LIPSedge™ L235

3D Structured Light Camera

Datasheet

April 2026

Version 1.0

April 2026

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Revision History

Ver.	Release Date	Description
1.0	2026/04/23	Product release

1. Overview

1.1 Features

- Advanced Structured Light technology bring us high depth accuracy, up to +/- 0.3%@1.0m
- Tiny size of module allows to build in device like PAD
- High sun light resistance, up to 80K Lux @100cm
- Low power consumption with 1.4W (typical)

1.2 Application Use-Cases

- LIPSense™ Hand Gesture
- LIPSense™ Eye Tracking

2. Specifications

2.1 Technical Information

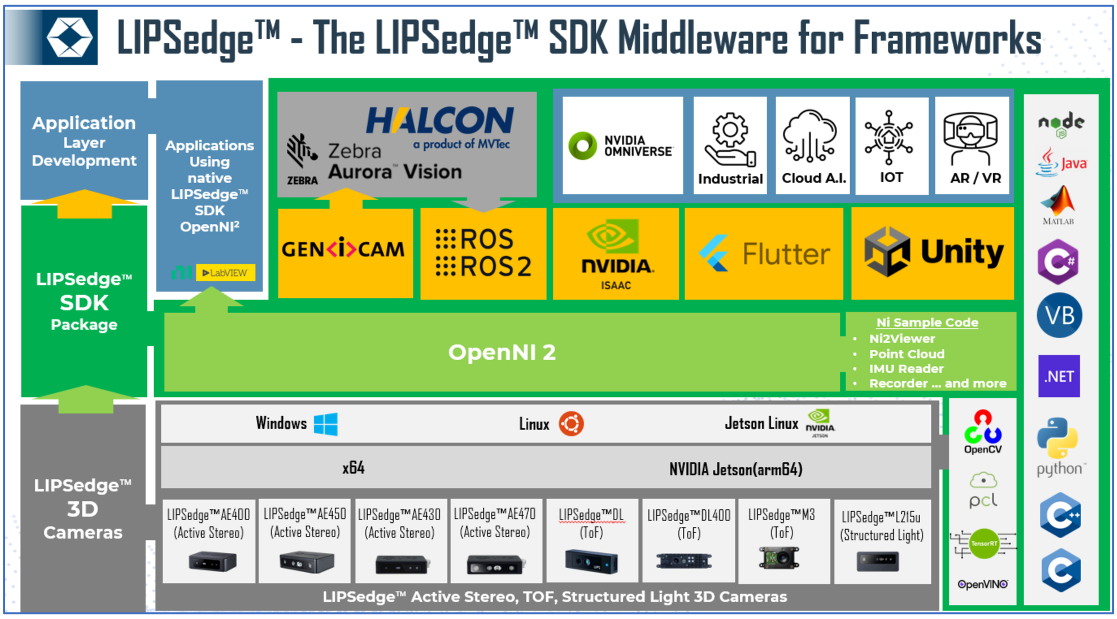
Image		L235
Depth	Technology	Structured Light
	Maximum Working Distance	1 m +
	Minimum Working Distance	0.4 m
	Frame Rate	640 × 480 @ 90fps
	FoV(H × V x D)	72° x 57° x 92°
	Baseline	40 mm
	Shutter Type	Global Shutter
	Z Accuracy	≤ 0.3% (up to 1m and 70% of FoV)
Illumination		
Illumination Type		Infrared
IR Wavelength		940 nm
Illuminating Component		Vertical-cavity surface-emitting laser (VCSEL)
General		
Dimension (mm)		With Enclosure: 65.0mm x 25mm x 22 mm
Weight		With Enclosure: Approximately 58 g (module: 18 g)
Ambient Temperature (° **C**)		0 - 40
Storage Temperature (° **C**)		-20 - 60
Mounting Mechanism		1/4” camera screw compatible (1/4-20UNC)
Output Interface		USB Type C
Power input		USB power-in, DC 5V/1A
Supported OS		Windows 11 / Linux Ubuntu 24.04
Working Environment		Indoor

Note: All specifications are subject to change without prior notice.

3. System Architecture

LIPS 3D camera / SDK offers a system for developing depth-sensing applications. As the LIPS system architecture illustrates, the system is comprised of the hardware layer and the software layer.

