Evaluation Kit User Guide

(DOC No. WiseGuardEVK-UG)

EVK User Guide
WiseGuard™
WM-Series AI Sensor

WM0101/WM0102
WM0201/WM0202

Preliminary version 02 October 2026

Himax Technology, Inc.
http://www.himax.com.tw

Revision History

October 2026

Version	Date	Description of changes
01	2026/09/25	New setup.
02	2026/10/16	Updated sensor list
		-

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1. General Description

The Himax WiseGuard™ AI sensor Evaluation Kit (EVK) evaluation kit is a USB-based evaluation board featuring comprehensive software for complete sensor control, metadata and image data visualization, and firmware updates.

Key Features

- USB-Based Board: Connects directly to a Windows PC for power and data transmission
- Sensor Control: Allows real-time configuration and management of sensor parameters
- Metadata and Image Data Display: Reads and shows live metadata output from the sensor
- Firmware Updates: Supports easy system updates to maintain optimal performance

What's Included in Evaluation Kit

- WiseGuard™ AI sensor
- Sensor bridge board
- 'Viewer' application software (Windows O/S only)

Please visit Himax GitHub: https://github.com/HimaxWiseEyePlus for the latest documents.

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2. Supported WiseGuard™ Sensors

Product	Features	Color	Field Of View	IO Voltage
WM0101-00	- AI Body Detection - Motion Detection - Event Triggered VGA Snapshot - Smart Crop Snapshot	RGB	98.1° (H) x 73.2° (V)	3.3V
WM0102-00		RGB	98.1° (H) x 73.2° (V)	3.3V
WM0201-00		RGB	159° (H) x 118.7° (V)	1.8V
WM0202-00		RGB	159° (H) x 118.7° (V)	1.8V

Table 2.1: Supported WiseGuard™ Sensors

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3. Evaluation Board Overview

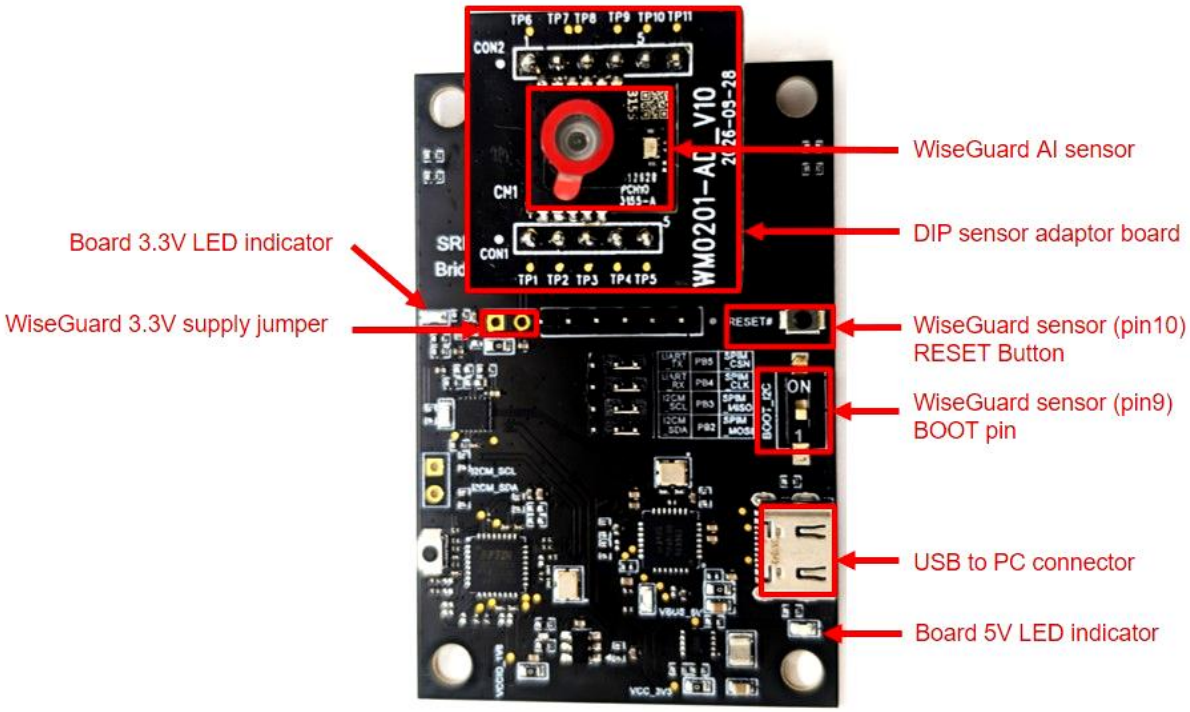


Figure 3.1: Evaluation Board (top view) Overview

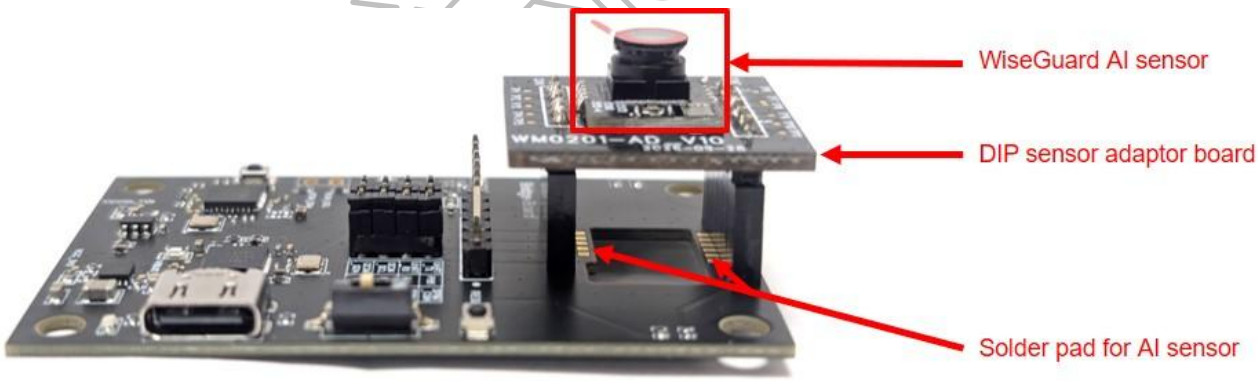


Figure 3.2: Evaluation Board (side view) Overview

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4. Getting Started

4.1. USB Driver

WiseGuard™ evaluation board utilizes a USB2.0 bridge controller to interface with a Windows PC.

