innodisk

EGSS-32R2

M.2 2242/2280 to dual SATA III RAID Module

Customer:

Customer Part Number:

Innodisk Part Number:

Innodisk Model Name:

Date:

Innodisk Approver	Customer Approver

Total Solution For Embedded Peripherals

Table of Contents

REVISION HISTORY

Revision	Description	Date
1.0	First Released	JAN, 2024

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1. Product Introduction

1.1. Overview

Innodisk EGSS-32R2 is designed with M.2 2242/2280 form factor, EGSS-32R2 is compatible with SATAIII(6.0Gb/s) specification, EGSS-32R2 can be configured as 2 ports SATAIII Hardware striping & mirror & port multiplier functions, optimized for higher performance and ensure data integrity, which brings you a flexible expansion solution for embedded systems.

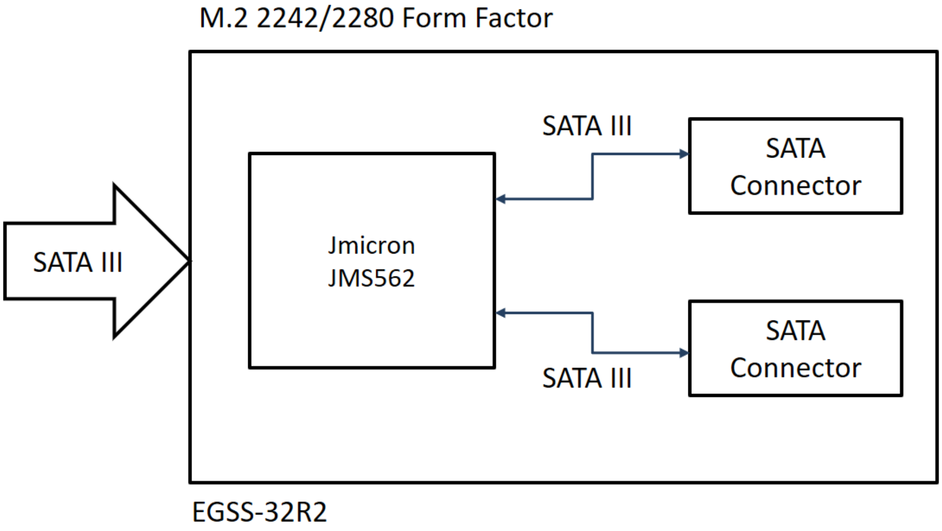


Figure 1: Block Diagram

1.2. Features

- M.2 2242/2280 to dual SATA III ports.
- Supports SATA to dual SATAIII Port Multiplier.
- Supports H/W RAID 0/1 over SATA.
- Support Secure Boot.
- Supports AHCI, Port-Multiplier.
- Industrial design, manufactured in innodisk Taiwan

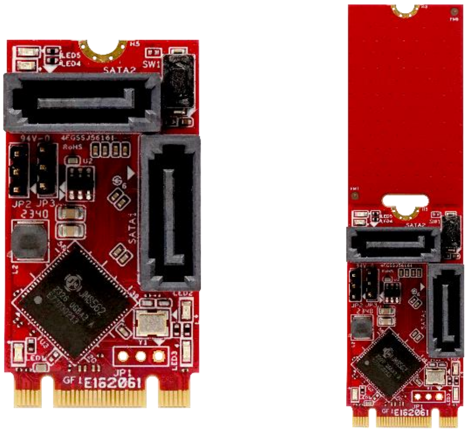


Figure 2: EGSS-32R2 Picture

2. Product Specifications

2.1. Device parameters

Table 1: Device parameters

Form Factor	M.2 B-M Key
Input I/F	SATA III
Output I/F	SATA III
Output Connector	SATA 7pin x 2
Dimension (WxLxH)	22 x 42 x 11mm 22 x 80 x 11mm

2.2. Electrical Specifications

2.2.1. Power Requirement

Table 2: Power Requirement

Item	Connector	Rating
Input voltage	M.2 Golden Finger	+3.3 VDC +-5%

2.2.2. Power Consumption

Table 3: Power Consumption

Max (mA)	Idle (mA)	Voltage (V)
385	283	3.3

2.3. Environmental Specifications

2.3.1. Temperature Ranges

Table 4: Temperature Ranges

Temperature	Range
Operating	Standard Grade: 0°C to +70°C
Storage	-55°C to +95°C

2.3.2. Humidity

Relative Humidity: 10-95%, non-condensing

2.3.3. Shock and Vibration

Table 5: Shock and Vibration

Reliability	Test Conditions	Reference Standards
Vibration	7 Hz to 2K Hz, 20G, 3 axes	IEC 68-2-6
Mechanical Shock	Duration: 0.5ms, 1500 G, 3 axes	IEC 68-2-27

2.3.4. Mean Time between Failure (MTBF)

Reliability prediction methodology provides the basis for reliability evaluation and analysis. The purpose of the prediction is to predict the life time of the product in units of failure rate and MTBF.

Table 6: Mean Time between Failure (MTBF)

Product	Condition	MTBF (Hours)
EGSS-32R2	The analysis is at 25°C ambient temperature by Telcordia SR-332, Issues 4, Method I, Case 3 under Ground Benign, Controlled environment, 50% operation stress	10,053,790

2.4. CE and FCC Compatibility

EGSS-32R2 conforms to CE and FCC requirements.

2.5. RoHS Compliance

EGSS-32R2 is fully compliant with RoHS directive.

