

USB2.0 2MP Fixed Focus
Camera Module

EV2U-SSM1-RLCF

User Manual

Customer :

Customer Part Number :

Innodisk Part Number :

Innodisk Model Name :

Date :

Innodisk Approver

Customer Approver

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Revision History

Revision	Description	Date
1.0	First Released	19, Mar, 2026

1. Product Introduction

1.1 Overview

The is a USB 2.0 fixed-focus camera module developed by Innodisk. It features a resolution up to 1920x1080 at 30 frames per second and offers a wide-angle view with a lens field of view (FOV) of 121° (diagonal), 102° (horizontal), and 54° (vertical). This camera module is designed for low-light conditions and supports multiple operating systems, including Windows, Linux, Android, and MacOS (UVC compliant). It is particularly suitable for various smart applications such as smart parking meters, EV chargers, POS kiosks, and ATMs due to its robust features and reliable performance.

1.2 Block Diagram

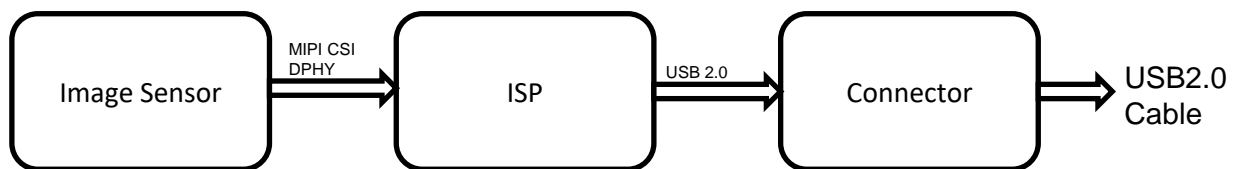


Figure 1: Block Diagram

1.3 Product List

P/N	Description
EV2U-SSM1-RLCF-11	USB 2.0 2MP Fixed Focus Camera Module (USB cable included) Dimension : 38 x 38
EV2U-SSM1-RLCF-12	USB 2.0 2MP Fixed Focus Camera Module, with DMIC (USB cable included) Dimension : 38 x 38
EV2U-SSM1-RLCF-A1	USB 2.0 2MP Fixed Focus Camera Module (USB cable included) Dimension : 32 x 32
EV2U-SSM1-RLCF-A2	USB 2.0 2MP Fixed Focus Camera Module, with DMIC (USB cable included) Dimension : 32 x 32
EV2U-SSM1-RLCF-21	USB 2.0 2MP Fixed Focus Camera Module, with Housing (USB cable included) Dimension : 41.4 x 41.4
7W2000000160	USB 2.0 cable 1 meter, 5 pins, pitch 1mm