1. Unzip the WiseGuard™ Viewer file to a local folder
2. Plug the evaluation board to the PC
3. The USB bridge controller driver will be installed automatically.
4. Verify by opening the Device Manager and expand the 'Universal Serial Bus Controller' entry. Right click 'FT4222H Interface', then select Properties to check if driver is working.
5. If the driver is not working, select Update Driver. This will lead you to update driver, by selecting the folder C:\...\WiseGuard_Tool_internal\ft4222

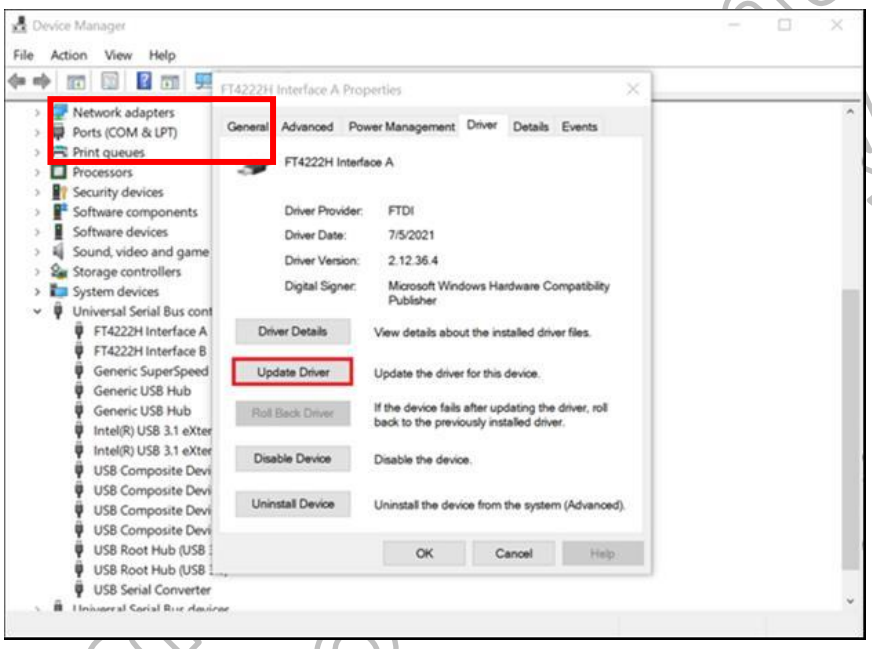


Figure 4.1: Device Manager

4.2. Evaluation Board SPI Configuration

The evaluation board USB bridge controller is configured for SPI slave mode. Though WiseGuard sensor supports both SPI master and SPI slave, the sensor will be configured for SPI master for the evaluation board.

4.3. Sensor Boot Configuration

WiseGuard™ sensor is configured to boot from embedded flash memory. The evaluation board BOOT_I2C switch should be set low as shown in the figure below.



Figure 4.2: Evaluation Bridge Board Boot Switch

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4.4. Using Viewer Software Application

Launch the WiseGuard™ Viewer application. The user interface follows the sensor design as detailed in the WiseGuard™ application note.