2.6. Hardware

2.6.1. Layout

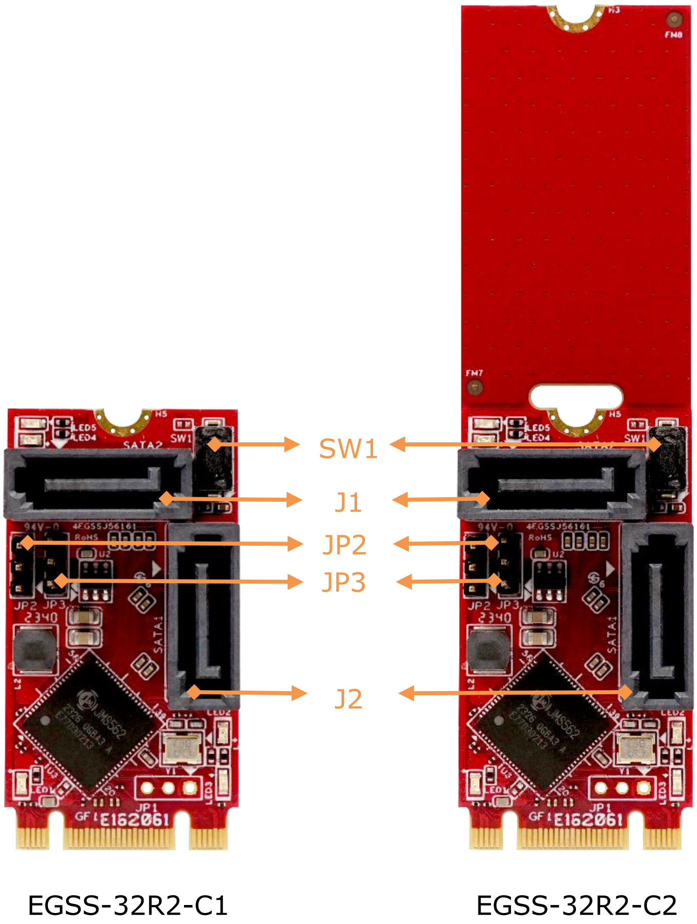
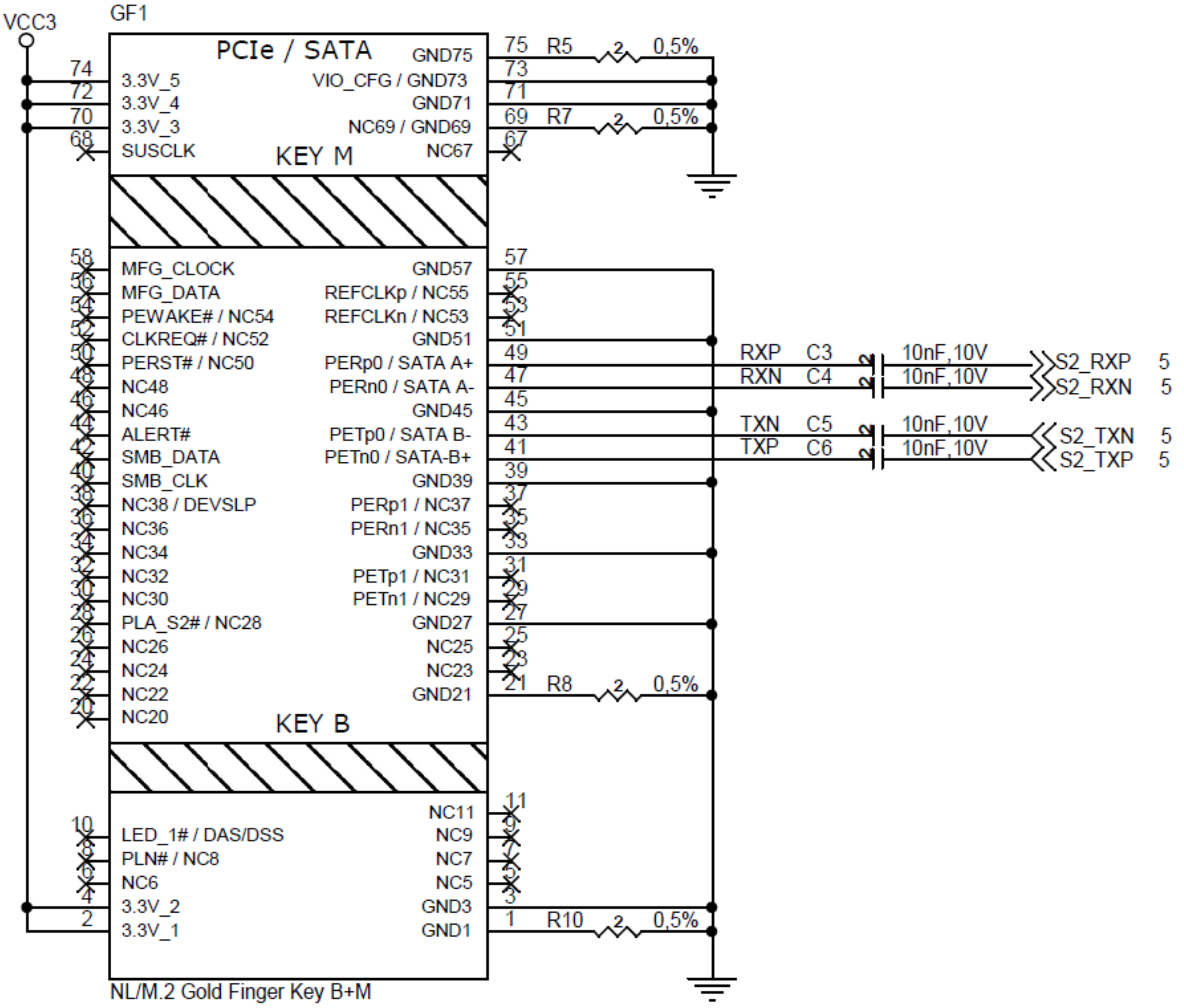


