



FSM IMX568 Adapter Board for RZ/V2M Evaluation Board Kit

Hardware Manual

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Corporate Headquarters

2-4-3 Fukuzumi, Koto-ku, Tokyo 135-0032, Japan

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SAFETY MATTERS

Definitions of Symbols

A variety of symbols are used in this document and on this product, to prevent the damage to harm and the property to you and other people beforehand by correctly using this product.

This section, Safety Matters, presents these symbols and their meanings. It also presents safety notes to assure that this produce is used safely and correctly.

This product should only be used after fully understanding the material presented in this section.



WARNING

Warning items indicate things that, if not avoided, could lead to death or serious injury.



CAUTION

Caution items indicate things that, if not avoided, could lead injury or damage to the house and household goods, etc.

In addition to the above two symbols, the following are displayed at the same time as required.

[Important] These indicate the points which may cause a breakdown or malfunction of equipment by the incorrect setting when setting up this product.

△ indicates WARNING or CAUTION.

Example:  **CAUTION AGAINST ELECTRIC SHOCK**

⊘ indicates PROHIBITION.

Example:  **DISASSEMBLY PROHIBITED**

● indicates a COMPULSORY ACTION.

Example:  **COMPULSORY ACTION**



WARNING

Handling Related Warnings:



Always check the jumper and switch settings before connecting a power source. An incorrect jumper or switch setting can lead to internal heat generation, rupture, ignition, or damage to this evaluation board itself or any connected equipment.

If, during either the use or storage of this product, any abnormality in the product itself (including abnormal odors, heating, color changes, or changes to the shape of the product) are observed, disconnect the AC adapter immediately.

The incidence of such an abnormality may result in rupture, ignition, or performance deterioration. Therefore, do not use this product in such a situation.

Installation:



Do not install this product in a location that has a high humidity or where water or other fluids could get on it. This product may be damaged if water or other fluids can get on it.

Ambient Temperature:



The ambient temperature range for using this product is from 0°C to 40°C.



CAUTION

Handling:



This product must be handled carefully. Do not cause a strong impact by dropping it, letting it fall, etc.

Do not touch this product's component pins with bare hands. Doing so may discharge static electricity that damages the Internal circuits. Eliminate static electricity before touching this product.

When connecting or disconnecting cables to or from this product, hold the parts of the cable intended to be grasped (such as the plugs) and avoid putting stress on the cable. Do not pull this product etc. while it is connected with a communications interface cable. Doing so may cause the cable to be disconnected.

When connecting a cable to a connector, do not insert the plug in the reverse direction or upside down. Incorrect insertion may damage this product or connected equipment.

Always check the jumper and switch settings before connecting a power source. An incorrect jumper or switch setting can lead to damage to this product or connected equipment.

Do not handle this product with wet hands. Doing so can lead to failure of the product.

Transport methods:



When transporting this product, use the product's packing box and cushioning materials and ship it with precision equipment handling. If the products packing is insufficient, it may be damaged during shipping.

If it must be transported by some other method, pack it carefully as precision equipment.

When packing this product, always use the antistatic pouch included with this product.

If some other pouch is used, electrostatic discharge may damage the product.

Abnormal operation:



If operation of this product becomes abnormal due to interference from external noise etc., apply the following procedure.

1. Turn off the power.
2. Wait 10 or over seconds and then turn the power back on.

Disposal:



When disposing of this product, be sure to dispose it as industrial waste according to all applicable laws.

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1. Overview

This board is an extension adapter board (FSM IMX568 Adapter Board) for connecting FRAMOS sensor Module (FSM-IMX568) to an evaluation kit for RZ/V2M MPU from CSM Solution (RZ/V2M evaluation board kit, hereafter V2MEVK). This manual describes the hardware functions of FSM IMX568 Adapter Board.

This board is an optional board sold separately from V2MEVK.

FRAMOS sensor Module is sold separately module provided from FRAMOS GmbH.

FRAMOS GmbH Web site:

<https://www.framოს.com/en/>

The configuration required to operate the FRAMOS sensor module is as below.