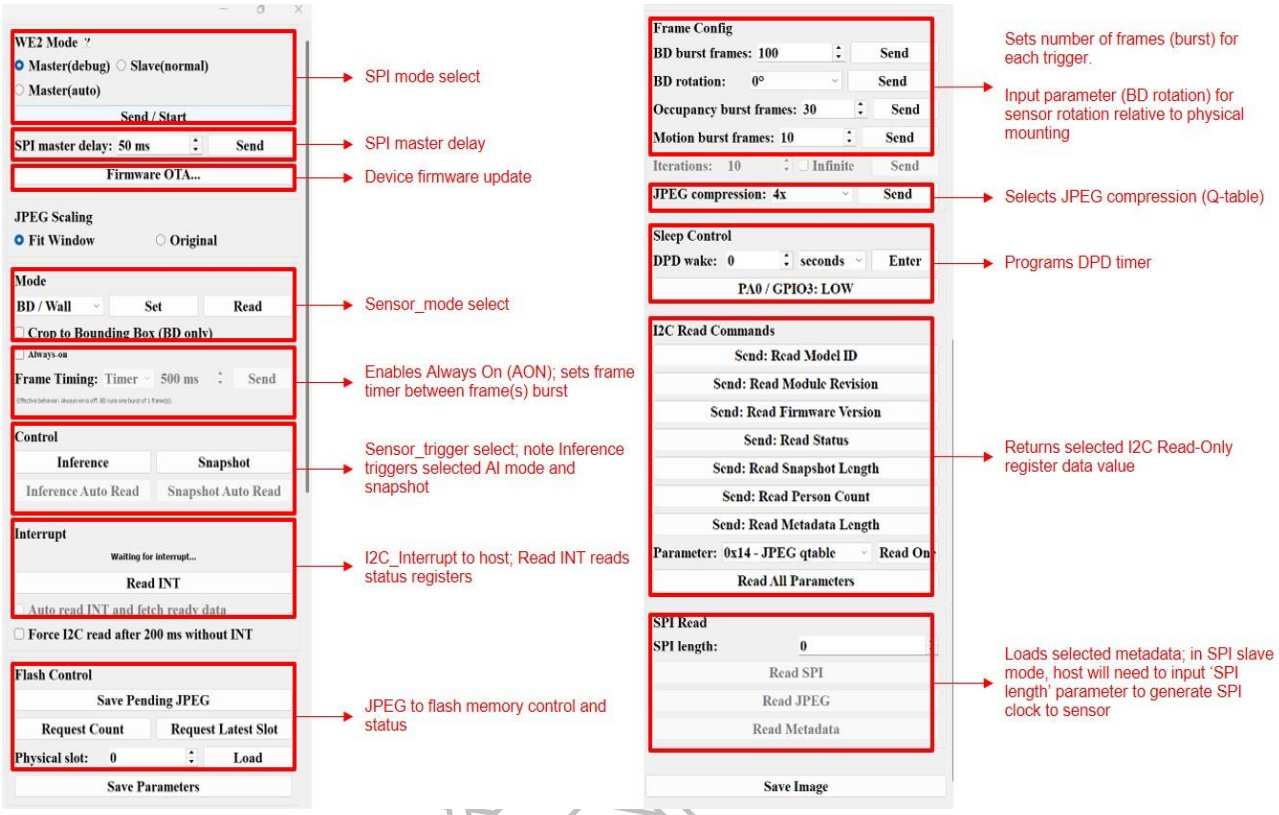


Figure 4.3: WiseGuard™ Viewer application software overview

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5. Using WiseGuard™

5.1. Body Detection & JPEG Snapshot

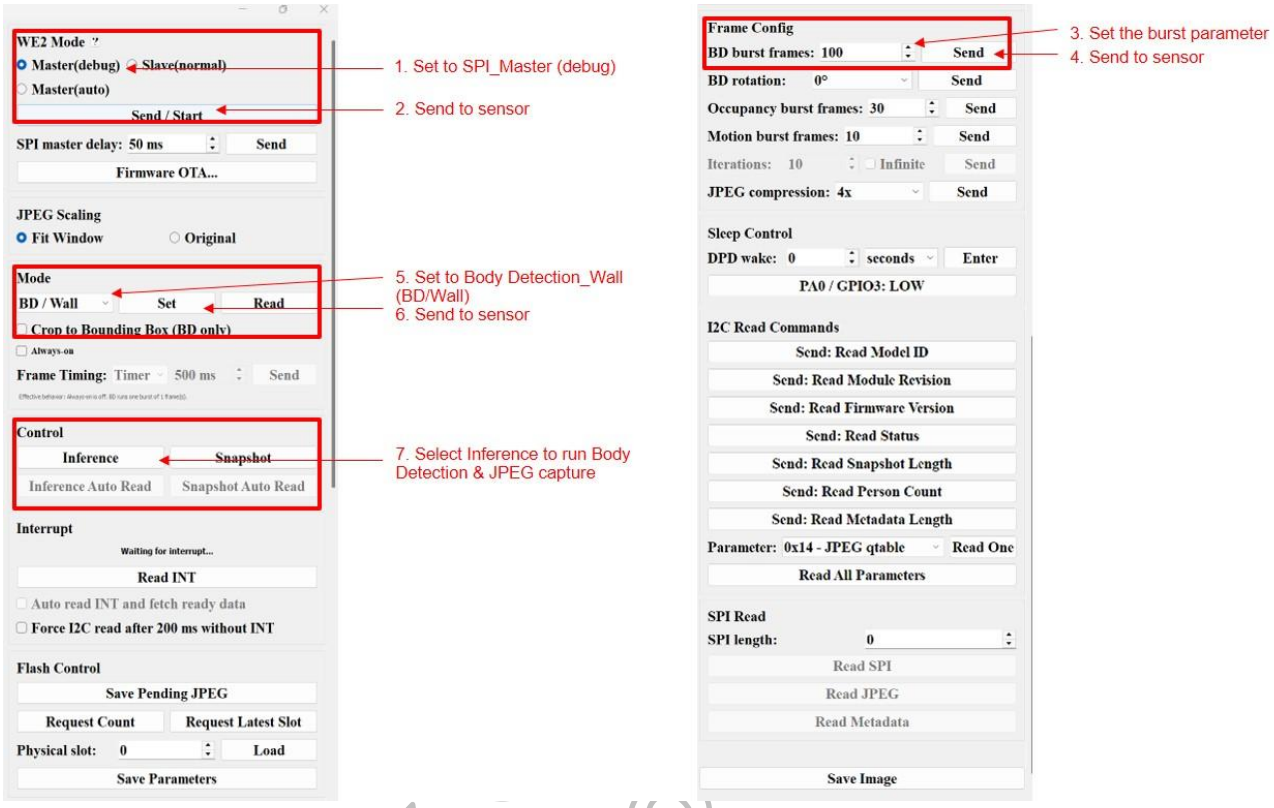


Figure 5.1: Programming sequence for Initial Setup and Triggering BD & JPEG Snapshot