Table 7: PCB Layout Legend

Label	Connector Type	Function
J1, J2	DIP 7P 180° P:1.27mm Male	SATA Output I/F
JP2, JP3	Pin Header DIP 1*3P 180°	RAID Level setting
SW1	Tact switch SMD 4P 180°	RAID Level reset

2.6.2. Pin Define

Table 8: M.2 Pin Define



2.6.3. I/O Connector Mechanical Drawing

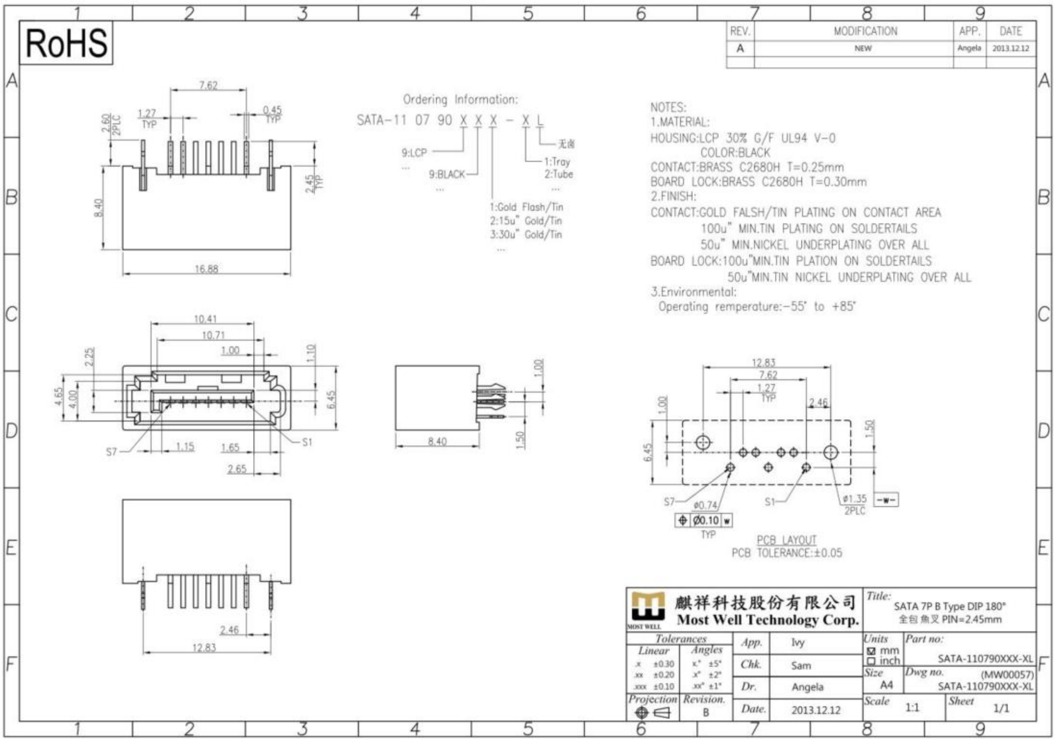


Figure 3: DIP 7P SATA Connector Drawing

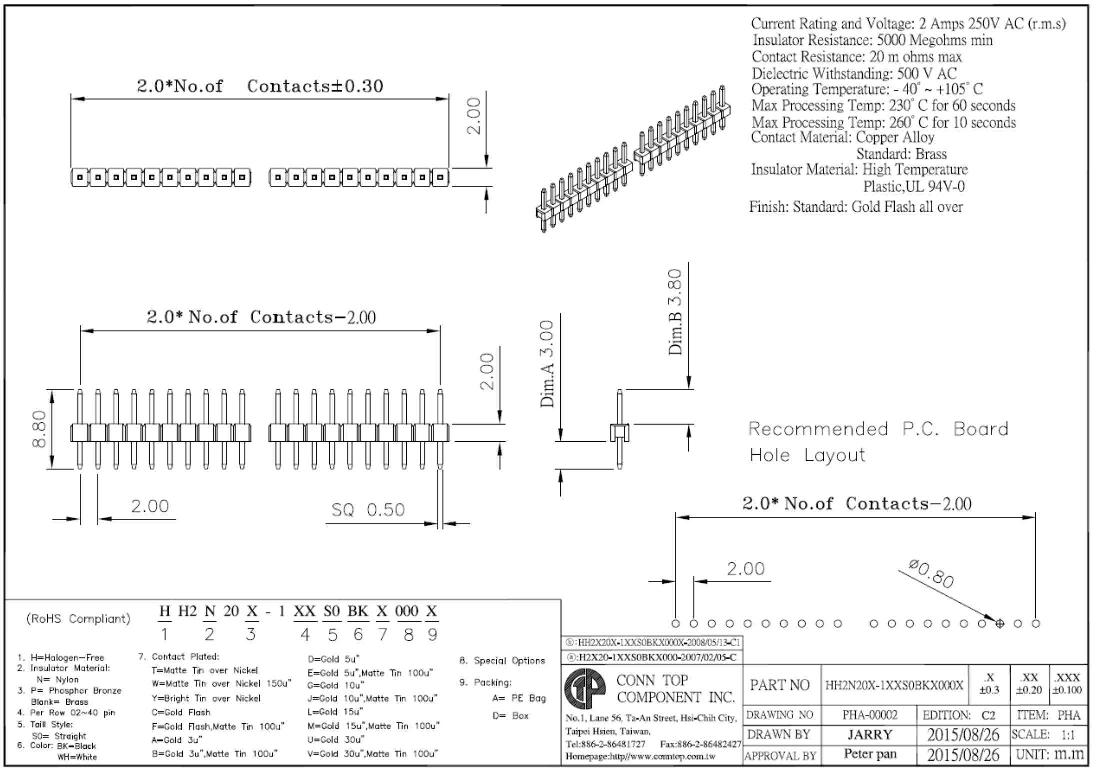


Figure 4: Pin Header DIP 3P drawing

2.6.4. EGSS-32R2 Mechanical drawing

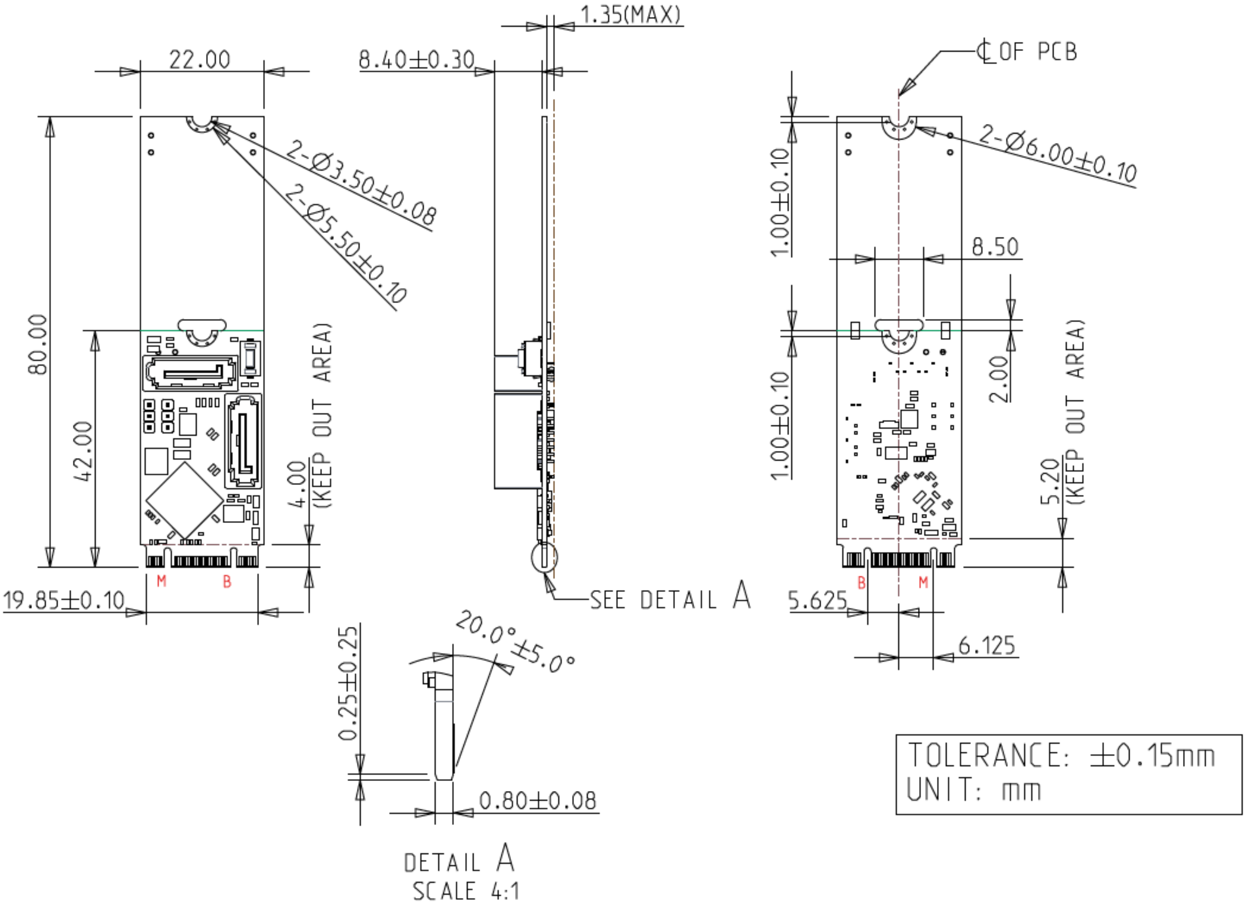


Figure 5: EGSS-32R2 drawing

2.6.5. RAID Level Setting

Refer to Table 9 the position of slide switch JP2, JP3 for RAID levels configuration.

Table 9: RAID Level setting

	JP2	**JP3**
RAID 0	2-3	2-3
RAID 1	1-2	2-3
Port multiplier	1-2	1-2

2.6.6. LED Assignment

Table 10: LED Assignment

Access	Green, Bright blinking
Rebuild	Green, Breath Light (the light gradually fade-in back and forth)

2.7 Packing List

EGSS-32R2 M.2 Card x 1

2.8 Software Support

Use native AHCI driver for setting.

3. Installatoin Guide

To enable the RAID function, the following steps are required.