Table 1.1-1 Required Boards for FRAMOS sensor module

Board Name	Overview
RZ/V2M Board (main)	• The RZ/V2M is mounted. • Board on which the main functional components for the RZ/V2M are mounted
RZ/V2M Base Board (base)	• Connected to CN12 and CN13 on the RZ/V2M Board • Board for the generation and supply of power
CIS GND Board (CIS_GND)	• Connected to the CIS connector 2 (CN4) on the RZ/V2M Board • Board for handling unused pins of the CMOS image sensor I/F of the RZ/V2M
FSM IMX568 Adapter Board (option)	• Connected to the CIS connector 1 (CN2) on the RZ/V2M Board • Board for the generation and supply of power for FRAMOS sensor module (FSM-IMX568)
FRAMOS sensor module (FSM-IMX568)	• Module on which the image sensor is mounted FSM-IMX568 : SONY IMX568 image sensor mounted (2472 x 2064 Pixel)

The following documents have been prepared for this V2MEVK. Make sure to refer to the latest versions of these documents. For more information, contact a CSM SOLUTION sales representative.

Table 1.1-2 Documents list

Document Type	Document Title	Document No.	Description
Hardware manual	FSM IMX568 Adapter Board Hardware Manual	This document	Hardware specifications of FSM IMX568 Adapter Board (option) for connecting to FRAMOS sensor module (FSM-IMX568) to V2MEVK.
Hardware manual	RZ/V2M Evaluation Board Kit Hardware Manual		Hardware specifications of the V2MEVK

The following documents have been prepared for this V2MEVK. Make sure to refer to the latest versions of these documents. For the development environment including software, contact a Renesas Electronics sales representative.

Table 1.1-3 Documents List

Document Type	Document Title	Renesas Website	Description
Startup guide	RZ/V2M Evaluation Board Kit Start-up Guide	https://www.renesas.com/jp/ja/products/microcontrollers-microprocessors/rz-mpus/rzv2m-evaluation-board-kit-rzv2m-evaluation-board-kit#document	Startup procedure of the V2MEVK

1.1 Features

FSM IMX568 Adapter Board includes the following features.

- FSM module connector : 1 ch (CN1002 [60pin])
- V2MEVK connector : 1 ch (CN1001 [60pin])
- Power supply for the FRAMOS sensor module
- Power sequence control for the CMOS image sensor