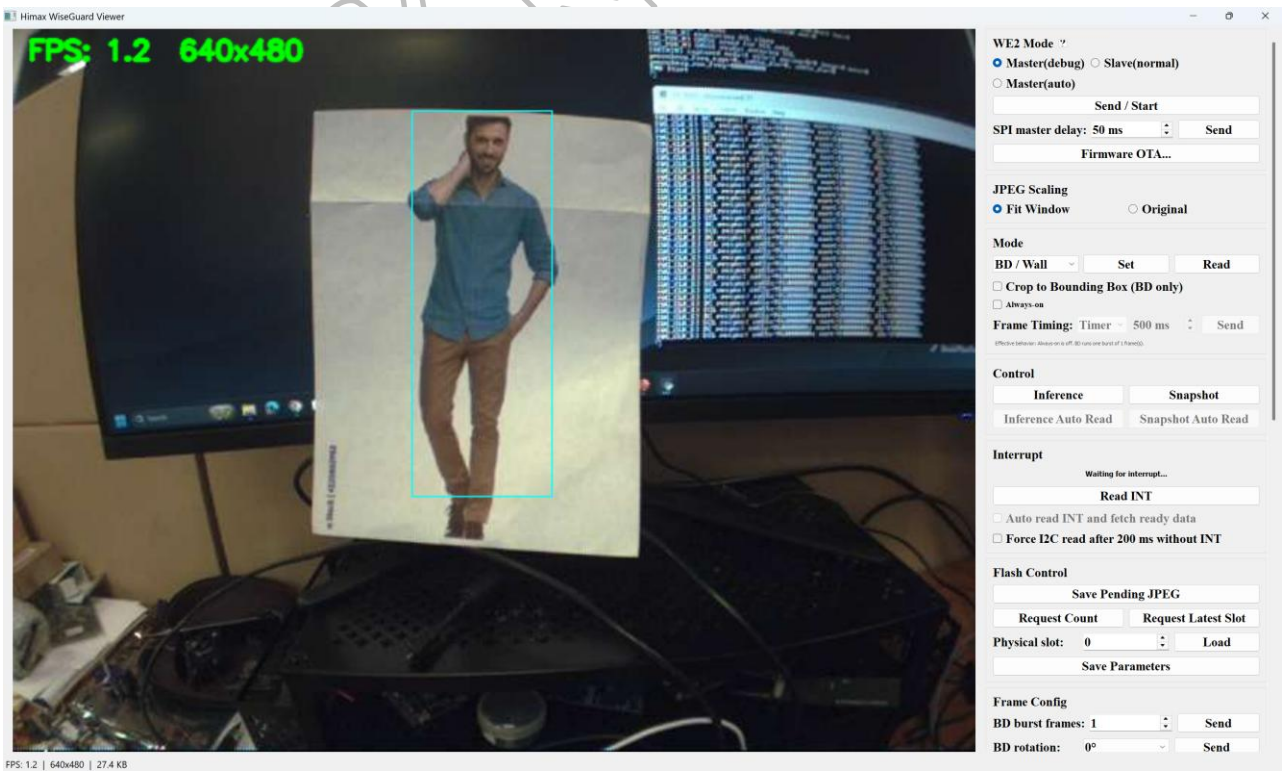


Figure 5.2: Screen shot of BD & JPEG example

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5.2. Crop to Body Detection Bounding Box