3.1. RAID Mode Setting

Mode\Jumper	J1	J2
RAID 0	23	23
RAID 1	12	23
Port Multiplier	12	12

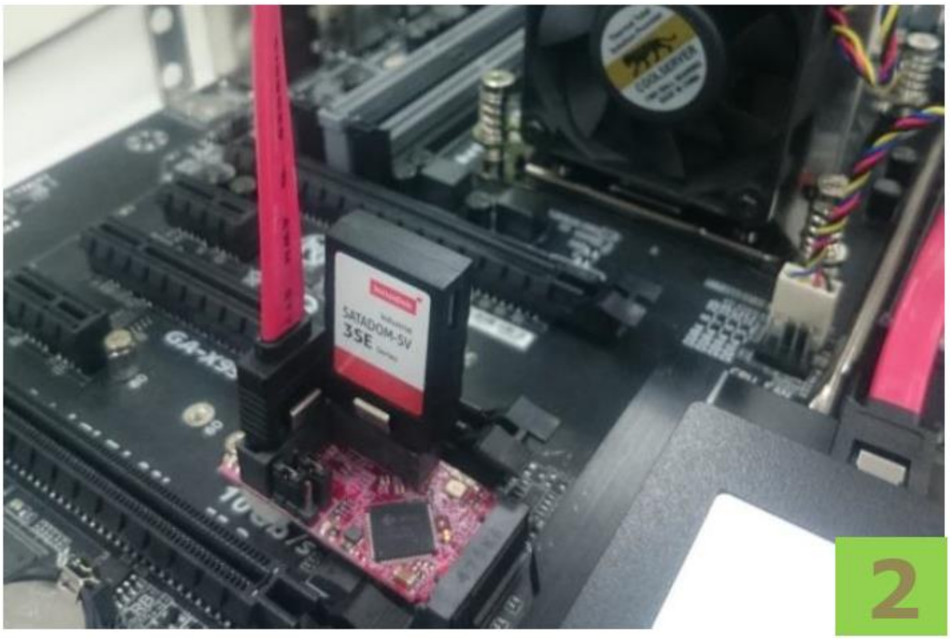
3.2. LED Assignment

Red	Power
Green	Access
Blue	Error
Green + Blue	Rebuild

3.3. Installation Guide

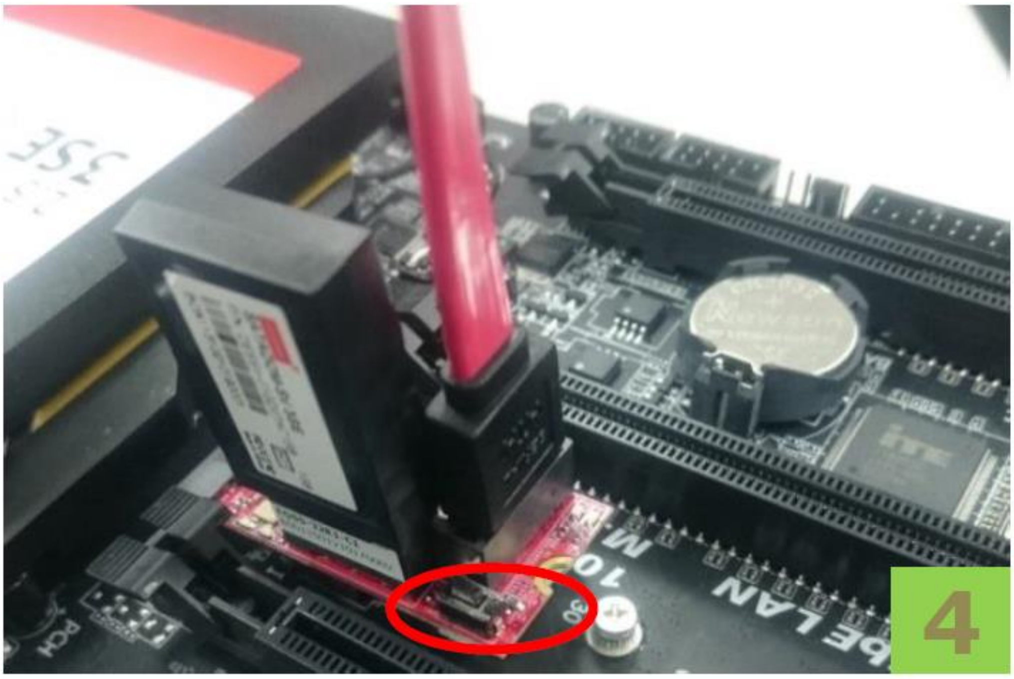
Step1: Please connect EGSS-32R2 to onboard M.2 slot.

Step2: Please connect SSD in EGSS-32R2 SATA slot.



Step3: Please use jumper J1/J2 to change RAID mode as above setting list.

Step4: Please push tact switch 3 seconds for reset.



4. Appedix

宜鼎國際股份有限公司
Innodisk Corporation
REACH Declaration

Tel:(02)7703-3000 Fax:(02) 7703-3555 Internet: https://www.innodisk.com/

Innodisk Corporation pursues its social responsibility for global environmental preservation by committing to be compliant with REACH regulation (REGULATION (EC) No 1907/2006). We hereby confirm that the product(s),

Scope: Flash Memory, DRAM Module and Embedded Peripherals Products.

■ The standard products of **not listed in** the ***Appendix2*** meet the requirements of REACH SVHC regulations(SVHCs < 0.1% in Article), as described in the candidate list table currently including 233 substances (release date: 17-Jan-2023) and shown on the ECHA website. https://echa.europa.eu/candidate-list-table

■ The standard products listed in the ***Appendix2*** contain(s) one or more hazardous substances or constituents exceeding 0.1 % by weight in article if not otherwise specified in candidate list table.
Where the threshold value is exceeded, the substances in question are to be declared in accompanying. (SVHCs > 0.1% in Article).

■ Comply with REACH Annex XVII.

