

SAMTEC 120-pin x1 to MIPI CSI-2 22-pin x4
Capture Card

EB120-1S4M

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	22 Apr, 2026

1. Product Introduction

1.1 Overview

The SAMTEC 120-pin x1 to MIPI CSI-2 22-pin x4 Capture Card is a high-performance interface solution for camera integration, testing, and platform validation. It connects up to four MIPI CSI-2 cameras to a single host board through a SAMTEC 120-pin connector, delivering stable, high-speed data transfer for multi-camera applications.

Designed for developers, engineers, and system integrators in AI vision, embedded systems, robotics, and machine vision, this capture card provides reliable performance with a 3-year warranty. By streamlining camera connectivity, it reduces development effort and shortens time-to-market.

1.2 Product List

P/N	Description
EB120-1S4M-11	SAMTEC 120-pin x1 to MIPI CSI-2 22-pin x4 Capture Card Dimension : 68.65 x 41 mm

Table 1: Product List

1.3 Product Picture

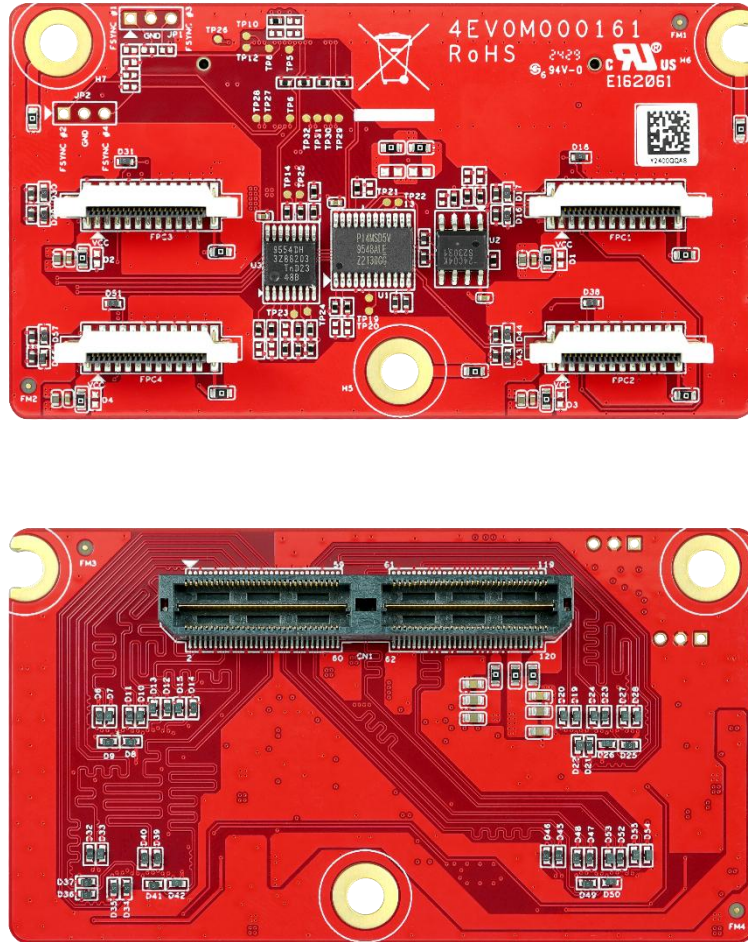


Figure 1: Product Picture

2. Product Specification

2.1. Product Parameter

Model Name	EB120-1S4M
Module Type	SAMTEC 120-pin x1 to MIPI CSI-2 22-pin x4 Capture Card
Camera I/F	MIPI CSI-2 22-pin
Camera I/F Port	4
Host I/F	SAMTEC 120-pin
Host I/F Port	1
Chipset	N/A
Power Source	N/A
Power Consumption (Avg.)	N/A
Operating Temperature	-20°C ~ 70°C
Dimension (W x L x H/mm)	91.6 x 55.0 x 15.7
Warranty	2 Years
Module Weight	21.25 g

Table 2: Product Parameter

2.2 Electrical Specifications

Item	Value	Unit
Input Voltage	-	V
Current @Idle	-	mA
Current @Average	-	mA
Current @Maximum	-	mA
Idle Power Rating	-	W
Average Power Rating	-	W
Maximum Power Rating	-	W

Table 3: Power Consumption

2.3 Operating Temperature Range

Temperature	Range
Operation	-30°C ~ 70°C
Storage	-40°C ~ 85°C

Table 4: Operating Temperature Range.