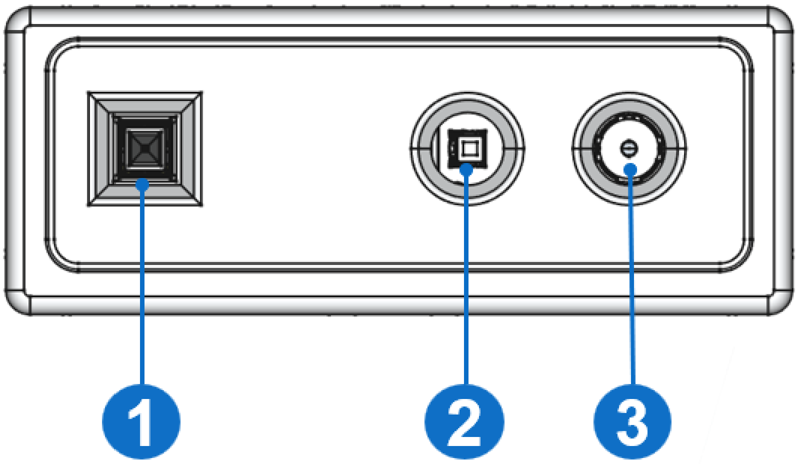
The hardware layer oversees data capture, transfer, and processes. In the software layer, the captured data is fetched by the LIPS SDK (Software Development Kit) on the OS environment. Depending on the project complexity, wrappers and third-party utilities may be engaged before the data is eventually presented in the application layer for business applications.

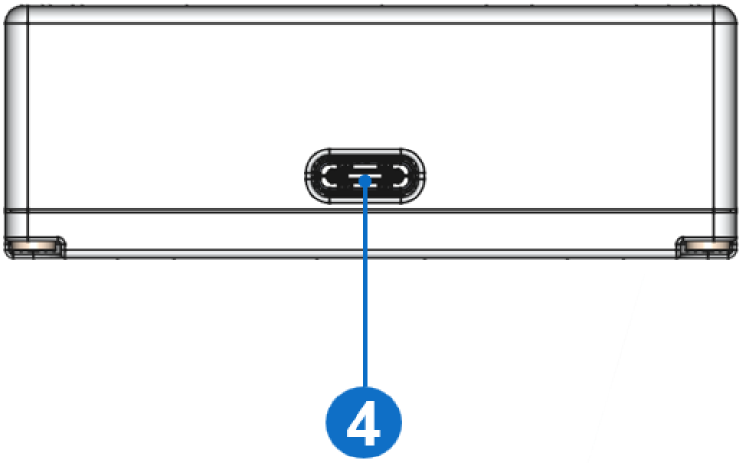


The core of the system, the LIPS SDK, is comparable to a toolbox full of software modules comprised of middleware, libraries, wrappers and API, and miscellaneous programming languages / platforms for application development. With extensive wrapper support, LIPS SDK enables developers to access bottom layer data with APIs, thus eliminating the hassle of changing third-party functions. The result is a highly effective project scoping, monitoring, and execution workflow compatible with the fast-pacing AIoT market and machine vision demands.

4. Hardware Details

4.1 General Characteristics





No.	Name	Functions
1.	NIR illuminator	Emit NIR structure dots light
2.	Flood Projector	Emit uniform, flat IR light to enhance lightness
3.	Depth Camera	Collects depth data.
4.	USB 3.0 Interface	Connects to a USB 3.0 type A to C Cable.

Note: Do NOT obscure or block the openings of the camera’s optical components to ensure the optimal performance of the camera.

4.2 Host Connectivity

USB Type-C connector consists of 24 signal pins designed in a symmetrical way. The connector z-height is as low as 3 mm and enables enhanced user by allowing the USB Type-C plug to be plugged into a receptacle either right side up or upside down.

USB Signal			
Pin #	Pin Name	Type	Description
A2	SSTX1p	Out	Type-C Port - USB SuperSpeed differential Signal TX1 positive
A3	SSTX1n	Out	Type-C Port - USB SuperSpeed differential Signal TX1 negative
A5	CC1	In/Out	Type-C Configuration channel signal 1
A6	HS_DP	In/Out	High-speed/Full-speed/Low-Speed differential pad on the positive
A7	HS_DM	In/Out	High-speed/Full-speed/Low-Speed differential pad on the negative
A10	SSRX2n	In/Out	Type-C Port - USB SuperSpeed differential Signal RX2 negative
A11	SSRX2p	In/Out	Type-C Port - USB SuperSpeed differential Signal RX2 positive
B2	SSTX2p	In/Out	Type-C Port - USB SuperSpeed differential Signal TX2 positive
B3	SSTX2n	In/Out	Type-C Port - USB SuperSpeed differential Signal TX2 negative
B5	CC2	In/Out	Type-C Configuration channel signal 2
B6	HS_DP	In/Out	High-speed/Full-speed/Low-Speed differential pad on the positive
B7	HS_DM	In/Out	B7 HS_DM In/Out High-speed/Full-speed/Low-Speed differential pad on the negative
B10	SSRX1n	In/Out	Type-C Port - USB SuperSpeed differential Signal RX1 negative