Guarantor

Company name 公司名稱： Innodisk Corporation 宜鼎國際股份有限公司

Company Representative 公司代表人： Yichuan Chen 陳怡全

Company Representative Title 公司代表人職稱： QA Manager 品保經理

Date 日期：2023 / 02 / 09

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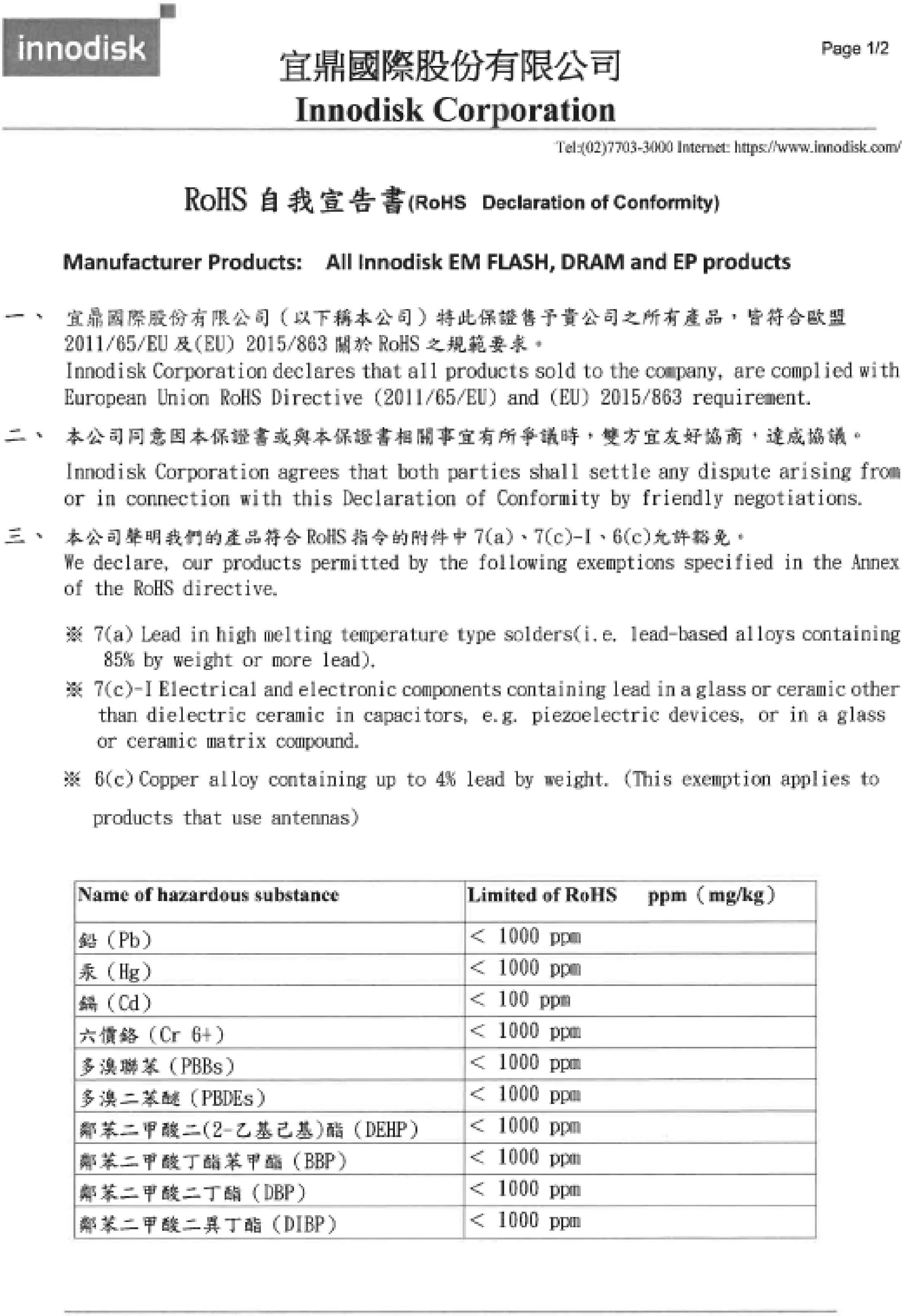

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Innodisk Corporation

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Tel:(02)7703-3000 Internet: https://www.innodisk.com/

RoHS 自我宣告書(RoHS Declaration of Conformity)

Manufacturer Products: All Innodisk EM FLASH, DRAM and EP products

一、 宜鼎國際股份有限公司（以下稱本公司）特此保證售予貴公司之所有產品，皆符合歐盟 2011/65/EU 及(EU) 2015/863 關於 RoHS 之規範要求。
Innodisk Corporation declares that all products sold to the company, are complied with European Union RoHS Directive (2011/65/EU) and (EU) 2015/863 requirement.

二、 本公司同意因本保證書或與本保證書相關事宜有所爭議時，雙方宜友好協商，達成協議。

Innodisk Corporation agrees that both parties shall settle any dispute arising from or in connection with this Declaration of Conformity by friendly negotiations.

三、 本公司聲明我們的產品符合 RoHS 指令的附件中 7(a)、7(c)-I、6(c)允許豁免。
We declare, our products permitted by the following exemptions specified in the Annex of the RoHS directive.

※ 7(a) Lead in high melting temperature type solders(i.e. lead-based alloys containing 85% by weight or more lead).

※ 7(c)-I Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectric devices, or in a glass or ceramic matrix compound.