Table 1: Product List

1.4 Product Picture

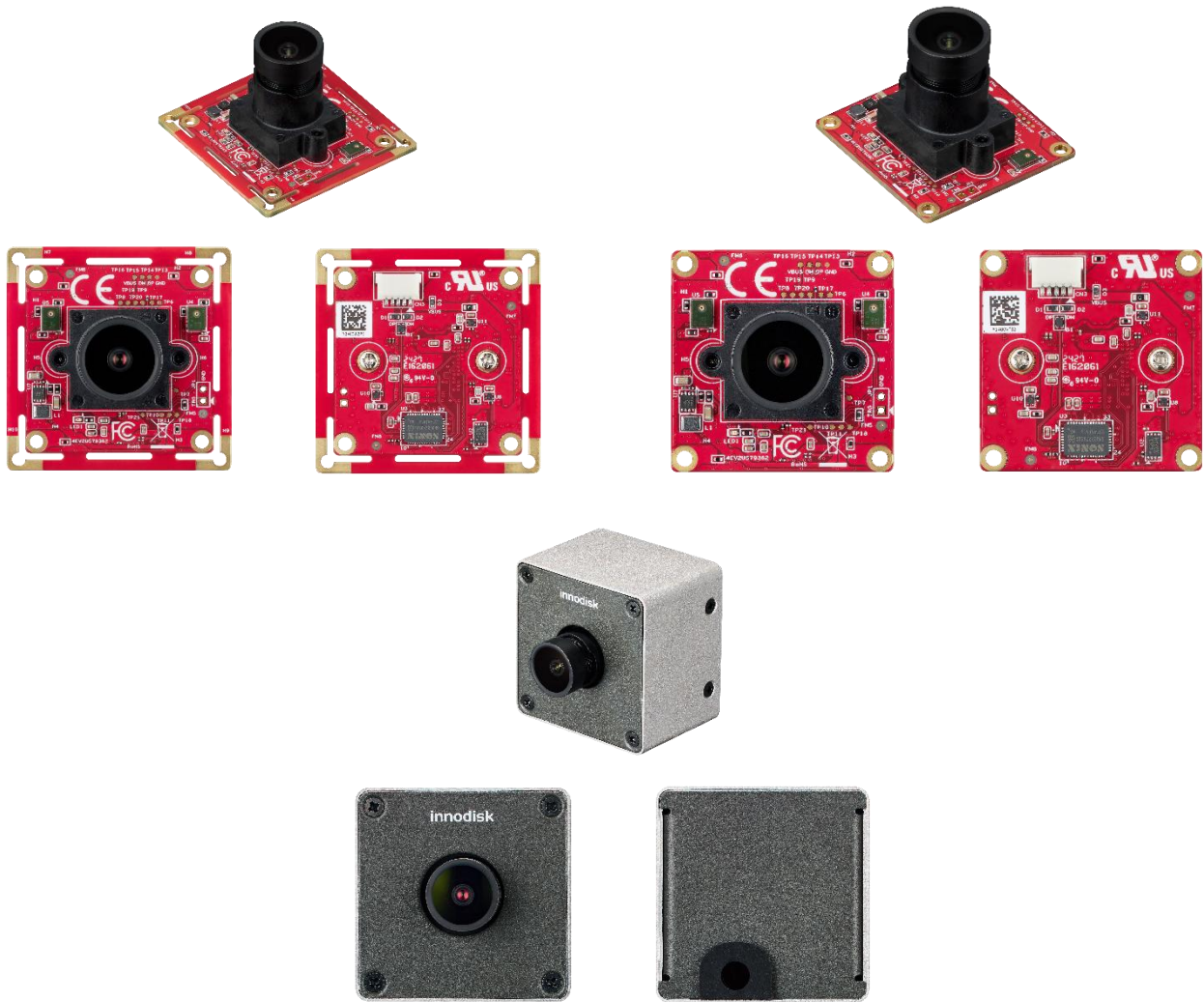


Figure 2: Product Picture



Figure 4: Cable Picture

2. Product Specification

2.1. Product Parameter

Model Name	EV2U-SSM1-RLCF
Module Type	USB 2.0 2MP Fixed Focus Camera Module
Resolution (Max.)	2MP
Frame Rate (Max. Resolution)	30fps
Output I/F	USB 2.0
Sensor	Sony IMX307
Shutter	Rolling
Video Format	YUV422, MJPEG
Power Consumption	Approximate 1W (MJPEG @Max. Resolution)
Operating Temperature	-20°C ~ 70°C
Sensor Size	1/2.8"
Pixel Size	2.9µm
Chroma Type	Color
Lens Type	Fixed Focus (M12)
Dimension (W x L x H/mm)	38 x 38 x 26.6 41.4 x 41.4 x 43.7 (Housing)
Lens FOV (D/H/V)	127°/106°/56°
Platform Support	Windows / Linux / Android / macOS
Housing	Board Level, Housing
Features	Low light, DMIC
Dynamic Range	N/A
Warranty	3 Years
Module Weight	48.84g 86.70g (Housing)

Table 2: Product Parameter

2.2 Resolution Information

Resolution	YUV422	MJPEG
1920*1080	5 fps	30 / 25 / 20 / 15 / 10 / 5 fps
1280*720	10 / 5 fps	30 / 25 / 20 / 15 / 10 / 5 fps
640*480	30 / 25 / 20 / 15 / 10 / 5 fps	30 / 25 / 20 / 15 / 10 / 5 fps

Table 3: Resolution Matrix

2.3 Lens Specification

Items	Specification
F No.	1.6 ± 10%
Focal Length	3.28 ± 10%
Optical Back Focal Length	6.83 ± 0.2 (in air)
Mechanical Back Focal Length	6 ± 0.2 (in air)
TTL (Total Track Length)	22.27 ± 0.2 (in air)
Image Circle	Φ7.00 (MAX)
Lens Structure	2G4P
Mount	M12*P0.5
Diagonal FOV (D)	127°
Horizontal FOV (H)	106°
Vertical FOV (V)	56°

