id	Description
--	1-01	CRD

Test Record Summary:

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

Test Report by:

Yasli Tsai

Senior Project Engineer

Conformity Assessment Services

Reviewed by:

Chris Kao

Senior Project Engineer

Conformity Assessment Services

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CONCLUSION

Samples of the product covered by this Report have been found to comply with the requirements covering the class and the products are judged to be eligible for Listing and Follow-Up Service. The manufacturer is authorized to use the Laboratories' Mark on such products which comply with the Follow-Up Service Procedure and any other applicable requirements of Underwriters Laboratories Inc. Only those products which properly bear the Laboratories' Mark are considered as Listed by Underwriters Laboratories Inc.

Report by:
Yasli Tsai
Senior Project Engineer
Conformity Assessment Services

Reviewed by:
Chris Kao
Senior Project Engineer
Conformity Assessment Services