1.2 Block Configuration

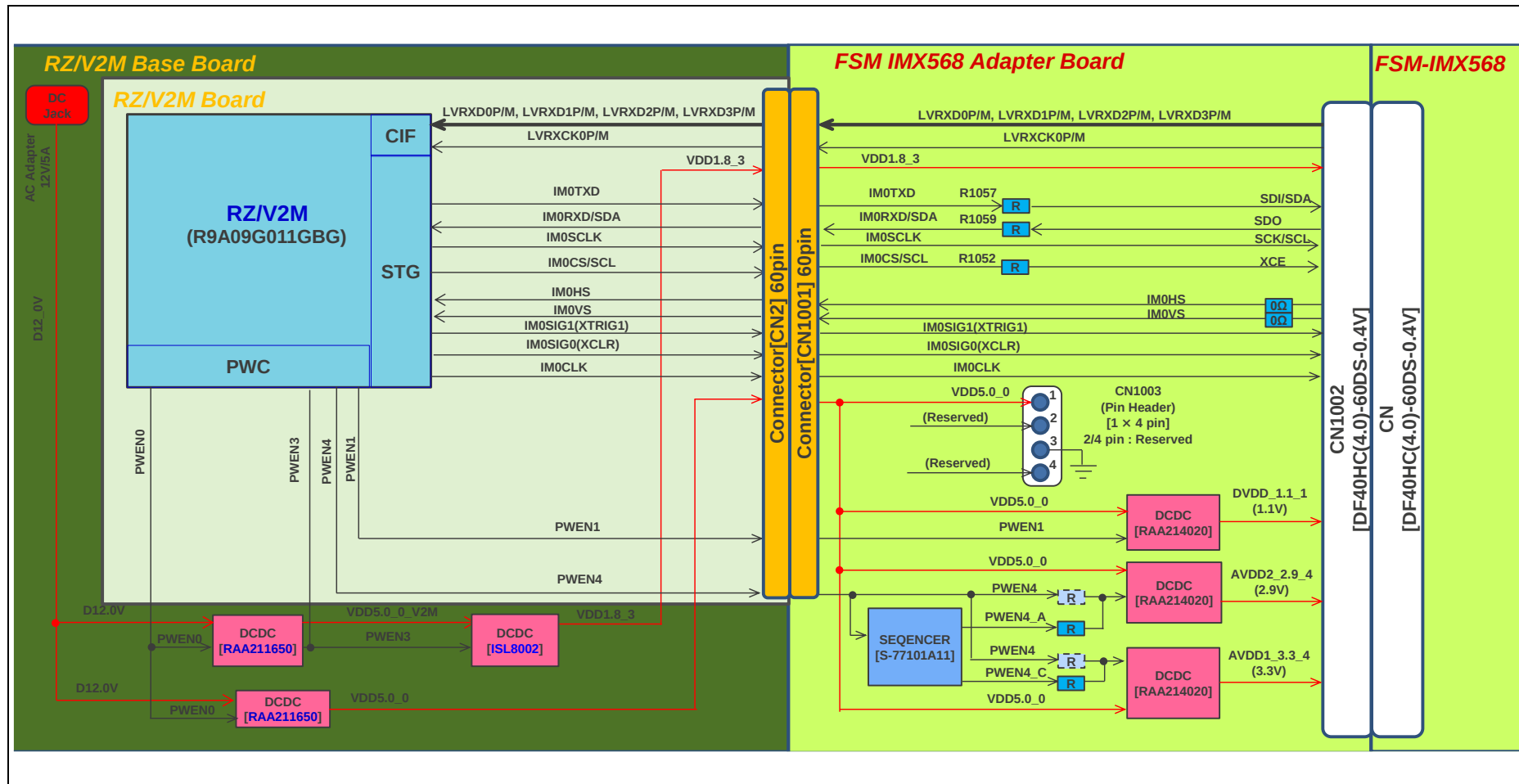


Figure 1.2-1 FSM IMX568 Adapter Board Block Diagram

2. Specifications

2.1 FSM IMX568 Adapter Board Specifications

Table 2.1-1 FSM IMX568 Adapter Board Specifications

Item	Specification
FSM Adapter Board size	70 × 47 × 1.6 mm
V2MEVK Connector	Connector: 60 pins with 0.8-mm pitch For connecting to the V2MEVK.
FSM-IMX568 Module Connector	Connector: 60 pins with 0.4-mm pitch For connecting to the FRAMOS sensor module(FSM-IMX568)