Table 4: Lens Specification

2.4 Electrical Specifications

Item	Value	Unit
Input Voltage	5	V
Current @Idle	14	mA
Current @Average	201	mA
Current @Maximum	333	mA
Idle Power Rating	0.07	W
Average Power Rating	1.005	W
Maximum Power Rating	1.665	W

Table 5: Power Consumption

2.5 Operating Temperature Range

Temperature	Range
Operation	-20°C ~ +70°C
Storage	-35°C ~ +80°C

Table 6: Operating Temperature Range

2.6 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.

Product	Condition	MTBF (Hours)
EV2U-SSM1-RLCF	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	28,107,730

Table 7: Mean Time between Failure (MTBF)

3. Hardware Information

3.1 Connector

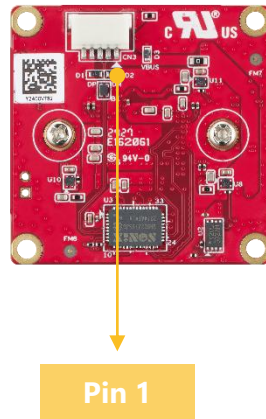


Figure 5: Connector Picture

Location	Connector Type
USB 2.0	(無齒)SMD/90D/1x5P/Male P:1.0mm L:8mm H:4.25mm NY6T Nature

