VADZO

Wave-662CRS

2MP Color Low-Light OnVIF WiFi Camera based on Sony IMX662 Sensor

Vadzo Wave-662CRS is an ultra-low light WiFi Camera based on IMX662 Sony Starvis Sensor coupled with high-performance ISP. The camera delivers max resolution of 2MP and Video streaming of 1080p and 720p. Applicable in use cases such as traffic monitoring camera, patient monitoring camera, security camera, video surveillance camera, smart parking camera, ICU camera, etc.

Key Features

- Sensor Model: IMX662 Sony Starvis Sensor
- Max Resolution: 2 MP
- Pixel Size: 2.9 µm x 2.9 µm
- Shutter: Rolling Shutter
- Lens FOV: 105 DFOV
- Compliance: OnVIF, RoHS 3, REACH

Applications

- **Smart Parking Camera:** Parking Space Detection, Traffic Flow Management, Vehicle Monitoring, etc.
- **Patient Monitoring Camera:** Patient Bedside Monitoring, Fall Detection & Prevention, Baby Monitoring, ICU Monitoring.
- **Smart Surveillance Camera:** Facial Recognition, Day/Night Video Recording, Smart Parking, Pedestrian Safety.

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1. Introduction

Wave-662CRS is a OnVIF Compliant dual band WiFi Fixed-Focus color camera based on IMX662 Sony Starvis sensor. The camera incorporates the IMX662 Bayer sensor from Sony integrated with an on-board Image Signal Processor (ISP) to perform functions such as debayering, demosaicing, color correction, contrast correction, gamma correction, denoising, lens corrections, and so on.

In addition to this, the ISP also supports Auto functions such as Auto-Exposure and Auto-White Balance that help achieve excellent HDR performance even in ultra-low light environments. This advanced camera comes with dual-band WiFi (802.11a/b/g/n/ac) for robust and reliable wireless communication.

2. Camera Specifications

General Information	
Product Family	Wave series
Camera Model	Vadzo Wave-662CRS
Sensor	
Sensor	IMX662 CMOS sensor from Sony
Sensor Format	1/2.8”
Pixel Size	2.9 µm x 2.9 µm
Max Resolution	2MP – 1920(H) x 1080(V)
Shutter	Rolling Shutter
Chroma	Color
Camera Data	
Interface	Dual Band WiFi (802.11a/b/g/n/ac), Bluetooth BT 5.0 (On-Request)
Pixel Depth	8bit
Output Format	H.264, H.265
Exposure Control	Manual Control via software & Auto-Exposure
GPIO	Night Mode IR Illumination with cut filter support LED Board

Camera Hardware	
Lens	S Mount (M12 Standard)
Antenna	On-board chip antenna with external antenna support.
Power Supply	Operates on 5VDC via a USB connector, On-board battery charging with gauging capabilities, available upon request.
Power Requirement	Max: 1.75 W (Without LED Board) Min: 1.05 W (Without LED Board)
Operating Temperature	-40^{0}C to 85^{0}C
Dimension	38mm (L) x 38mm (B) Two Boards
Weight	25 Grams (Without Lens)
Camera Software	
Video Resolutions	VGA, HD, and Full HD
Video formats	H.264 and H.265
Still Image Resolutions	VGA, HD, and Full HD
Image Capture formats	MJPEG
Image Capture Modes	Software trigger
Camera Controls	Brightness, Exposure, Contrast, Sharpness, Saturation, Gamma, Gain, White Balance
Additional Controls	CBR (Constant Bit Rate), VBR (Variable Bit Rate), Quality Control, Flip, IR Brightness Control along with IR Cut Filter Control* (For Specific Variant)
OS Supported	Windows, Linux, and Android
Conformity	
Conformity	OnVIF Profile T (Default) Compliant, RoHS3, REACH

3. Supported Resolutions

Single Stream Mode:

Resolution	Frame Rates (FPS)	
	H.264	H.265
320 x 240 (QVGA)	30	30
640 x 480 (VGA)	30	30
1280 x 720 (HD)	30	30
1920 x 1080 (FHD)	30	30

Dual Stream Mode:

Resolution	Frame Rates (FPS)	
	Stream 1	Stream 2
	H.264	H.265
320 x 240 (QVGA)	30	30
640 x 480 (VGA)	30	30
1280 x 720 (HD)	30	30
1920 x 1080 (FHD)	30	30

4. Supported Camera Functions

The List of functions supported by the Wave-662CRS camera are:

- Resolution Control
- Image Format Setting
- Video Format Setting – H.264 and H.265
- Dual Stream capability can be enabled
- Image Capture Software Trigger
- Gain – Auto & Manual
- Exposure – Auto & Manual
- White Balance – Auto & Manual
- Anti Flicker – 50Hz/60Hz
- Contrast Control
- Gamma Control
- Hue & Saturation Control
- Sharpness Control
- WiFi SSID Configuration
- Network Configuration
- Fail-safe Firmware Update

5. WiFi Interface

The camera module is equipped with dual-band WiFi (802.11a/b/g/n/ac), providing robust and high-speed wireless connectivity for data transmission. This interface supports seamless video streaming, control signals, and remote configuration, eliminating the need for wired connections. Additionally, Bluetooth 5.0 functionality is available on request, enabling advanced pairing and low-latency communication. Vadzo recommends secure network configurations for enhanced performance and reliability.