2.2 Outer Appearance

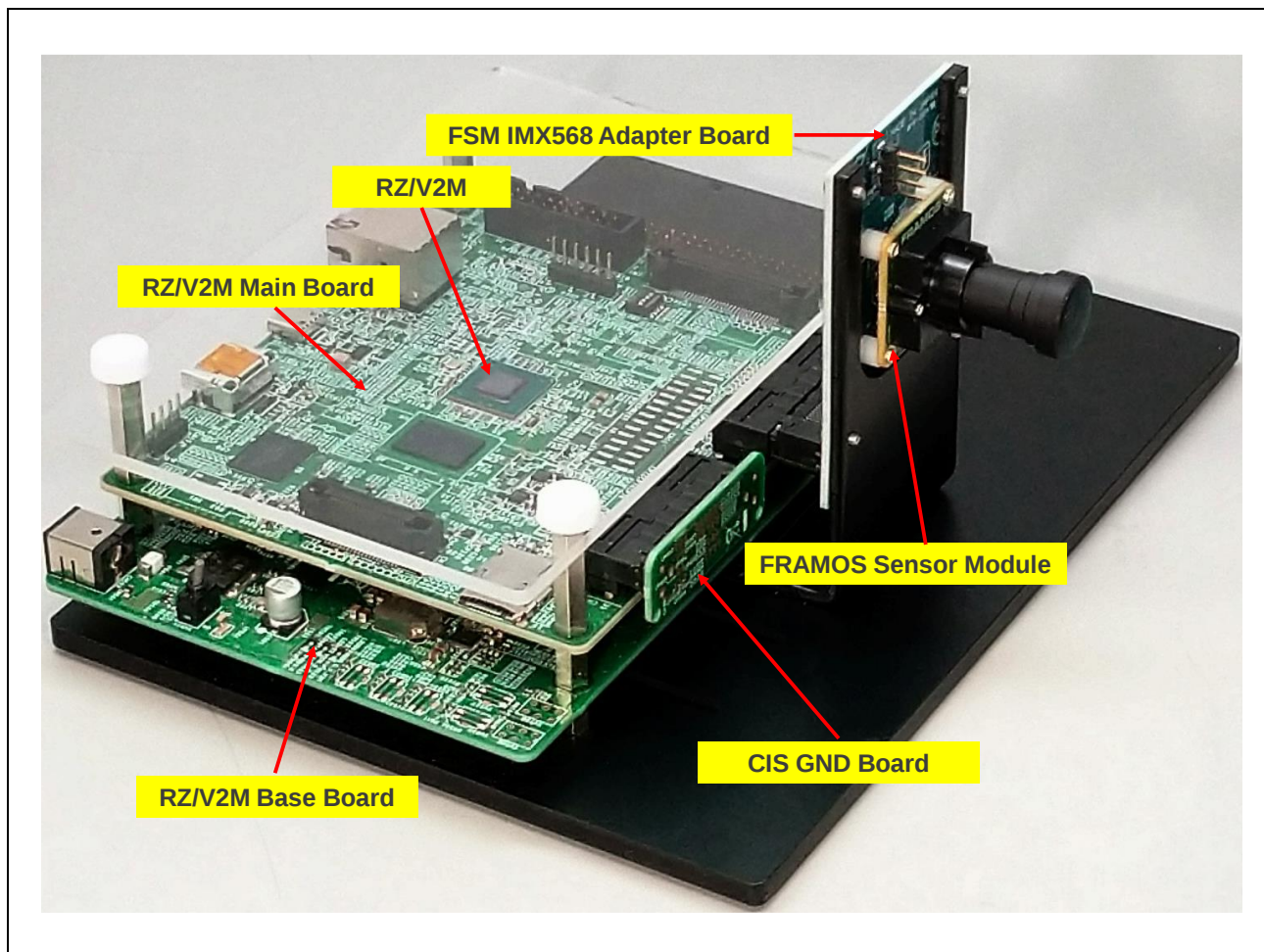
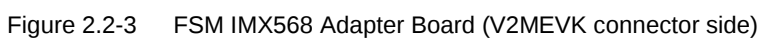
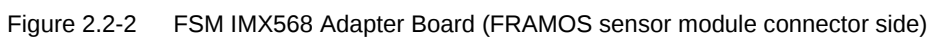


Figure 2.2-1 Outer Appearance of V2MEVK (with FSM IMX568 Adapter Board)



3. Operating Procedure

3.1 Assembly(FSM-IMX568)

3.1.1 Accessories(FSM-IMX568)

Table 3.1-1 The recommended accessories (FSM-IMX568) (see **Figure 3.1-1,Figure 3.1-2**)

No	Item	Part Name	Manufacturer	Spec	Quantity (per unit)	Note
1	M2 screw	CSPPN1P-ST3W-M2-9	MISUMI	M2 (P0.4) x 9 mm	4	For fixing FRAMOS Sensor Module (FSM-IMX568)
2	Spacer	C-2004	HIROSUGI	M2, 4 mm	4	For fixing FRAMOS Sensor Module (FSM-IMX568)
3	Nut	BNT-02	HIROSUGI	M2 (P0.4)	4	For fixing FRAMOS Sensor Module (FSM-IMX568)
4	Stay	CS-STAY	—	—	1	Attached to CIS IMX415 Board in V2MEVK.
5	FRAMOS Sensor Module	FSM-IMX568	FRAMOS	—	1	Sold separately
6	M1.4 Screw	PACK-SMIB1.4-8	MISUMI	M1.4 (P0.3) x 8 mm	2	For fixing lens holder
7	Nut	HNT1EB-BRN-M1.4	MISUMI	Hexagon head nut M1.4 (0.3)	2	For fixing lens holder
8	Lens	DSL165A-650-F1.6 (Recommended)	Sunex	M12 Lens	1	For FRAMOS Sensor Module (FSM-IMX568)
9	Lens holder	CMT821B-C (Recommended)	Sunex	M12 × 0.5	1	For FRAMOS Sensor Module (FSM-IMX568)