2.4 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.

Product	Condition	MTBF (Hours)
EB120-1S4M-11	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	8,449,562

Table 5: Mean Time between Failure (MTBF)

3. Hardware Information

3.1 Connector

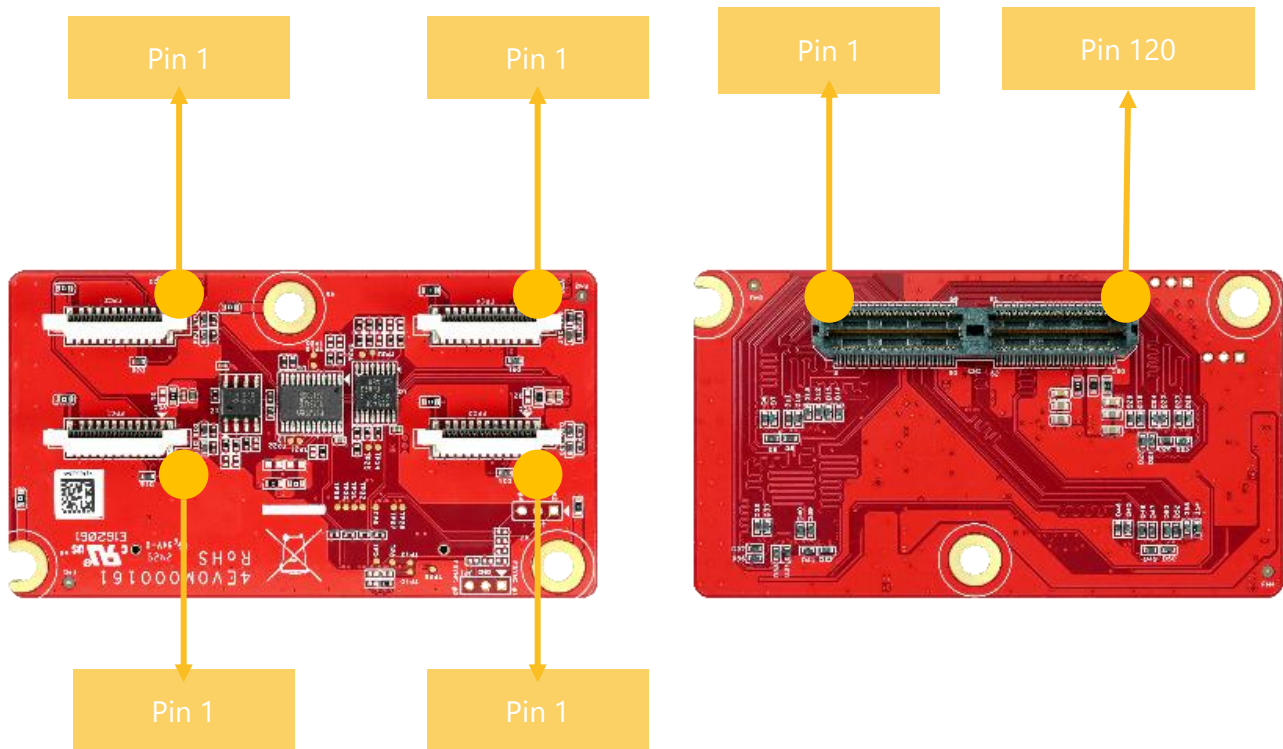


Figure 2: Connector Picture

Location	Connector Type
MIPI	(無鹵)SMD/22P/180D P:0.5mm H:6.6mm ,LCP Black -55~+85C
SAMTEC	(無鹵)SMD/2x60/180D/Female P:0.5mm H:4.27mm LCP -55~+125C