6. IR LED Board

The IR LED Board is equipped with advanced IR illumination LEDs and an integrated IR Cut Filter Control for enhanced night vision and image clarity.

IR LED Brightness Control: Adjust the brightness of the IR LEDs easily via the web UI, allowing for optimal illumination based on environmental conditions.

IR Cut Filter Control: The IR Cut Filter operates in two modes

- **Auto Mode:** Automatically switches between day and night modes based on lighting conditions.
- **Manual Mode:** Gives users full control to toggle between day and night modes via the web UI.

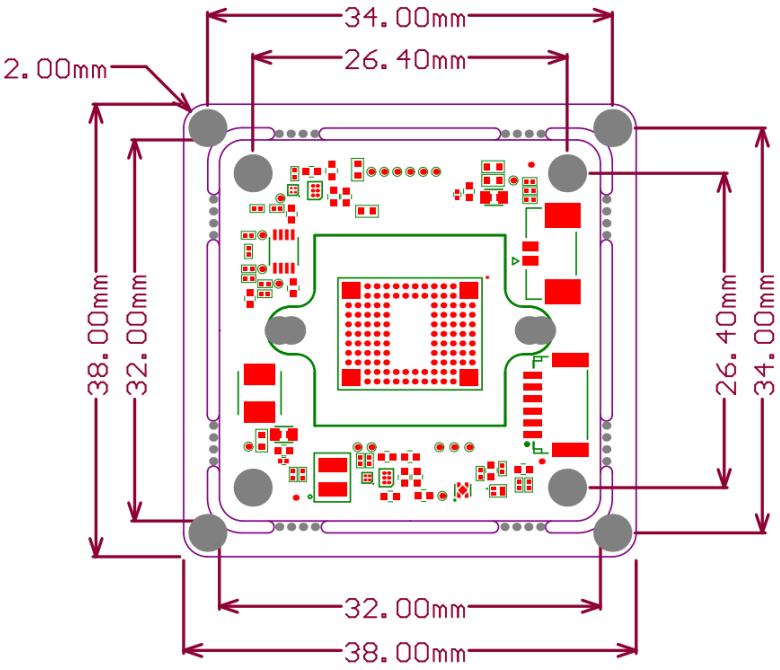
Both brightness and IR Cut Filter configurations can be seamlessly managed through the user-friendly web interface, providing flexible and precise control for various lighting environments.

7. Temperature and Humidity Specifications

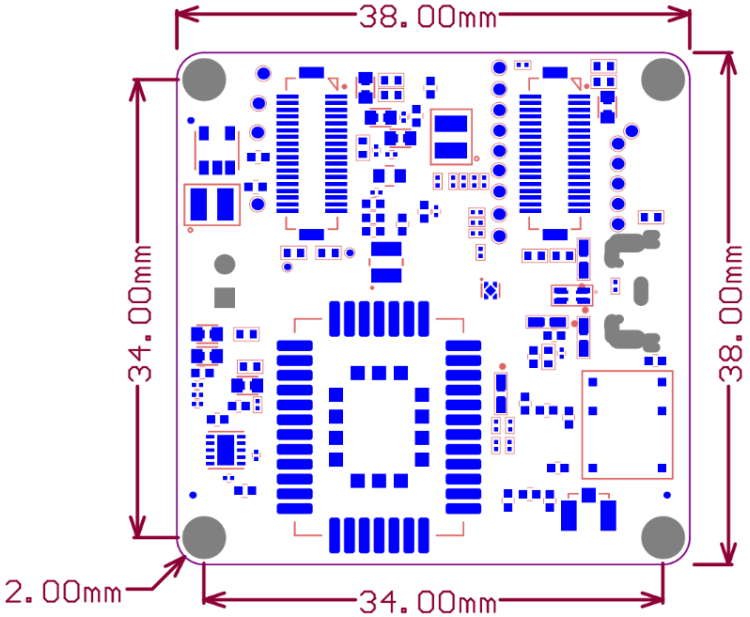
Description	Specification
Operating Temperature	-40^{0}C to 85^{0}C
Storage Temperature	-40^{0}C to 85^{0}C
Humidity	20% to 80%, Relative, non-condensing.

8. Dimensions

Board 1: Top Board – 2D



Board 2: WiFi Board - 2D



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