CAM-65G4-080VIS, CAM-65G4-160VIS

Data brief

VD65G4 promodules:
Camera module evaluation samples for instant integration of VD65G4 sensor

Order code	Description
CAM-65G4-080VIS	VD65G4 promodule with 80° FoV lens, visible filter
CAM-65G4-160VIS	VD65G4 promodule with 160° FoV lens, visible filter

Features

- "Promodules": turnkey camera modules for evaluation:
  - Including VD65G4 image sensor, lens holder, lens, and plug-and-play flex connection.
  - Lens focused, glued, and tested in a cleanroom environment using specialized equipment.
  - Small footprint down to 5.0 mm square, with smaller dimension achievable as a customized solution from partner camera module integrators.
- High lens flexibility:
  - General-purpose lens enabling compact module design (80° DFOV, IR-cut filter)
  - Ultra-wide-angle lens for maximizing the field of view (160° DFOV, IR-cut filter)
- Plug-and-play connector to change promodules at any time:
  - FPC-to-board 30-pin connector.
  - Same connector for all ST promodules.
- Ready for evaluation and integration:
  - On a computer with a USB output using the EVK Main hardware tool and the Evaluation GUI free software.
  - On embedded processing platforms with a MIPI CSI-2 output using the P-Board hardware tool and free Linux software tools.

Description

The CAM-65G4 promodules are a full range of sample camera modules made for a seamless evaluation and integration of the VD65G4 ultralow-power 800x700 color image sensor. These ready-to-use vision extensions integrate VD65G4 image sensor, lens holder, lens, and plug-and-play flex connection in a tiny format down to 5.0 mm square.

The CAM-65G4 line leverages the complete toolbox of on-chip features of the VD65G4 image sensor embedded, such as autowake up, background removal, image difference, and more. Multiple GPIOs enable users to synchronize the modules with triggers and illumination. It offers versatile output interfaces: single-lane MIPI CSI-2 for high-frame-rate capture and fast, high-quality imaging on embedded platforms or I3C/SPI for simple low-power microcontroller connectivity.

Multiple promodule references are available, featuring various lenses to best match the needs of every application in terms of optical setup and mechanical constraints. All camera modules are equipped with the same FPC-to-board connector and pinout. This plug-and-play architecture allows users to change promodule instantly, and reuse the same setup with different lenses, color options, and even different image sensors in the ST BrightSense portfolio.

CAM-65G4 promodules can be tested and integrated on computers or embedded processing boards using hardware and software tools from STMicroelectronics. The compatible EVK Main and P-Board hardware kits enable straight connection to PC and embedded processing platforms respectively. Evaluation GUI software and Linux drivers are available for download from the Imaging Software section of the website.

Figure 1. CAM-65G4 promodule connector and pinout

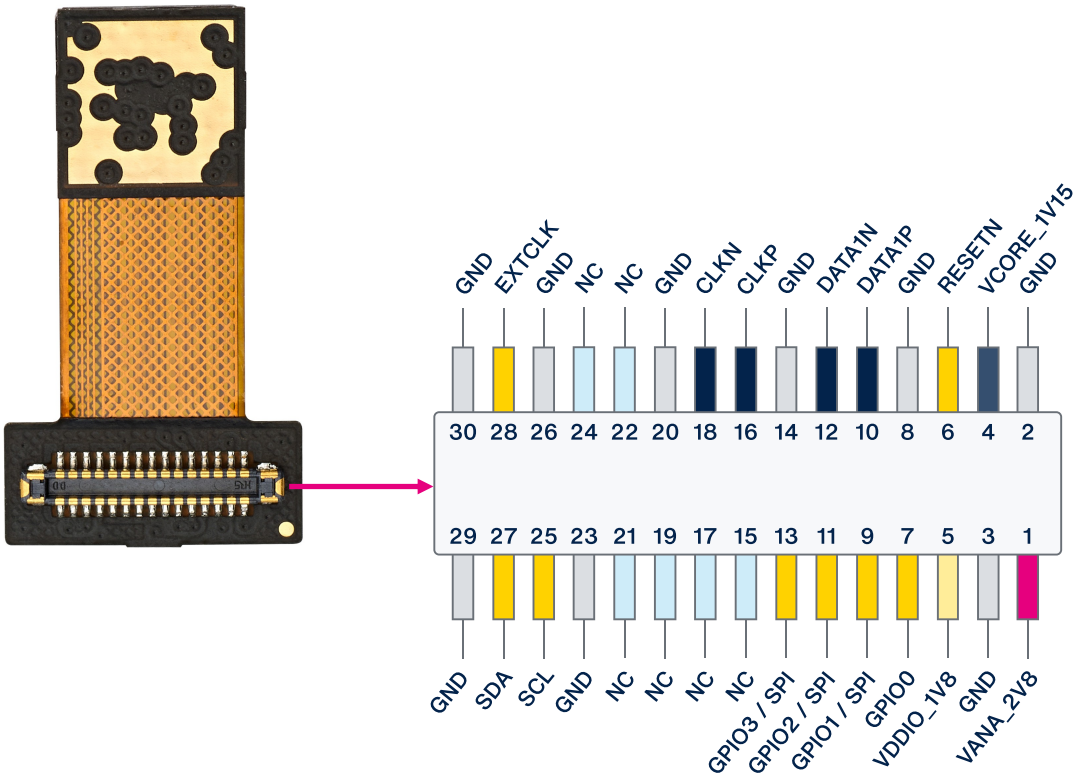
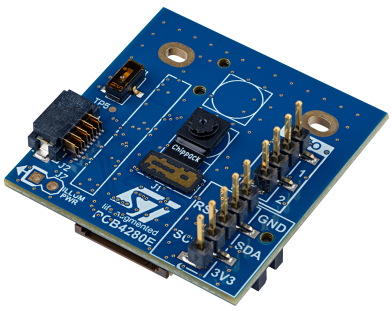