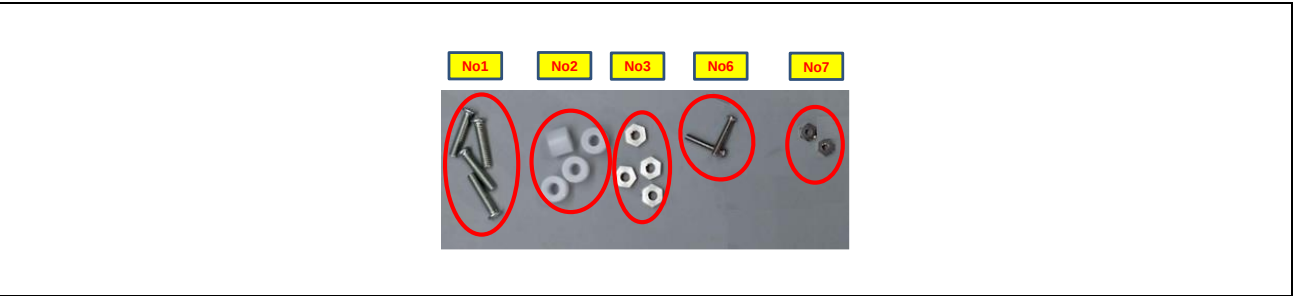


Figure 3.1-1 Accessories -1

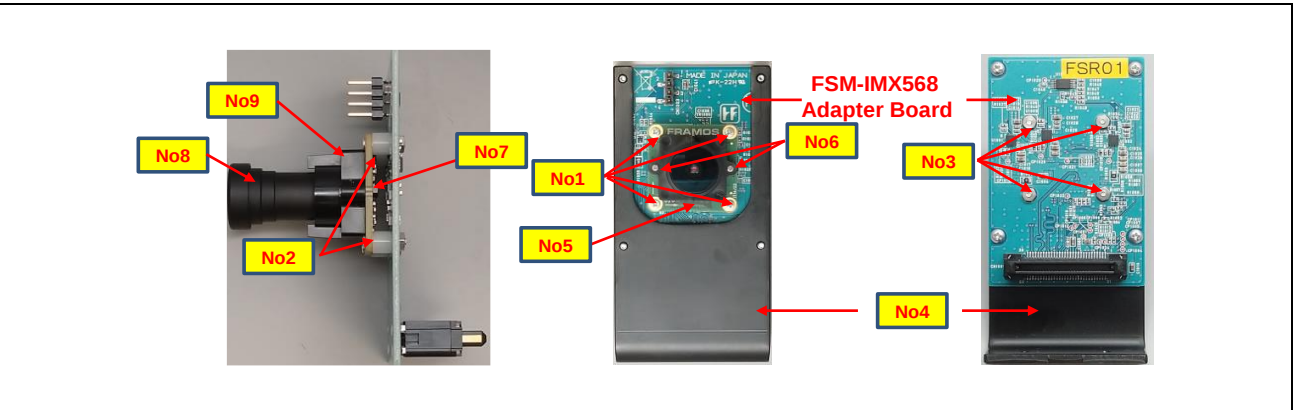


Figure 3.1-2 Accessories-2

3.1.2 Assembly procedure

Assemble in the following to below figure (See **Figure 3.1-3** - **Figure 3.1-8**)