※ 6(c) Copper alloy containing up to 4% lead by weight. (This exemption applies to products that use antennas)

Name of hazardous substance	Limited of RoHS ppm（mg/kg）
鉛（Pb）	< 1000 ppm
汞（Hg）	< 1000 ppm
鎘（Cd）	< 100 ppm
六價鉻（Cr 6+）	< 1000 ppm
多溴聯苯（PBBs）	< 1000 ppm
多溴二苯醚（PBDEs）	< 1000 ppm
鄰苯二甲酸二(2-乙基己基)酯（DEHP）	< 1000 ppm
鄰苯二甲酸丁酯苯甲酯（BBP）	< 1000 ppm
鄰苯二甲酸二丁酯（DBP）	< 1000 ppm
鄰苯二甲酸二異丁酯（DIBP）	< 1000 ppm

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宜鼎國際股份有限公司
Innodisk Corporation

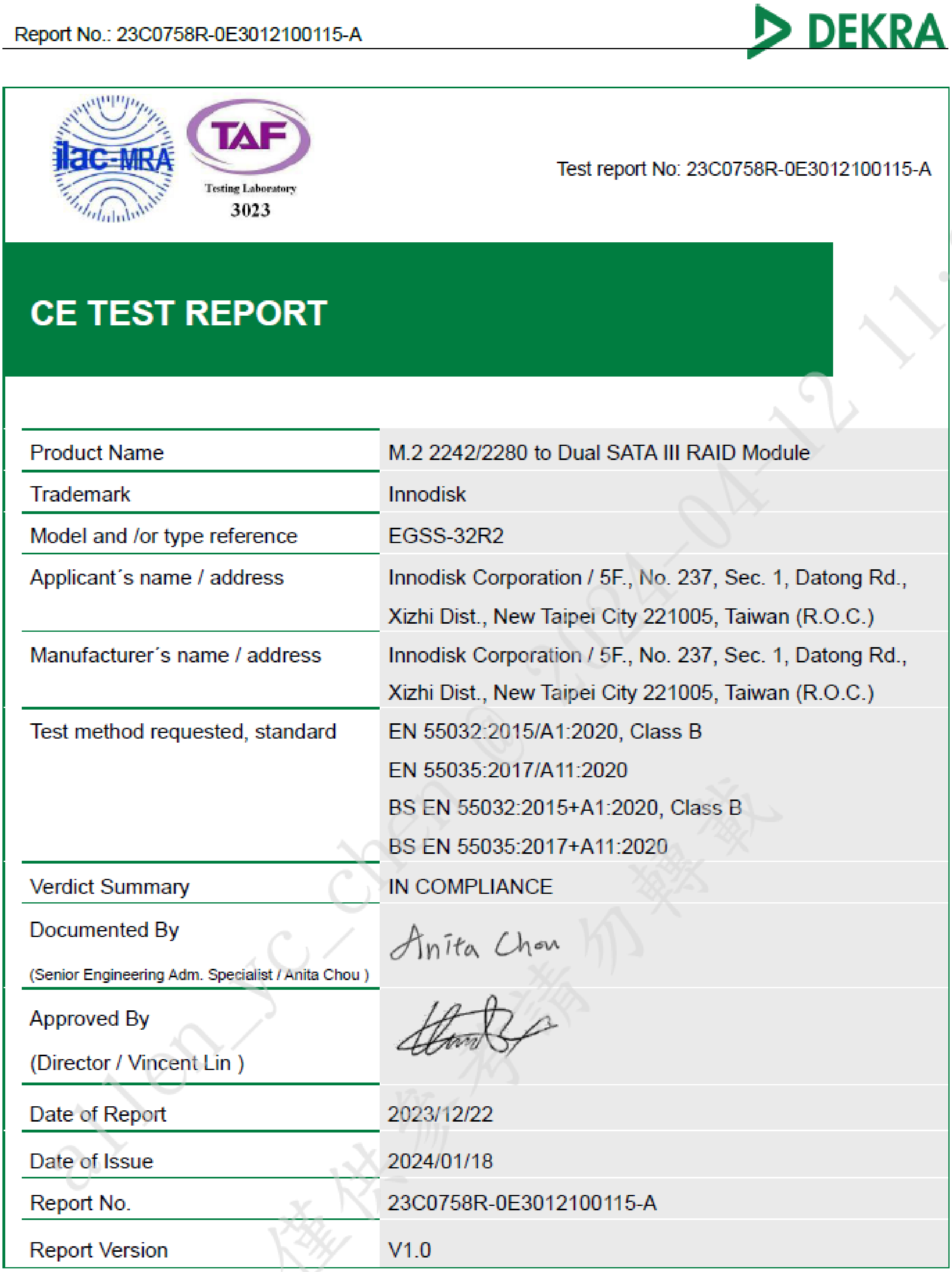
立保證書人 (Guarantor)

