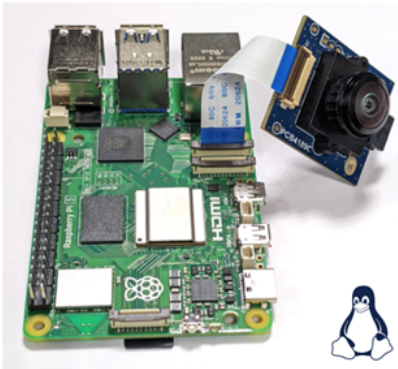# Using the V4L2 Linux driver of the VD55G0 image sensor and associated CAM-55G0 promodules with various embedded processing platforms

Features

- V4L2 (video4linux2) Linux driver for the VD55G0 image sensor
- Operates on various processing platforms
- Supports multiple kernel versions
- Supports various sensor configurations
- Compatible evaluation hardware includes:
    – VD55G0 S-Board
    – P-Board and CAM-55G0 promodules

Description

Get started with the VD55G0 image sensor within a few minutes using the STSW-IMG505: A V4L2 Linux driver that can operate on various embedded processing platforms.

It is available for free download on st.com. This turnkey driver allows users to integrate the VD55G0 sensor with zero effort and no code development. Consequently, users can focus on their algorithms and applications. The process is simple: Download the driver, build it as a module in the Linux kernel, update the device tree, and it is ready to use!

Operating under the V4L2 open-source framework, the driver supports various kernel versions. It ensures compatibility with a broad range of embedded processing platforms from many vendors worldwide. This versatile driver also supports numerous configurations and sensor features, enabling the user to benefit maximally from the rich toolbox of features that are embedded in the VD55G0 image sensor.

The STSW-IMG505 driver operates on two types of turnkey evaluation hardware kit from STMicroelectronics. All include boards, optics, and flex cables. The first option, is to use the driver with the VD55G0 S-Board: A MIPI sensor board with an M12 lens holder enabling the user to integrate any of their preferred M12 or smaller lens. The second option, is to use the driver with the P-Board: A MIPI promodule board that enables the user to plug any CAM-55G0 evaluation camera module.

Product status link
STSW-IMG505

DB5278 - Rev 1 - May 2024
For further information contact your local STMicroelectronics sales office.

www.st.com

Table 1. Specification summary

Category	Parameter	Specifications
Supported products	Supported product references	VD55G0
	Resolution	0.38 MP – 644 x 604
	Color	Monochrome
Hardware support	Processing hardware (not provided)	Embedded processing platform
	Connection to processing hardware	FFC/FPC cable
	Interface	MIPI CSI-2
	Compatible imaging hardware from ST	VD55G0 S-Board P-Board and CAM-55G0 promodules
Software support	Environment	Linux
	Framework	V4L2
	Kernel version supported	4.19 or newer LTS version (long-term support)
Supported configurations	Resolution	Discrete formats down to 320 x 240
	Frame rate	Free selection up to the maximum frame rate
	Data output	RAW8 or RAW10
	Other supported features	Auto or manual exposure control Automatic dark calibration Defective pixel correction GPIOs for extra control including trigger or LED synchronization

Revision history

Table 2. Document revision history

Date	Version	Changes
27-May-2024	1	Initial release

IMPORTANT NOTICE – READ CAREFULLY