1. Assemble lens to Lens holder (See **Figure 3.1-3**)

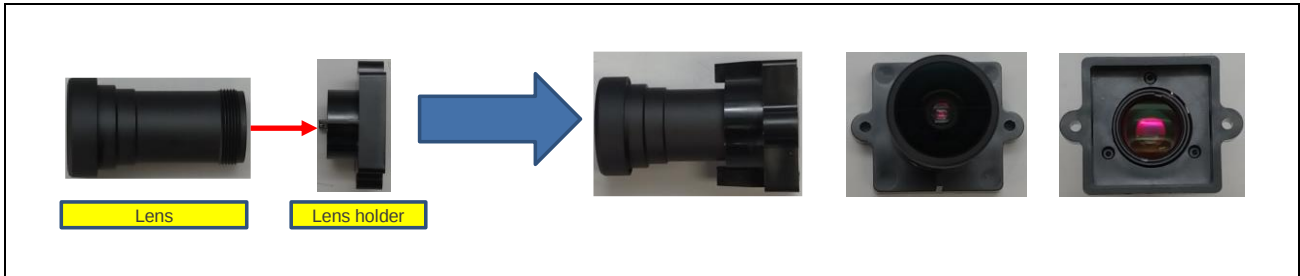


Figure 3.1-3 Connect lens to lens holer

2. Assemble lens holder to FSM-IMX568 (See **Figure 3.1-4**)

- Connect lens holder to FSM-IMX568
- Screw with nut

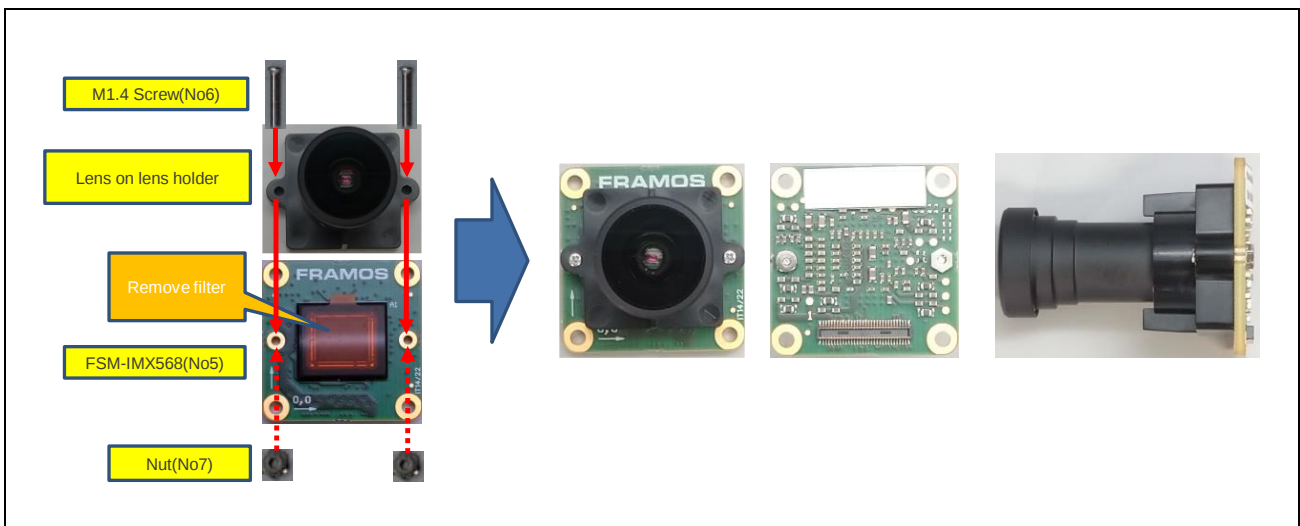


Figure 3.1-4 Assemble lens holder to FSM-IMX568

3. Assemble FSM-IMX568 to FSM IMX568 Adapter Board (See **Figure 3.1-5**)

- Connect CN1002 on FSM-IMX568 Adapter Board to FSM-IMX568