Table 8: Connector Location

3.2 Product Drawing

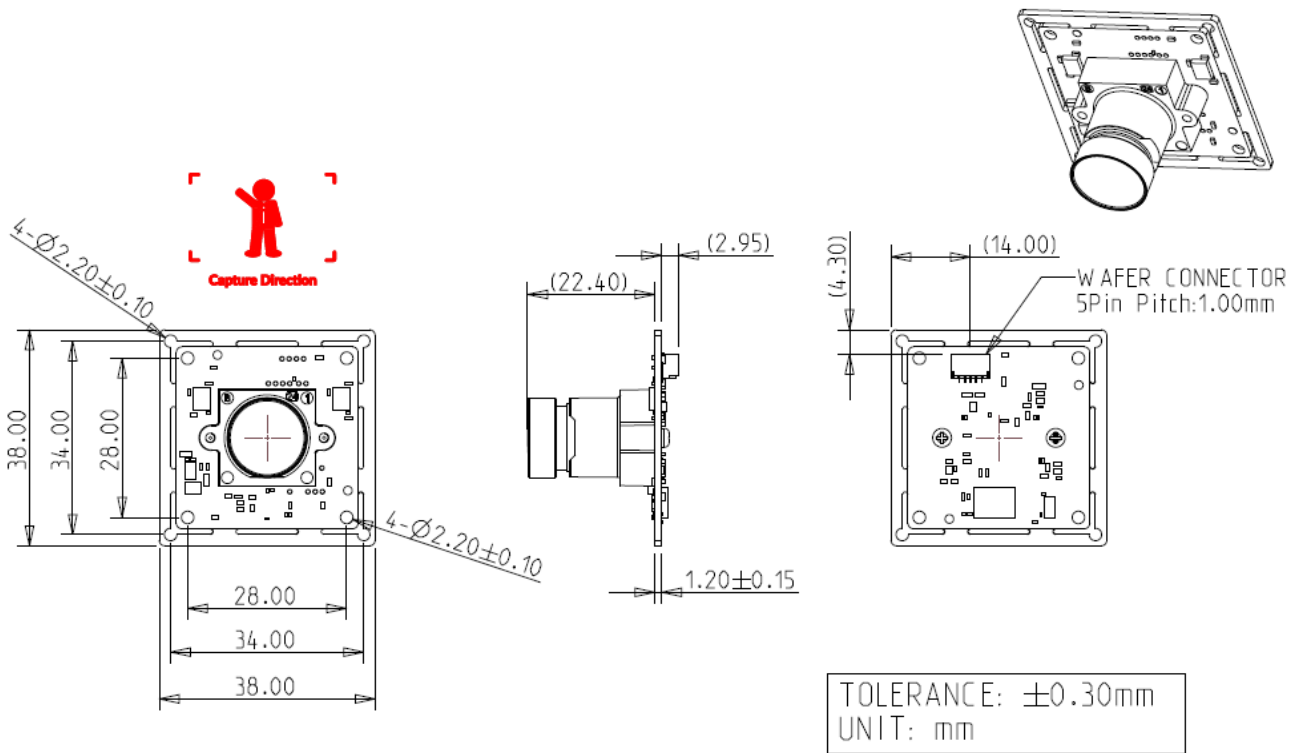


Figure 6: Product Drawing

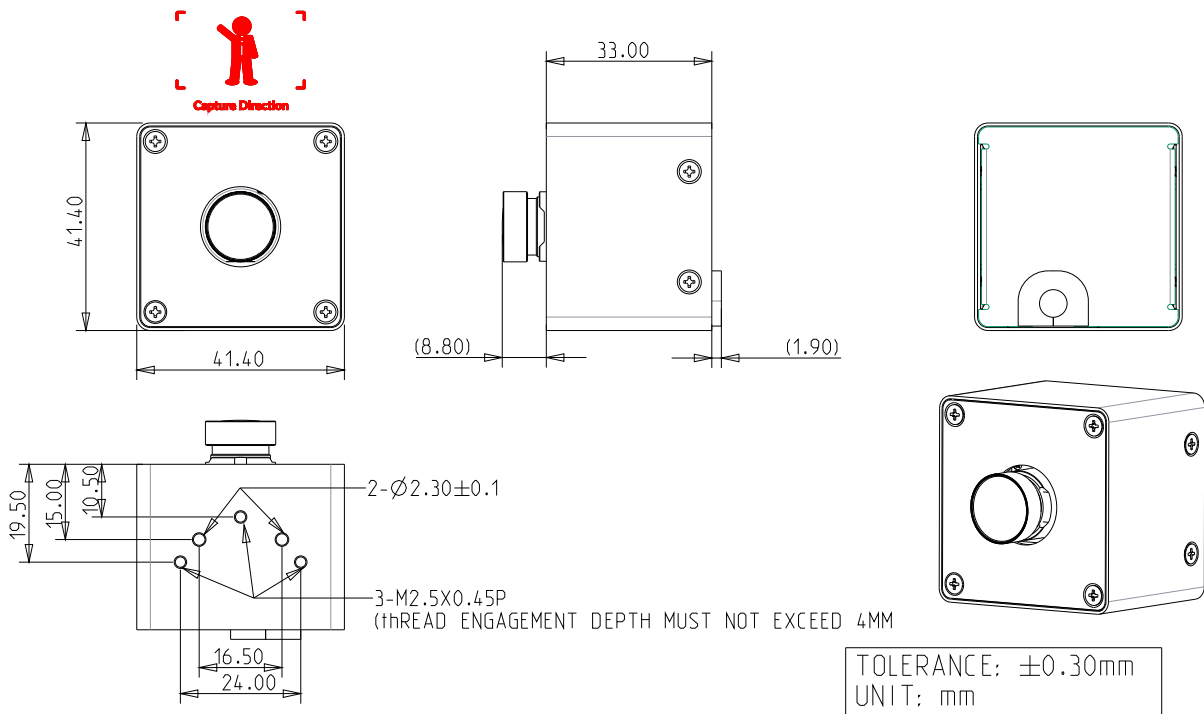


Figure 7: Product Drawing (Housing)

4. Packing List

P/N	Description	Qty.
EV2U-SSM1-RLCF	USB 2.0 2MP Fixed Focus Camera Module	1
7W2000000160	USB 2.0 cable 1 meter, 5 pins, pitch 1mm	1

Table 10: Packing List

5. Installation Guide

Connect the Camera using the USB 2.0 cable as shown below:

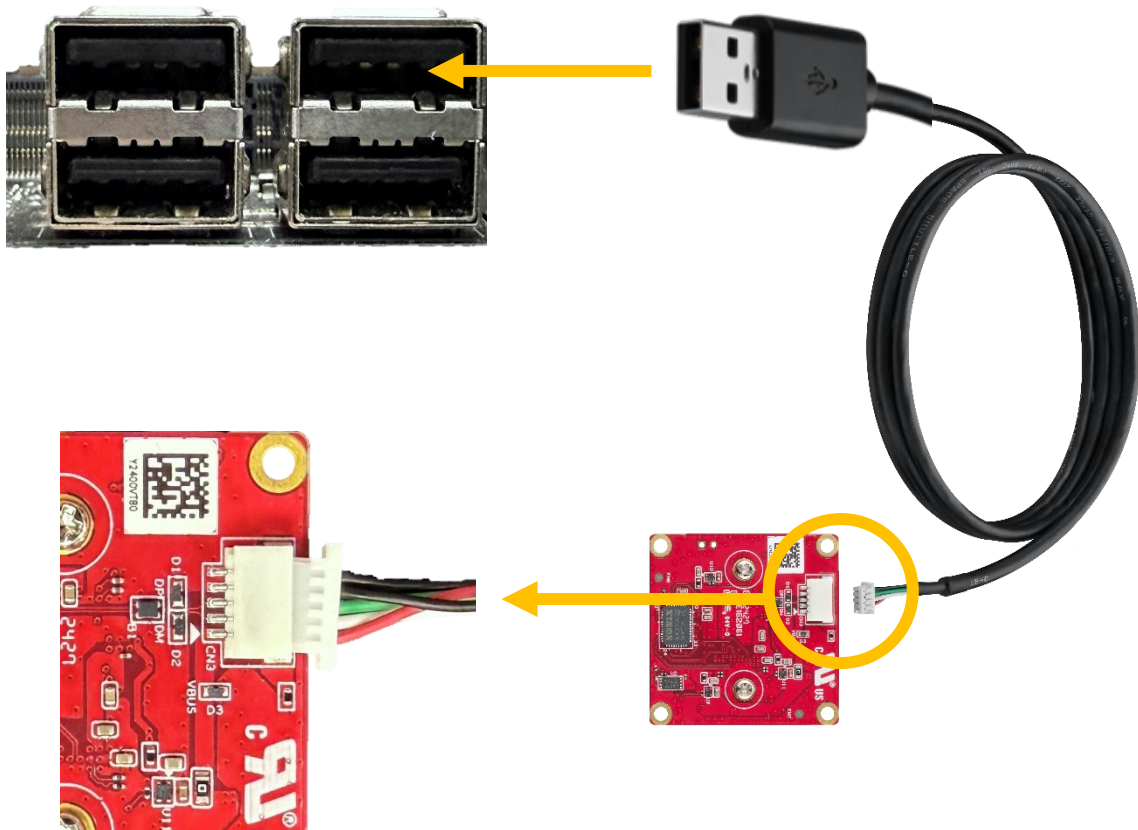
The USB 2.0 interface supports plug-and-play, so there is no need to power off the system before connecting the camera.

Connect one end of the USB 2.0 cable to the camera module.

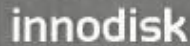
Connect the other end of the cable to the USB port on the host system.

Once connected, verify that the camera is properly recognized by the system.

Make sure the cable is securely connected and not loose.



6. Declaration And Certification



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.

(Standard finished products, excluding all of customized products & EOL 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 247 substances (release date: 21-JAN-2025) 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：Quality Assurance Div. SR. Manager 品保處經理

Date 日期：2025 / 02 / 24

RoHS 自我宣告書 (RoHS Declaration of Conformity)

Manufacturer Products: All Innodisk Flash Memory, DRAM Module and Embedded Peripherals

- 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

宜鼎國際股份有限公司
Innodisk Corporation

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：Quality Assurance Div. SR. Manager 品保處經理

Date 日期：2025 / 02 / 24



Report No.: 24C0094R-0E3012100115-A



Test report No: 24C0094R-0E3012100115-A

CE TEST REPORT

Product Name	USB 2.0 2MP Fixed Focus Camera Module
Trademark	Innodisk
Model and /or type reference	EV2U-SSM1
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 (Adm. Specialist / Peggy Tu)	<i>Peggy Tu</i>
Approved By (Director / Vincent Lin)	<i>Vincent Lin</i>
Date of Report	2024/12/03
Date of Issue	2024/12/30
Report No.	24C0094R-0E3012100115-A
Report Version	V1.0

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Report No.: 24C0094R-0E3012110014-A



Test report No: 24C0094R-0E3012110014-A

FCC TEST REPORT

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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 2023, Class B
Verdict Summary	IN COMPLIANCE
Documented By (Adm. Specialist / Peggy Tu)	<i>Peggy Tu</i>
Approved By (Director / Vincent Lin)	<i>Vincent Lin</i>
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