LIPSMetric™ VD115

Vehicle Dimensioner

Datasheet

May 2026
Revision 1.0

May 2026

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Contents

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Revision History

Revision	Description	Date
0.X	Internal	2026/6/2

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Notes for Integrators

I. System Requirements

For optimal LIPSMetric™ VD115 Vehicle Dimensioner performance, use the project-approved IPC image, network configuration, and camera firmware delivered by LIPS or the authorized system integrator.

Item	Minimum / Project Requirement
Computing platform	NVIDIA Jetson Orin AGX IPC
Operating system	Linux / JetPack 6 or project-approved Linux image
Camera network	Dedicated Ethernet network recommended
Camera power	PoE / project-defined power device
Storage	Sufficient space for logs, image records, depth data, point cloud data, and result files
Display	HDMI monitor or remote access method for setup and maintenance
External host	Ethernet connection if result upload, API, database, or access control integration is required

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II. System Components

LIPSMetric™ VD115 uses the following hardware configuration.

Series	Model	Usage
LIPSedge™ AE Series	AE450	Vehicle width and height measurement
	AE430	Chassis height or underbody clearance measurement
LIPSMetric™ Series	VD115	Vehicle dimensioner system package

Note: Replacing the supported hardware with a third-party device may lead to system failure. Do NOT replace the camera model, IPC, cable, power device, or network topology without confirming compatibility with the project engineer.

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III. External Dependency Issues

LIPSMetric™ VD115 Vehicle Dimensioner may interact with third-party or site-specific components such as network switches, databases, access control systems, parking tower controllers, file servers, and API clients. If an integration issue occurs, check both the LIPSMetric™ VD115 Vehicle Dimensioner log and the external system log.

Component	Possible Dependency
Network switch / PoE device	Camera link stability, power budget, cable quality
External host	IP address, firewall, port, endpoint availability
Database or file server	Path permission, account permission, storage capacity
REST API client	Request format, timeout, retry logic, response parsing
Access control or parking controller	Trigger timing, status signal, pass/fail handling

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IV. API / Host Integration Support

LIPSMetric™ VD115 Vehicle Dimensioner can be deployed as a local application workflow or integrated into a host system. Available interfaces depend on the delivered project configuration.

Interface	Description
Local application	Operator starts measurement, reviews status, and checks results
CSV / JSON file	Host system reads measurement result from the project-defined folder
RESTful API	Project-defined API for result transfer or command control
Database	Project-defined storage and query workflow
Digital I/O	Optional trigger or status signal if supported by delivered hardware

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V. Camera Tools

The LIPSedge™ T225/T235 SDK User's Manual uses camera access, depth viewer, point cloud viewer, capture, and recording tools as diagnostic references. LIPSMetric™ VD115 Vehicle Dimensioner follows the same service concept, but the actual tool name and enabled functions depend on the delivered LIPSMetric™ VD115 Vehicle Dimensioner software package.

Tool / View	VD115 Usage
Live view	Confirms AE450 and AE430 image availability
Depth view	Confirms depth data quality and measurement coverage
Point cloud viewer	Reviews 3D data for installation or debugging if enabled
Capture function	Saves current image, depth map, point cloud, or diagnostic frame
Recording function	Records a short diagnostic sequence if enabled
Status console / log	Shows camera ID, software version, timestamp, warnings, and errors

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1. Overview

LIPSMetric™ VD115 is a real-time vehicle dimensioning system for parking facilities, access control lanes, vehicle inspection, and logistics sites. The system combines LIPS 3D sensing, edge computing, and project-defined calibration to measure vehicle width, vehicle height, and chassis height as a vehicle passes through the measurement area.

LIPSMetric™ VD115 uses a Jetson Orin AGX IPC as the main processing platform and integrates two 3D cameras: LIPSedge™ AE450 for vehicle body width and height measurement, and LIPSedge™ AE430 for underbody or chassis height measurement.