- Screw with nut

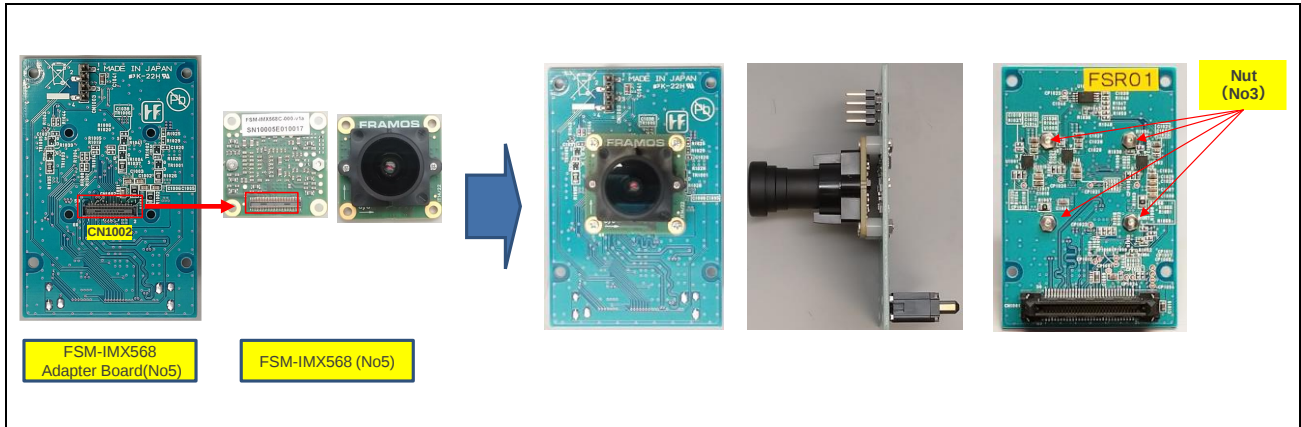


Figure 3.1-5 Assemble FSM-IMX568 to FSM IMX568 Adapter Board

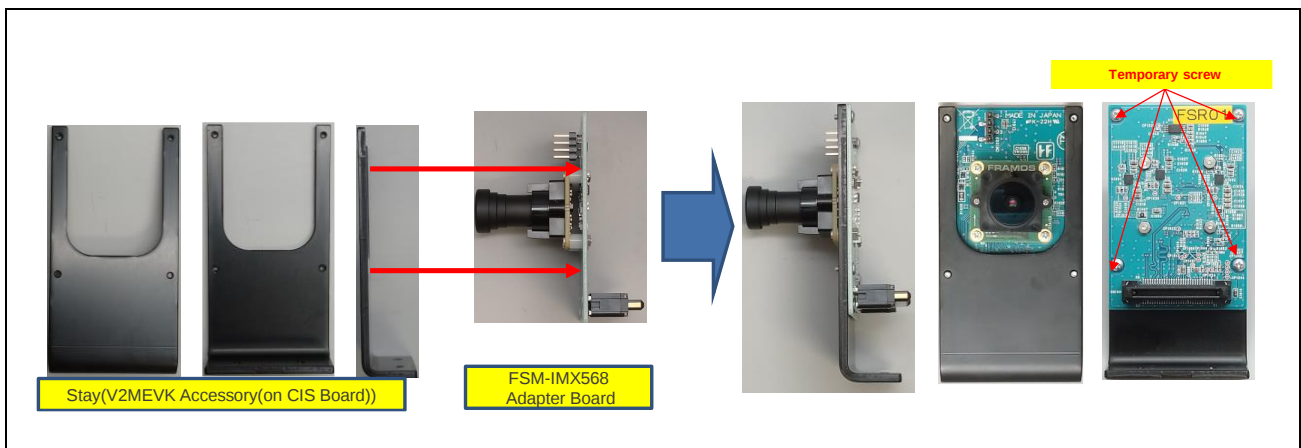
4. Assemble FSM IMX568 Adapter Board to Stay (See **Figure 3.1-6**)

Figure 3.1-6 Assemble FSM IMX568 Adapter Board to Stay

5. Assemble FSM IMX568 Adapter Board to V2MEVK

- Connect CN1001 on FSM-IMX568 Adapter Board to CN2 on V2MEVK (See **Figure 3.1-7**)
- Screw (See **Figure 3.1-8**)