B10	SSRX1p	In/Out	Type-C Port - USB SuperSpeed differential Signal RX1 postive
Power supply			
A4, A9 B4, B9	VBUS	In	5.0V power supply
A1, A12 B1, B12	GND	In	Grounding
A8	NC	In	No connection pin. It should be floating

Thermal

Temperature Specification

Items	MIN	NOM	MAX	UNIT
Storage Temp.	-20	-	+60	°C
Ambient Operation Temperature	0	-	+40	°C

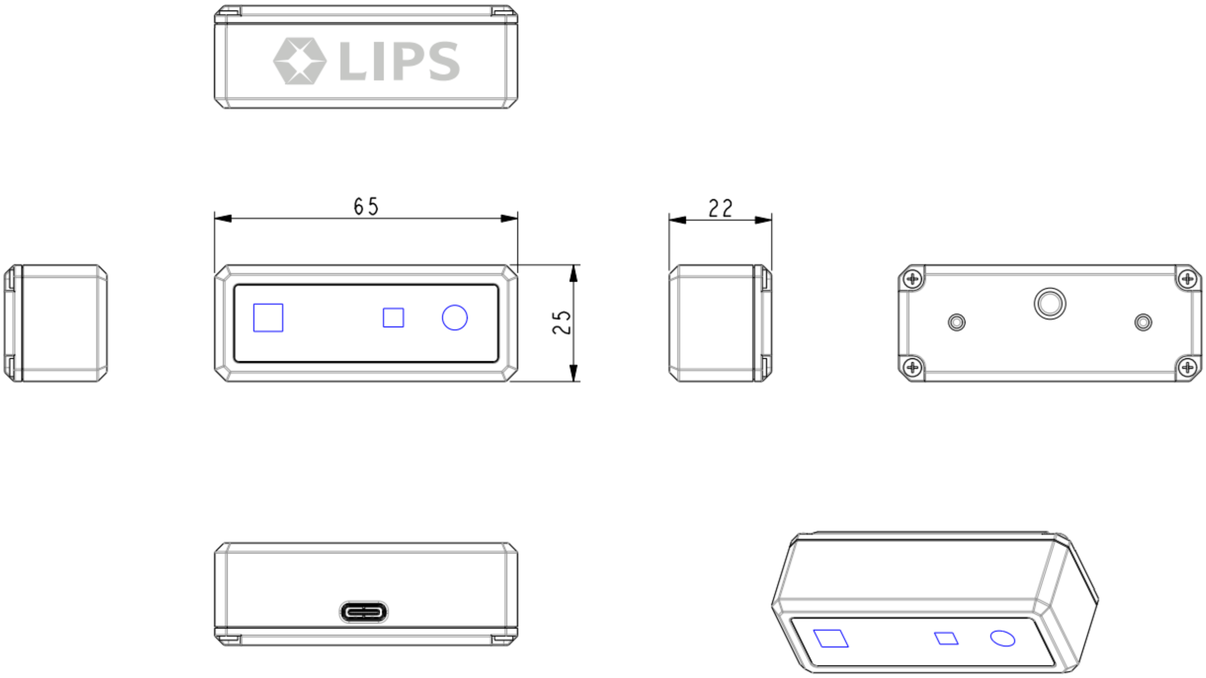
Note: Maximum temperature of 3D projector: 60°C

4.3 Power Consumption and Current

Items	Values
Average Power Consumption	1.5W
Continuous Current	0.3A
Peak Current	0.75A

5. Mechanical Engineering

5.1 Mechanical Dimension



Dimension	MIN	NOM	MAX	TOLERANCE	UNIT
X	64.5	65	65.5	±0.5	mm
Y	24.5	25	25.5	±0.5	mm
Z	21.5	22	22.5	±0.5	mm

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