Table 1. Evaluation & development setup with CAM-65G4 promodules

	
Setup for embedded platforms with MIPI CSI-2 output	**Setup for computer with USB output**
CAM-65G4 promodule + P-Board	CAM-65G4 promodule + EVK Main

1 Technical specifications

Table 2. Technical specifications

Category	Parameter	Common specifications	
Image characteristics	Sensor featured	VD65G4	
	Resolution	0.56 MP – 804 x 704	
	Aspect ratio	Close to 1:1	
	Shutter type	Global	
	Color option	Color (RGB Bayer)	
Electrical characteristics	Connector type	FPC-to-board	
	Connector reference	Hirose BM28 B0.6-30DP/2-0.35V	
	Pinout	30 pins	
	Output interface	MIPI CSI-2 (1 lane) or MIPI I3C or SPI	
	Control interface	I²C ou I3C	
	Output format	RAW8, RAW10	
	Supply voltages	2.8 V – 1.8 V or 1.2 V – 1.1 V	
	External clock frequency	6 to 27 MHz or 27 to 42 MHz	
Embedded features	Image quality optimization	• Autoexposure • Noise reduction • Multiexposure • Gamma correction • Defect correction • Dark calibration • Analog and digital gains • Image statistics	
	Power and data optimization	• Auto wake-up • Event-like mode (image difference) • Background removal • Subsampling • Binning • Cropping • Context management with up to 4 contexts	
	Others	• Mirror/Flip • Test pattern generation • Temperature sensor • GPIOs x4	
Category	**Parameter**	**CAM-65G4-080VIS**	**CAM-65G4-160VIS**
Optical characteristics	Aperture – f/#	F/2.0	F/2.0
	Field of view – D | H | V	80° | 65° | 58°	160° | 105° | 120°
	Depth of field	16.1 cm -> INF	6.4 cm -> INF
	EFL	1.32 mm	0.825 mm
	Distortion (TV)	< 1%	< 12%
	Filter	Visible (IR-cut)	Visible (IR-cut)
Mechanical characteristics	Head dimension without lens – L x W	5.00 x 5.00 mm	6.50 x 6.50 mm
	Lens diameter - L, W	4.00 mm	7.00 mm
	Total height - H	2.55 mm	5.72 mm
	Distance from connector to optical center - L	7.45 mm	7.45 mm
	Total outer dimension - L x W x H	11.65 x 8.00 x 2.55 mm	12.65 x 8.00 x 5.72 mm

Revision history

Table 3. **Document revision history**

Date	Version	Changes
13-Aug-2026	1	Initial release

IMPORTANT NOTICE – READ CAREFULLY

STMicroelectronics NV and its subsidiaries (“ST”) reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice.

In the event of any conflict between the provisions of this document and the provisions of any contractual arrangement in force between the purchasers and ST, the provisions of such contractual arrangement shall prevail.

The purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST’s terms and conditions of sale in place at the time of order acknowledgment.

The purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of the purchasers’ products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

If the purchasers identify an ST product that meets their functional and performance requirements but that is not designated for the purchasers' market segment, the purchasers shall contact ST for more information.

ST and the ST logo are trademarks of ST. For additional information about ST trademarks, refer to www.st.com/trademarks. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.