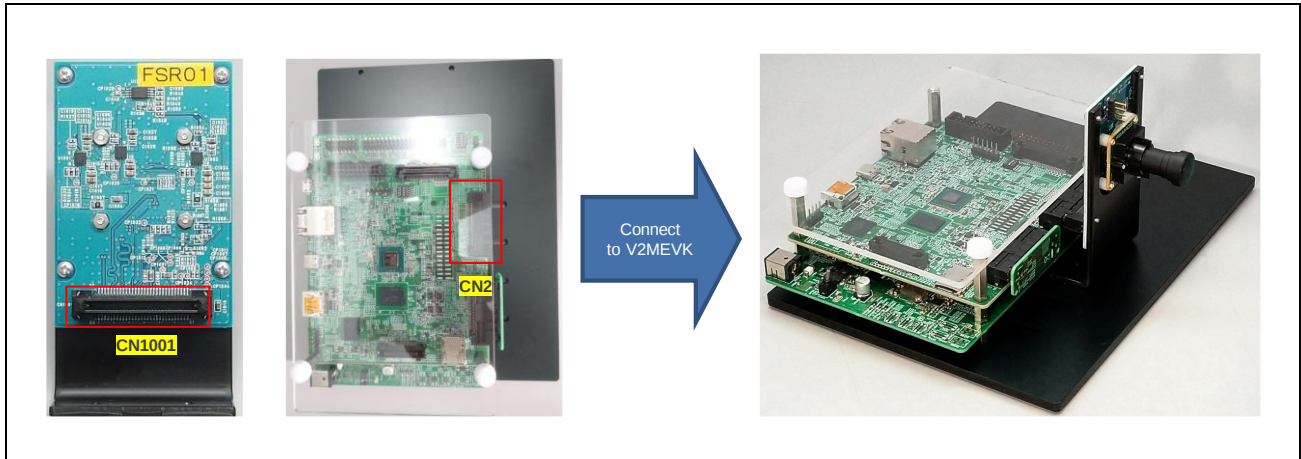


Figure 3.1-7 Connect CN1001 on FSM-IMX568 Adapter Board to CN2 on V2MEVK

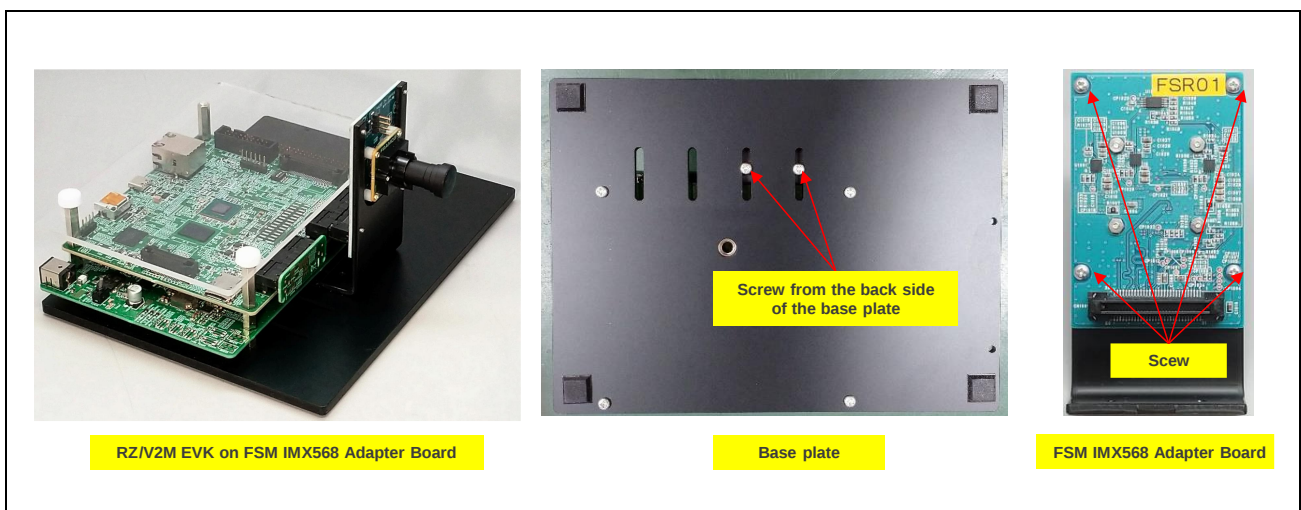


Figure 3.1-8 Screw

3.2 Lists of Main Parts

Table 3.2-1 list the main parts of the FSM Adapter Board.

Table 3.2-1 FSM IMX568 Adapter Board Parts List

No.	Quantity	Part Symbol	Part Name	Manufacturer
1	3	U1001, U1002, U1003	RAA214020GNP	Renesas Electronics

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		Page	Summary
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