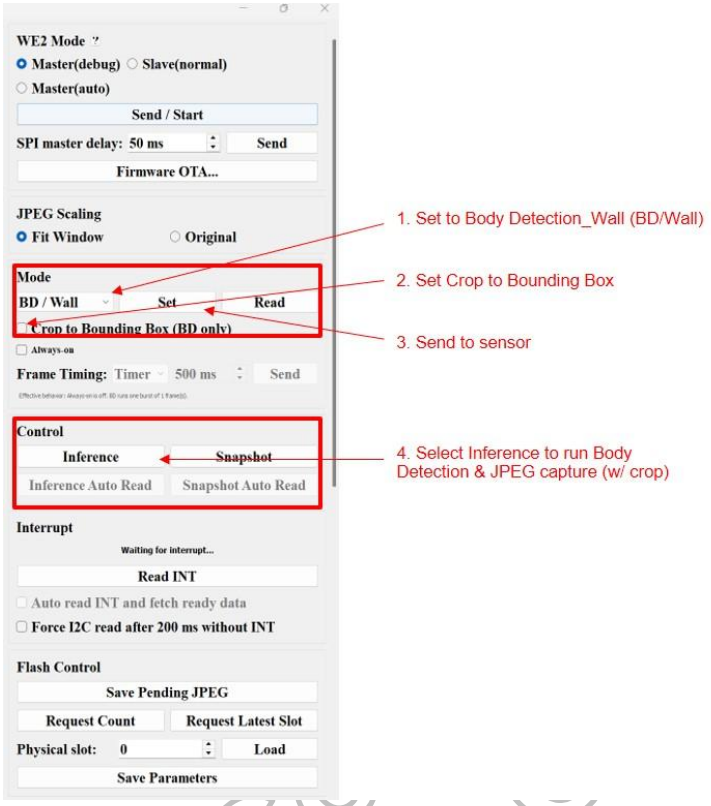


Figure 5.3: Programming sequence for BD & Cropped JPEG to BD Bounding Box

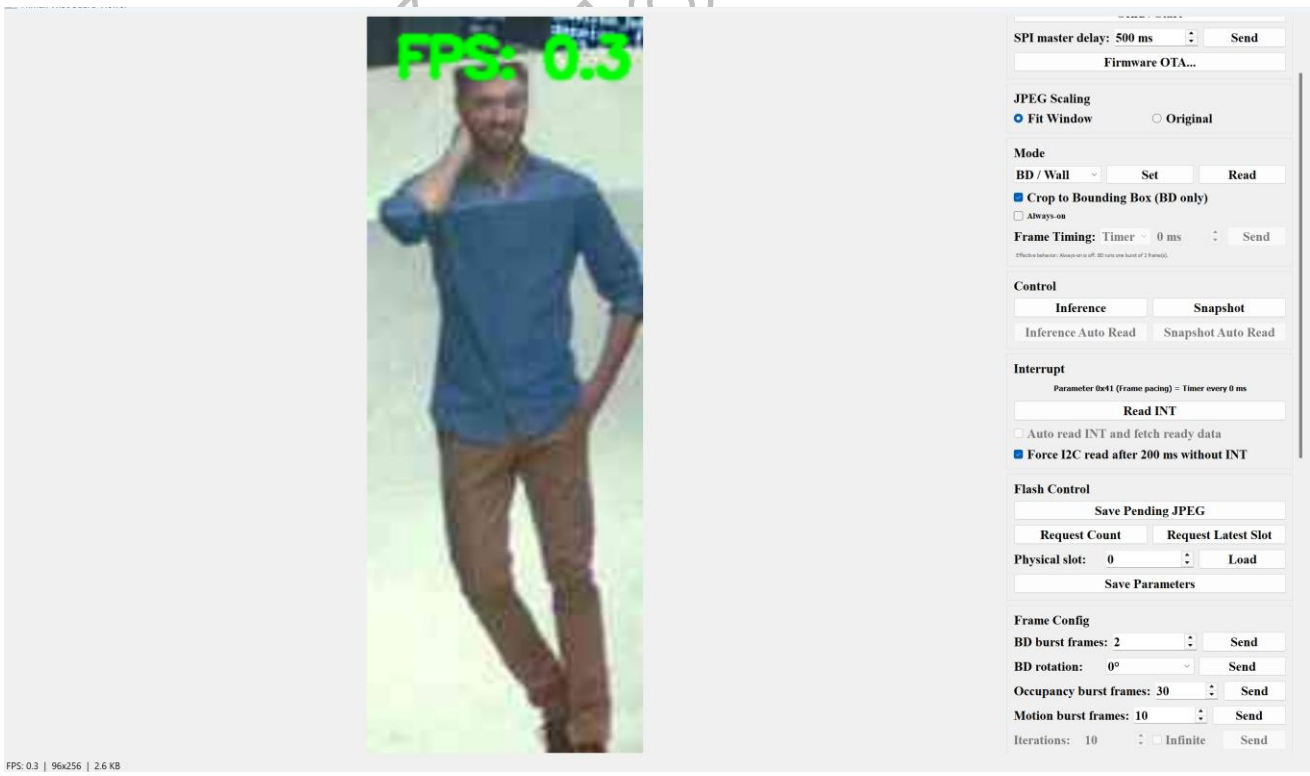


Figure 5.4: Screen shot of BD & Cropped JPEG example

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5.3. Configuring Sensor Rotation

