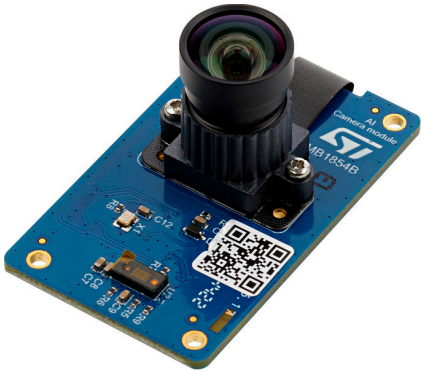
B-CAMS-IMX

Data brief

Camera module bundle for STM32 boards



B-CAMS-IMX global view. Picture is not contractual.

Product status link
B-CAMS-IMX

Features

- Camera module accessory board (MB1854) including:
  - Dual-lane MIPI CSI-2® data output supporting Sony 5-Mpx RGB CMOS image sensor
  - M12 × 0.5 lens holder for a variety of commercially available, ready-to-use M12 lenses
  - Supplied M12 lens: Manual focus, 87° FOV
  - Inertial motion unit
  - Multizone direct Time-of-Flight sensor
  - 3.3 V power
  - Board connector:
    - 0.5 mm-pitch, 22-pin flexible flat cable (FFC) connector
  - 22-pin flexible flat cable

Description

The B-CAMS-IMX camera module provides a compelling hardware set to handle multiple computer vision scenarios and use cases. It features a high-resolution 5-Mpx RGB CMOS image sensor, an inertial motion unit, and a Time-of-Flight sensor. It can be used with any STM32 boards featuring a MIPI CSI-2® interface with a 22-pin FFC connector to enable full-featured computer vision on STM32 microcontrollers and microprocessors easily.

1 Ordering information

To order the B-CAMS-IMX camera module, refer to Table 1. For a detailed description, refer to its user manual on the product web page. Additional information is available from the datasheet and reference manual of the target STM32.

Table 1. List of available products

Order code	Content and references	User manual	Target STM32 boards
B-CAMS-IMX	• MB1854(1) • FFC(2)	UM3354	STM32 boards featuring a 22-pin camera FFC connector

1. *Camera module accessory board*
2. *Flexible flat cable.*

The STM32 Discovery kits and Evaluation boards feature STM32 32-bit microcontrollers or microprocessors based on the Arm® Cortex® processor.

Note: Arm is a registered trademark of Arm Limited (or its subsidiaries) in the US and/or elsewhere.

1.1 Product marking

The stickers located on the top or bottom side of all PCBs provide product information:

- First sticker: product order code and product identification, generally placed on the main board featuring the target device.
  Example:

  Product order code
  Product identification

- Second sticker: board reference with revision and serial number, available on each PCB.
  Example:

  MBxxxx-Variant-yzz
  syywwxxxxx

On the first sticker, the first line provides the product order code, and the second line the product identification.

On the second sticker, the first line has the following format: *"MBxxxx-Variant-yzz"*, where *"MBxxxx"* is the board reference, *"Variant"* (optional) identifies the mounting variant when several exist, *"y"* is the PCB revision, and *"zz"* is the assembly revision, for example B01. The second line shows the board serial number used for traceability.

Parts marked as *"ES"* or *"E"* are not yet qualified and therefore not approved for use in production. ST is not responsible for any consequences resulting from such use. In no event will ST be liable for the customer using any of these engineering samples in production. ST's Quality department must be contacted prior to any decision to use these engineering samples to run a qualification activity.

"ES" or *"E"* marking examples of location:

- On the targeted STM32 that is soldered on the board (for an illustration of STM32 marking, refer to the STM32 datasheet *Package information* paragraph at the *www.st.com* website).
- Next to the evaluation tool ordering part number that is stuck, or silk-screen printed on the board.

Some boards feature a specific STM32 device version, which allows the operation of any bundled commercial stack/library available. This STM32 device shows a *"U"* marking option at the end of the standard part number and is not available for sales.

To use the same commercial stack in their applications, the developers might need to purchase a part number specific to this stack/library. The price of those part numbers includes the stack/library royalties.

1.2 Codification

The meaning of the codification is explained in Table 2.

Table 2. Codification explanation

B-XXXX-YYY	Description	Example: B-CAMS-IMX
B	Board kind	Accessory board
XXXX	Board type	CAMS: Camera sensor
YYY	Specific features	IMX: Sony CMOS RGB image sensor

2 Laser safety consideration

The Time-of-Flight and gesture-detection sensor contains a laser emitter and the corresponding drive circuitry. The laser output is designed to remain within Class 1 laser safety limits under all reasonably foreseeable conditions including single faults in compliance with IEC 60825-1:2014 (third edition). The laser output remains within Class 1 limits as long as the STMicroelectronics recommended device settings are used and the operating conditions specified in the datasheets are respected. The laser output power must not be increased by any means and no optics are used to focus the laser beam. Figure 1 shows the warning label for Class 1 laser products.

Figure 1. Class 1 laser product label

Revision history

Table 3. **Document revision history**

Date	Revision	Changes
28-May-2024	1	Initial release.
06-Sep-2024	2	IC references removed.