Table 6: Connector Location

3.2 Pin Define

Pin Number	Pin Name	Pin Number	Pin Name
Pin 1	CSIO_D0_P	Pin 2	CSI1_D0_P
Pin 3	CSIO_D0_N	Pin 4	CSI1_D0_N
Pin 5	GND	Pin 6	GND
Pin 7	CSIO_CLK_P	Pin 8	NC
Pin 9	CSIO_CLK_N	Pin 10	NC
Pin 11	GND	Pin 12	GND
Pin 13	CSIO_D1_P	Pin 14	CSI1_D1_P
Pin 15	CSIO_D1_N	Pin 16	CSI1_D1_N
Pin 17	GND	Pin 18	GND
Pin 19	CSI2_D0_P	Pin 20	CSI3_D0_P
Pin 21	CSI2_D0_N	Pin 22	CSI3_D0_N
Pin 23	GND	Pin 24	GND
Pin 25	CSI2_CLK_P	Pin 26	NC
Pin 27	CSI2_CLK_N	Pin 28	NC
Pin 29	GND	Pin 30	GND
Pin 31	CSI2_D1_P	Pin 32	CSI3_D1_P
Pin 33	CSI2_D1_N	Pin 34	CSI3_D1_N
Pin 35	GND	Pin 36	GND
Pin 37	CSI4_D0_P	Pin 38	CSI6_D0_P
Pin 39	CSI4_D0_N	Pin 40	CSI6_D0_N
Pin 41	GND	Pin 42	GND
Pin 43	CSI4_CLK_P	Pin 44	CSI6_CLK_P
Pin 45	CSI4_CLK_N	Pin 46	CSI6_CLK_N
Pin 47	GND	Pin 48	GND
Pin 49	CSI4_D1_P	Pin 50	CSI6_D1_P
Pin 51	CSI4_D1_N	Pin 52	CSI6_D1_N
Pin 53	GND	Pin 54	GND
Pin 55	NC	Pin 56	NC
Pin 57	NC	Pin 58	NC
Pin 59	CSI5_D0_P	Pin 60	CSI7_D0_P
Pin 61	CSI5_D0_N	Pin 62	CSI7_D0_N
Pin 63	GND	Pin 64	GND
Pin 65	NC	Pin 66	NC
Pin 67	NC	Pin 68	NC
Pin 69	GND	Pin 70	GND
Pin 71	CSI5_D1_P	Pin 72	CSI7_D1_P
Pin 73	CSI5_D1_N	Pin 74	CSI7_D1_N
Pin 75	I2C3_CLK	Pin 76	NC
Pin 77	I2C3_DAT	Pin 78	NC

Pin Number	Pin Name	Pin Number	Pin Name
Pin 79	GND	Pin 80	GND
Pin 81	NC	Pin 82	NC
Pin 83	NC	Pin 84	NC
Pin 85	NC	Pin 86	NC
Pin 87	I2C2_CLK	Pin 88	MCLK03
Pin 89	I2C2_DAT	Pin 90	NC
Pin 91	NC	Pin 92	NC
Pin 93	NC	Pin 94	NC
Pin 95	RESET#	Pin 96	MCLK04
Pin 97	NC	Pin 98	NC
Pin 99	GND	Pin 100	NC
Pin 101	NC	Pin 102	GND
Pin 103	NC	Pin 104	VDD_1.8V
Pin 105	NC	Pin 106	NC
Pin 107	NC	Pin 108	NC
Pin 109	NC	Pin 110	GND
Pin 111	NC	Pin 112	VDD_3.3V
Pin 113	NC	Pin 114	NC
Pin 115	GND	Pin 116	NC
Pin 117	NC	Pin 118	GND
Pin 119	NC	Pin 120	GND