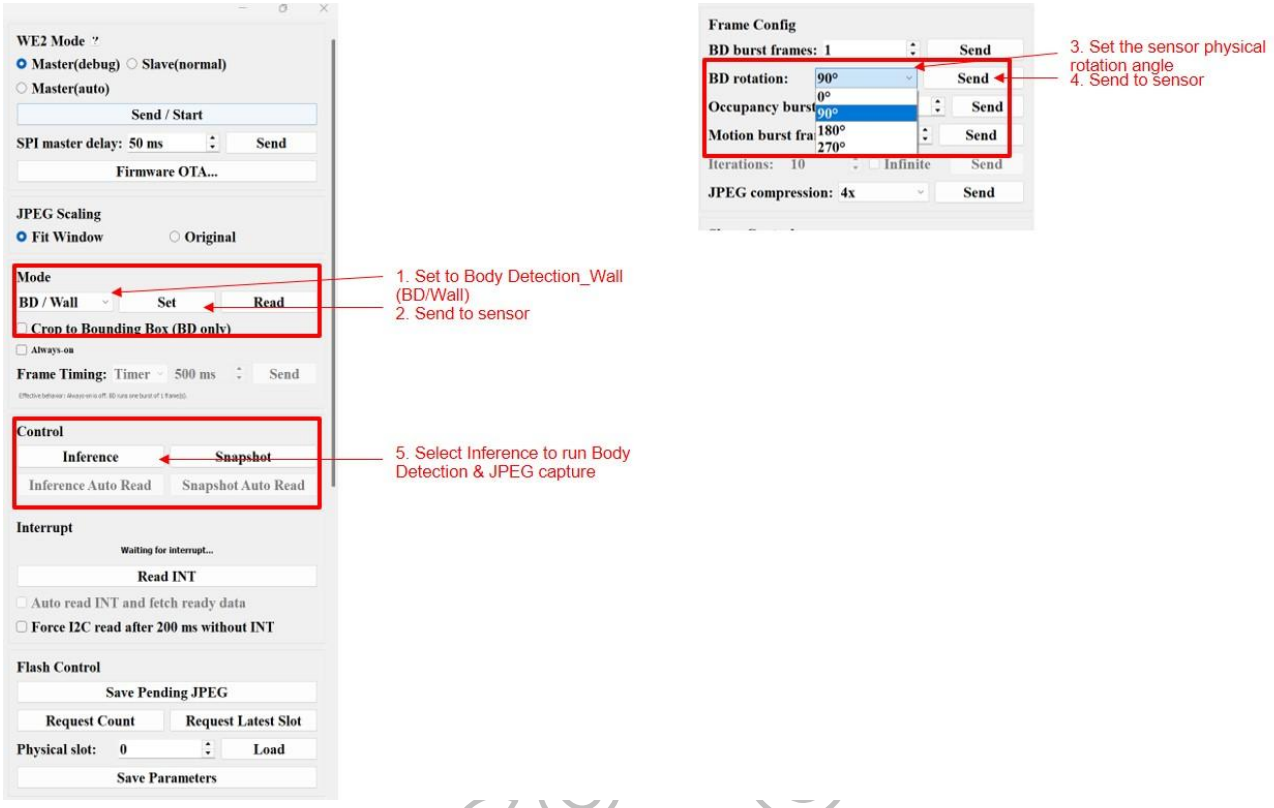


Figure 5.5: Programming Sequence for Sensor Rotation

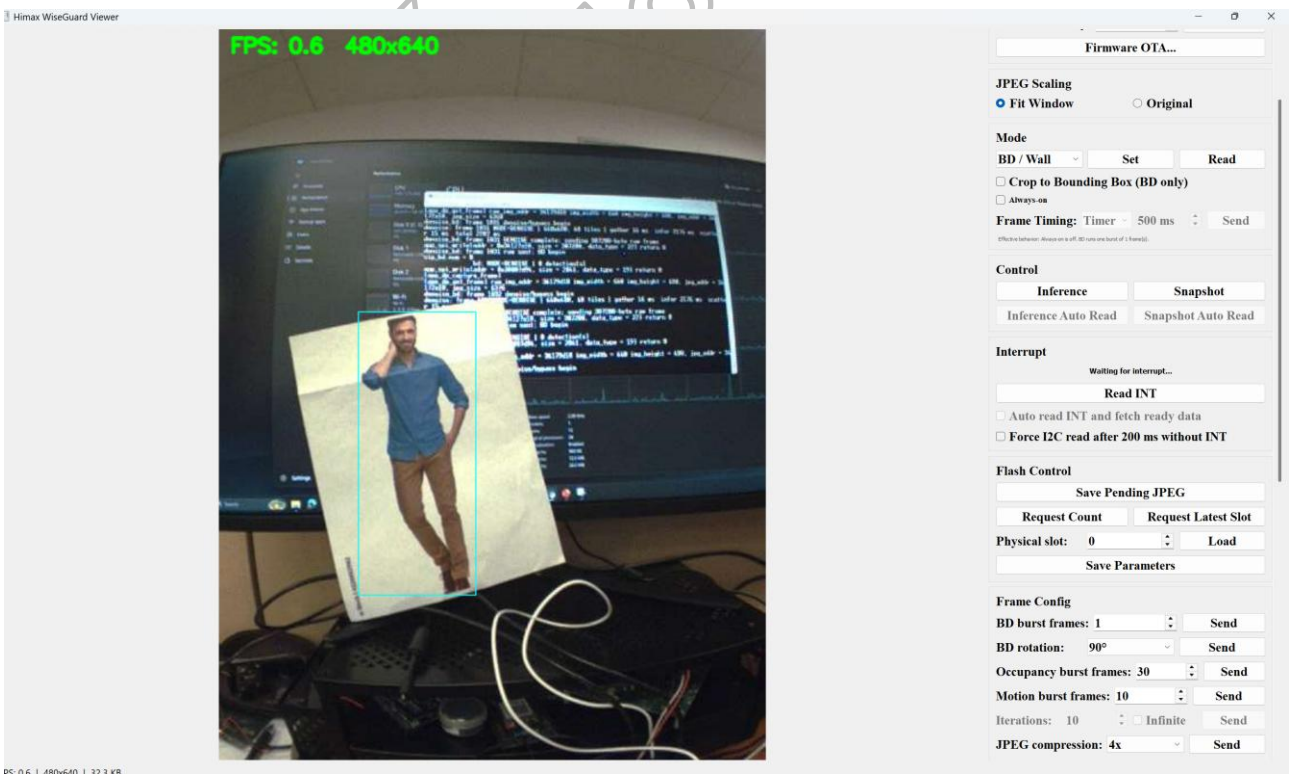


Figure 5.6: Screen shot of 90° Sensor Rotation example

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5.4. Configuring JPEG Compression