Company name 公司名稱：Innodisk Corporation 宜鼎國際股份有限公司

Company Representative 公司代表人：簡川勝

Company Representative Title 公司代表人職稱：Chairman 董事長

Date 日期：2023 / 06 / 14



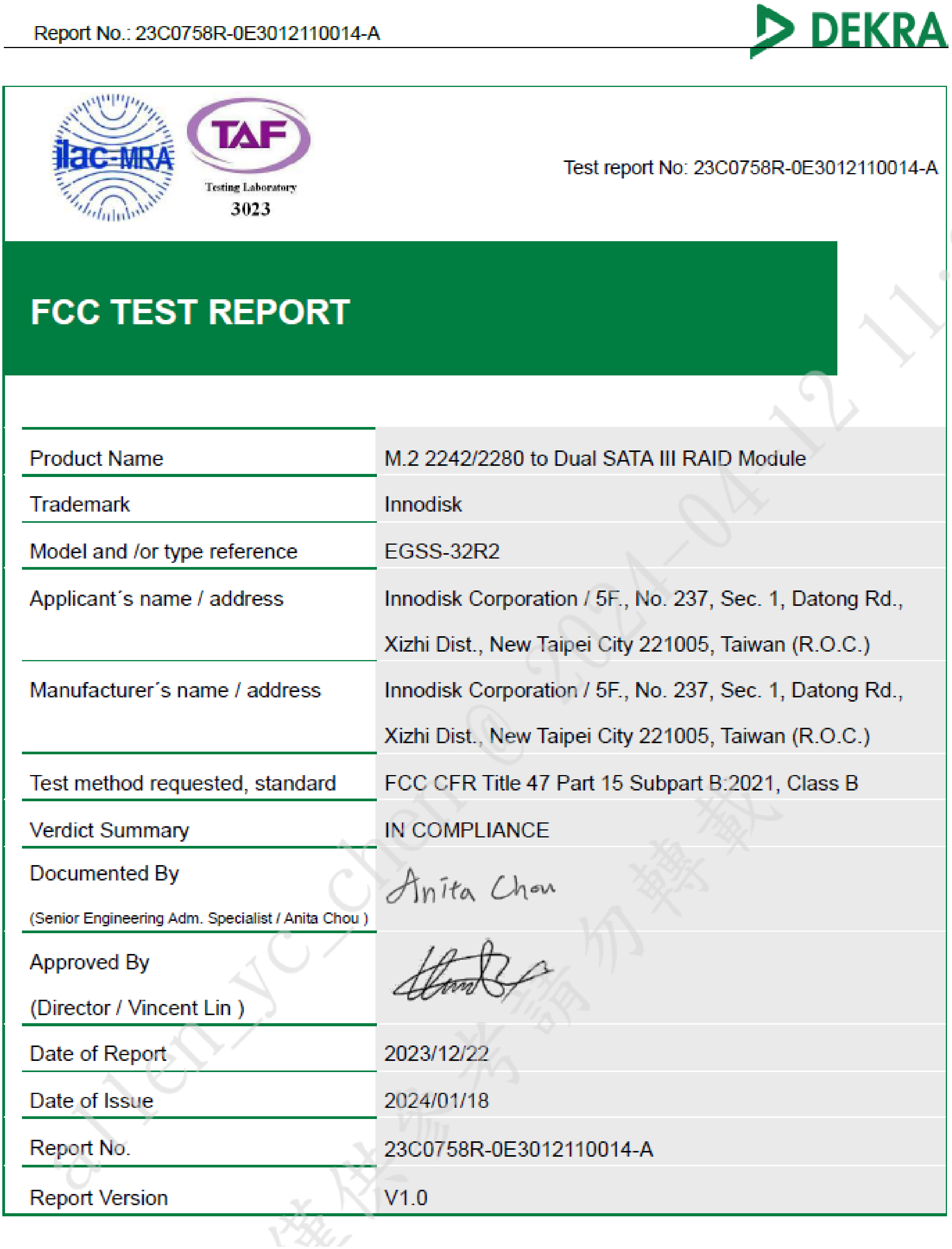
Report No.: 23C0758R-0E3012100115-A

Testing Laboratory
3023

Test report No: 23C0758R-0E3012100115-A

CE TEST REPORT

Product Name	M.2 2242/2280 to Dual SATA III RAID Module
Trademark	Innodisk
Model and /or type reference	EGSS-32R2
Applicant´s name / address	Innodisk Corporation / 5F., No. 237, Sec. 1, Datong Rd., Xizhi Dist., New Taipei City 221005, Taiwan (R.O.C.)
Manufacturer´s name / address	Innodisk Corporation / 5F., No. 237, Sec. 1, Datong Rd., Xizhi Dist., New Taipei City 221005, Taiwan (R.O.C.)
Test method requested, standard	EN 55032:2015/A1:2020, Class B EN 55035:2017/A11:2020 BS EN 55032:2015+A1:2020, Class B BS EN 55035:2017+A11:2020
Verdict Summary	IN COMPLIANCE
Documented By (Senior Engineering Adm. Specialist / Anita Chou)	Anita Chou
Approved By (Director / Vincent Lin)	
Date of Report	2023/12/22
Date of Issue	2024/01/18
Report No.	23C0758R-0E3012100115-A
Report Version	V1.0



Report No.: 23C0758R-0E3012110014-A

DEKRA

Testing Laboratory
3023

Test report No: 23C0758R-0E3012110014-A

FCC TEST REPORT

Product Name	M.2 2242/2280 to Dual SATA III RAID Module
Trademark	Innodisk
Model and /or type reference	EGSS-32R2
Applicant´s name / address	Innodisk Corporation / 5F., No. 237, Sec. 1, Datong Rd., Xizhi Dist., New Taipei City 221005, Taiwan (R.O.C.)
Manufacturer´s name / address	Innodisk Corporation / 5F., No. 237, Sec. 1, Datong Rd., Xizhi Dist., New Taipei City 221005, Taiwan (R.O.C.)
Test method requested, standard	FCC CFR Title 47 Part 15 Subpart B:2021, Class B
Verdict Summary	IN COMPLIANCE
Documented By (Senior Engineering Adm. Specialist / Anita Chou)	Anita Chou
Approved By (Director / Vincent Lin)	
Date of Report	2023/12/22
Date of Issue	2024/01/18
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Contact us

Headquarters (Taiwan)

5F., No. 237, Sec. 1, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan
Tel: +886-2-77033000
Email: sales@innodisk.com

Branch Offices:

USA

usasales@innodisk.com

+1-510-770-9421

Europe

eusales@innodisk.com

+31-40-3045-400

Japan

jpsales@innodisk.com

+81-3-6667-0161

China

sales_cn@innodisk.com

+86-755-2167-3689

www.innodisk.com

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