Table 7: 120-Pin Define

Pin Number	Pin Name	Description	Pin Number	Pin Name	Description
Pin 1	CAM_3V3	+3.3V	Pin 12	CAM_D2_N	CSI Data 2
Pin 2	CAM_SDA	I2C Data (3.3V)	Pin 13	GND	Ground
Pin 3	CAM_SCL	I2C Clock (3.3V)	Pin 14	CAM_CK_P	CSI Clock
Pin 4	GND	Ground	Pin 15	CAM_CK_N	CSI Clock
Pin 5	CAM_MCLK	Camera Master Clock	Pin 16	GND	Ground
Pin 6	CAM_PWDN	Camera Power-down (3.3V)	Pin 17	CAM_D1_P	CSI Data 1
Pin 7	GND	Ground	Pin 18	CAM_D1_N	CSI Data 1
Pin 8	CAM_D3_P	CSI Data 3	Pin 19	GND	Ground
Pin 9	CAM_D3_N	CSI Data 3	Pin 20	CAM_D0_P	CSI Data 0
Pin 10	GND	Ground	Pin 21	CAM_D0_N	CSI Data 0
Pin 11	CAM_D2_P	CSI Data 2	Pin 22	GND	Ground

Table 8: MIPI Connector Pin Define

3.3 Product Drawing

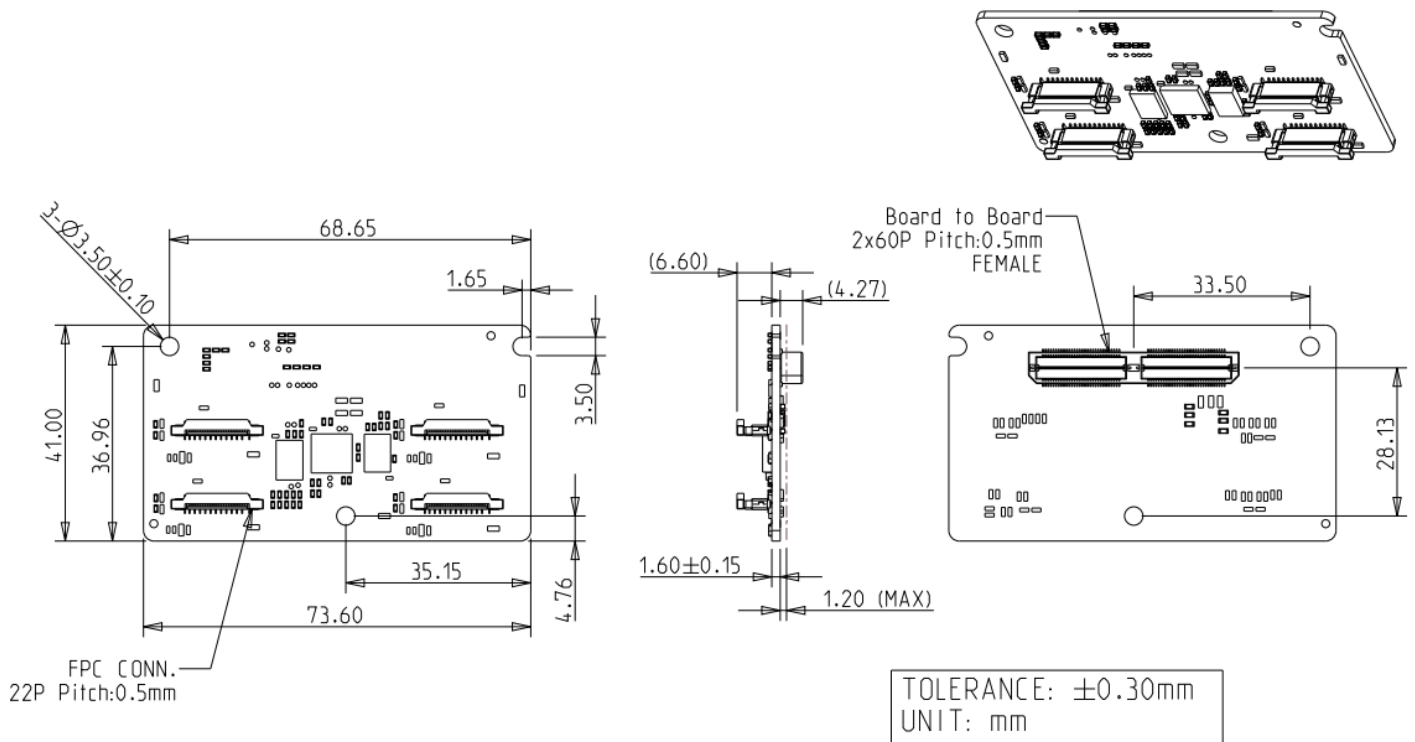


Figure 3: Product Drawing

4. Packing List

P/N	Description	Qty.
EB120-1S4M	SAMTEC 120-pin x1 to MIPI CSI-2 22-pin x4 Capture Card	1