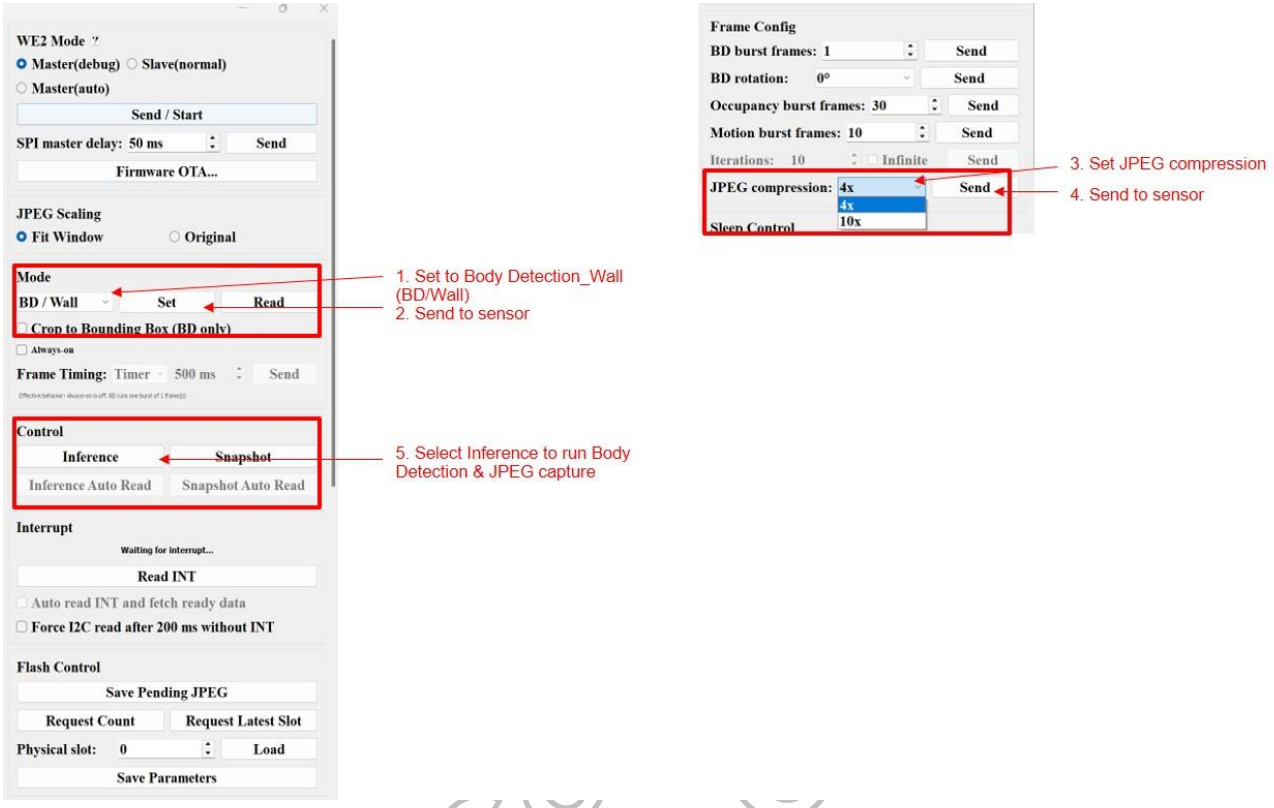


Figure 5.7: Programming Sequence for Setting JPEG Compression

5.5. Read Status / Read-Only Registers

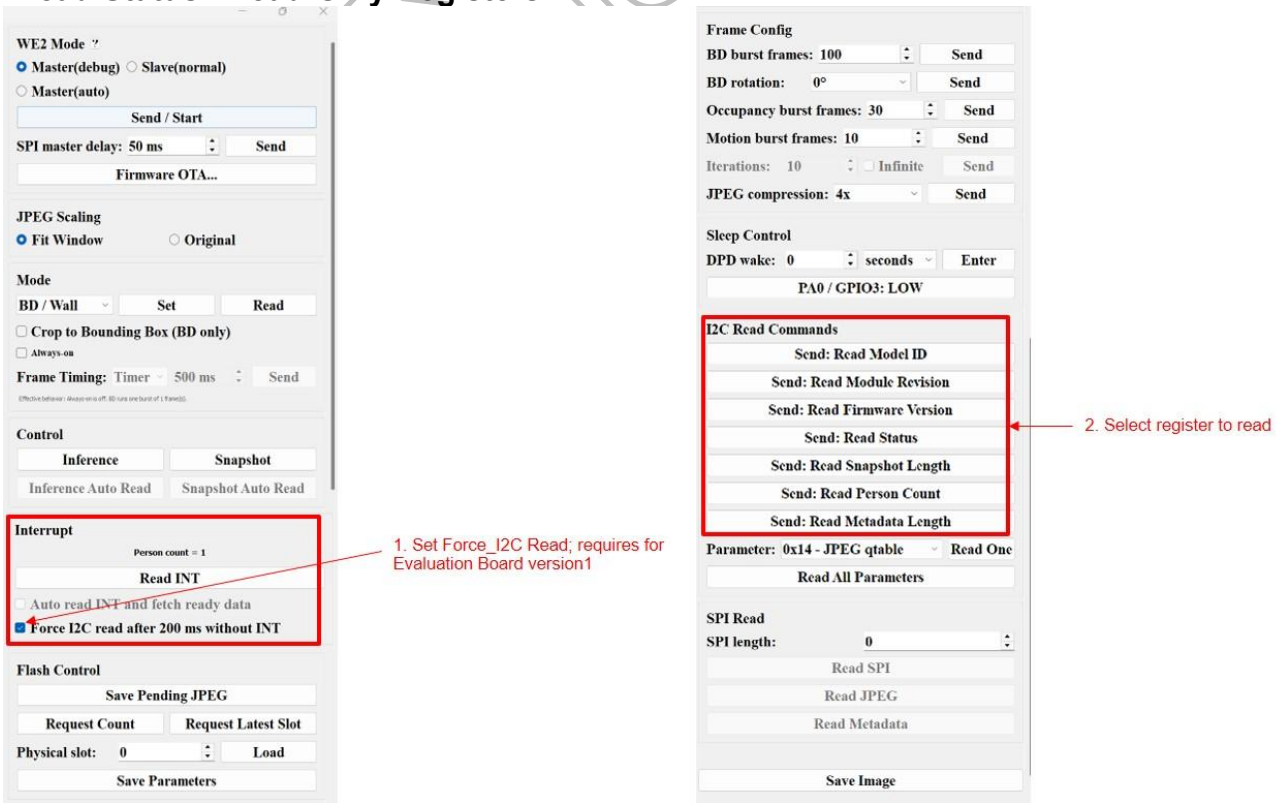


Figure 5.8: Programming Sequence to Read Status / Read-Only Registers

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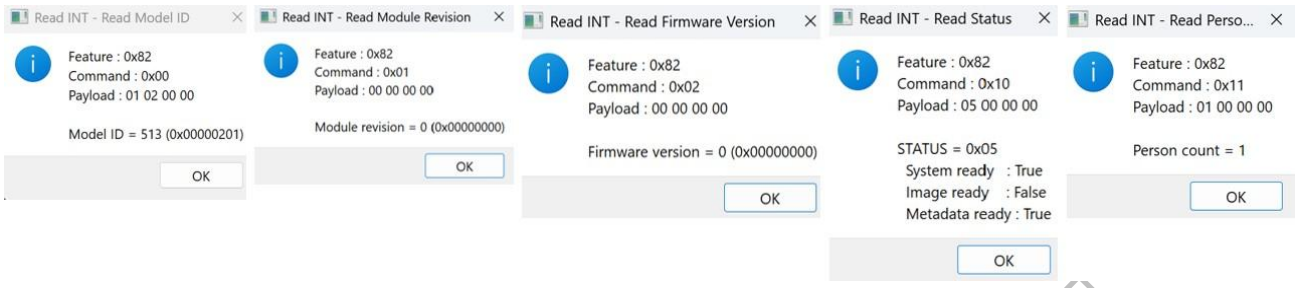