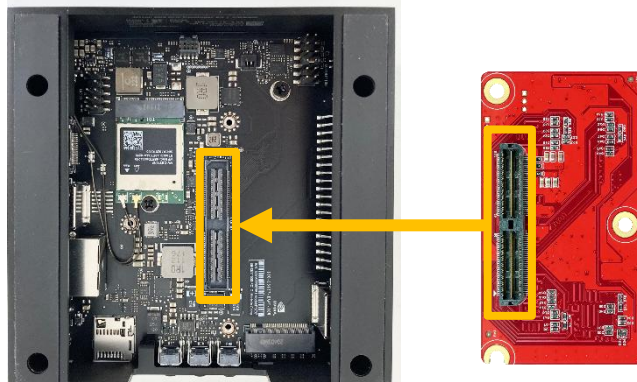
Table 9: Packing List

5. Installation Guide

Connect the camera using the MIPI cable as shown below:

Install the SAMTEC 120-pin x1 to MIPI CSI-2 22-pin x4 Capture board (EB120-1S4M-11) onto the main board by aligning the 120-pin connector and pressing it down evenly until it is fully seated.

Ensure the Capture board is properly secured and correctly aligned with the main board connector.



*Ensure the correct orientation when connecting the SAMTEC 120-pin connector. The connector is equipped with a keying mechanism to prevent incorrect insertion.

Figure 4: Capture Card connect with AGX DevKit Picture

Unlock the MIPI CSI-2 latches on both the capture board and camera module. Insert the FFC cable into the board and camera module, then secure both ends by locking the latches. Ensure the cable is fully inserted, properly secured, and lies flat without twisting.

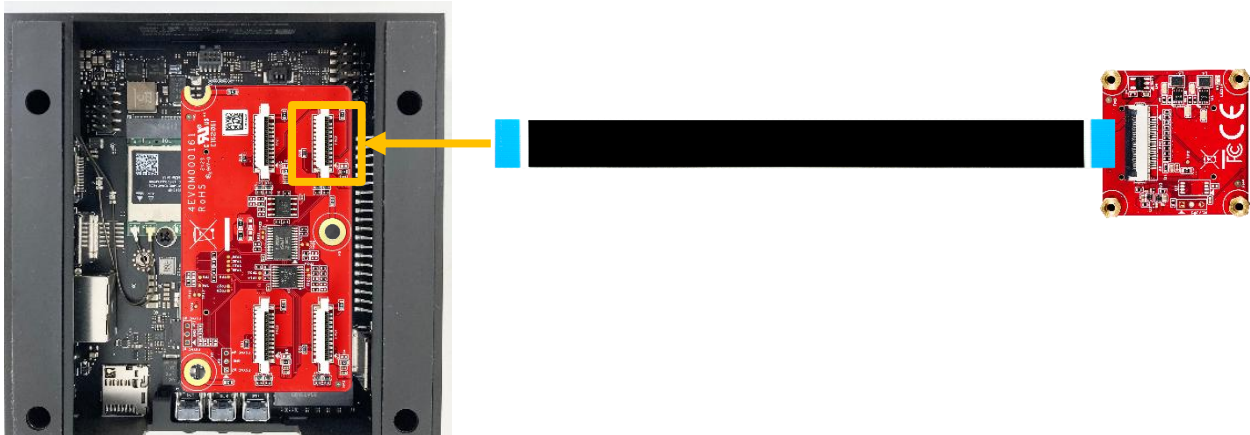


Figure 5: Capture Card insert power cable and coaxial cable Picture

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

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Innodisk Corporation

Guarantor



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

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