Figure 5.9: Read Register Return (Register 0x00, 0x01, 0x02, 0x10, 0x11 shown)

5.6. Read In-Use Parameters

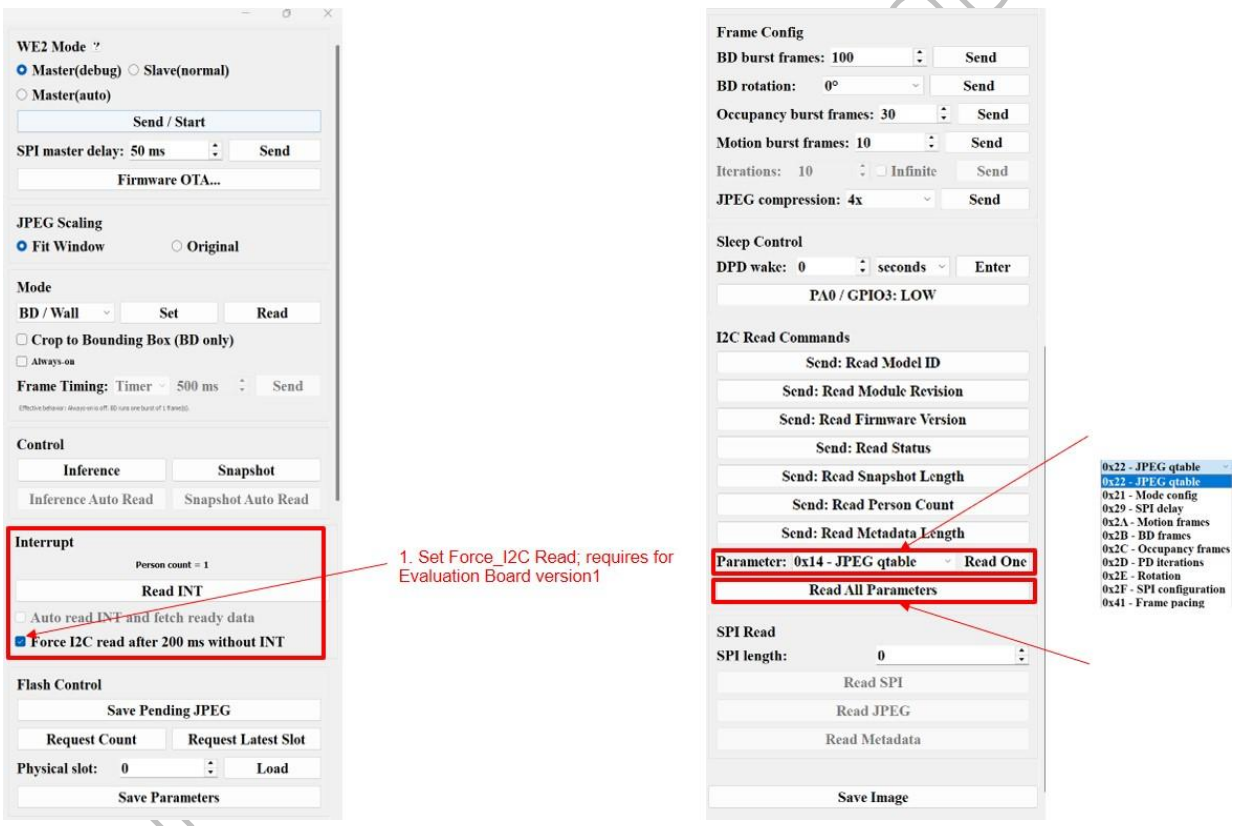


Figure 5.10: Programming Sequence to Read In-Use Register Parameters

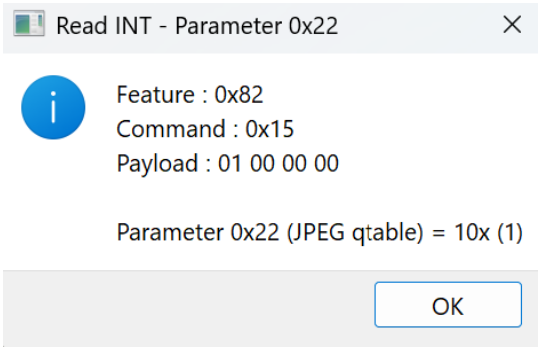


Figure 5.11: Read Register Return (Register 0x22 shown)

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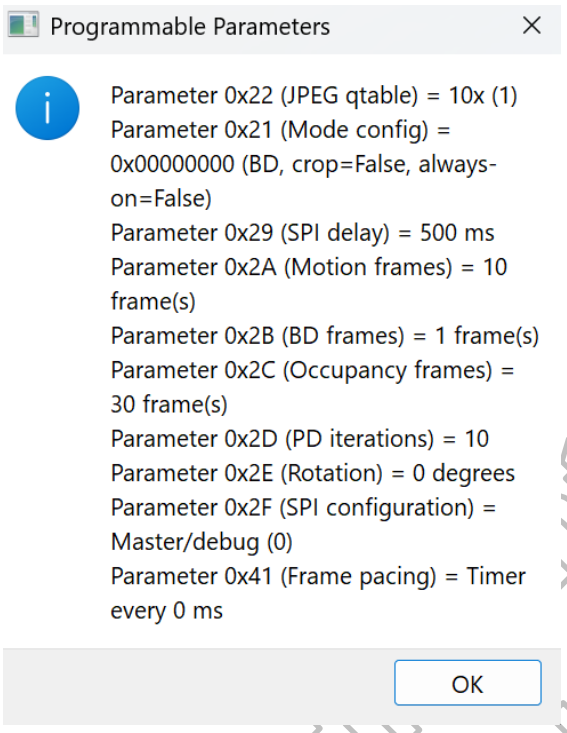


Figure 5.12: Read All Parameters Register Return

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