Item		Description
Product		LIPSMetric™ VD115 Vehicle Dimensioner
Application		Vehicle profile measurement and access control support
Main processor		NVIDIA Jetson Orin AGX industrial IPC
Camera configuration	**LIPSedge™ AE450**	Measures the vehicle width/height
	LIPSedge™ AE430	Measures the chassis height
Main output		Width, height, chassis height, timestamp, status, image/depth/point-cloud records

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2. Features

Smart Parking
Real-time vehicle measurement for parking space allocation

Gate Access Control
Verify vehicle size to enable or restrict entry through gated systems

Large Vehicle Detection
Identify oversized vehicles for alerting, logging, or rerouting

- **3D Vehicle Sensing**: Captures vehicle body profile beyond 2D presence detection
- **Chassis Height Measurement**: Helps evaluate underbody clearance for parking or transfer systems
- **Edge Processing**: Reduces dependency on cloud processing and supports local decisions
- Real-time vehicle metrics measurement.
- Dual-camera architecture for vehicle body / underbody coverage.
- Edge AI processing on Jetson Orin AGX IPC for low-latency operation.
- Supports image capture, depth map, point cloud, result logging, and host integration.
- Supports CSV, JSON, database, REST API, or project-defined output flow.
- Suitable for parking towers, gate access control, inspection lane, and logistics workflows.
- Fixed installation with ROI, calibration, and validation records for repeatable deployment.
- Support for LIPSedge™ AE series camera

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3. Working Environment

3.1 Site Requirements

Unstable site conditions can reduce measurement repeatability, affect camera visibility, and increase hardware maintenance risk. Make sure the installation environment matches the following guidelines to enable stable vehicle measurement through proper measurement area preparation, equipment placement, environmental control, cable routing, hardware protection, and service access.

- **Ground surface**: The installation site shall provide a flat and stable ground surface suitable for repeatable vehicle measurement.
- **Measurement lane**: The measurement lane must be clearly defined so vehicles pass through the configured measurement area consistently.
- **Camera visibility**: The camera's position should keep the required vehicle body and chassis measurement areas visible during operation.
- **Illumination**: Lighting conditions should avoid strong direct sunlight, unstable shadows, and severe reflections where possible.
- **Vibration**: all cameras and brackets must remain fixed to prevent measurement deviation.
- **Cable protection**: Cables shall be routed and protected against vehicle impact, operator contact, water exposure, and abnormal bending.
- **IPC ventilation**: The IPC shall be installed in a location with sufficient ventilation, airflow, and service access.
- **Operating temperature**: The operating temperature range shall be defined according to the IPC and camera models delivered.

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3.2 Vehicle / Lane Requirements

Measurement obstruction hampers the system's ability to capture complete vehicle body and chassis data. For optimal performance, keep the measurement region clear of vehicle parts, operators, equipment, and lane structures during operation.

- **Vehicle path**: the vehicle shall pass through the configured lane according to the site operation rules.
- **Vehicle speed**: the vehicle shall follow the project-defined speed.
- **Vehicle position**: The vehicle shall remain inside the configured measurement region.
- **Occlusion**: the measurement area shall be kept clear of occlusions caused by people, poles, cones, signs, barriers, or other equipment.
- **Chassis visibility**: The LIPSedge™ AE430 view shall remain unobstructed by lane structures or tires to preserve chassis visibility.
- **Surface condition**: The measurement surface shall also be kept free of puddles, reflective objects, and loose debris.

4. Hardware Setup

4.1 Hardware Requirements

Below are the delivered package items that shall be confirmed before installation. Verify that all hardware, accessories, cables, mounting components, power devices, and related documents are included and match the approved project configuration.

No.	Item	Qty.
1.	**NVIDIA Jetson Orin AGX IPC**	1
	Main processing unit	
2.	**LIPSedge™ AE450 3D Camera**	1
	Width and height measurement	
3.	**LIPSedge™ AE430 3D Camera**	1
	Chassis height measurement	
4.	**LIPSedge™ AE450 mounting bracket**	1
	Project-defined	
5.	**LIPSedge™ AE430 mounting bracket**	1
	Project-defined	
6.	**Network or camera cable**	TBD
	According to wiring plan	

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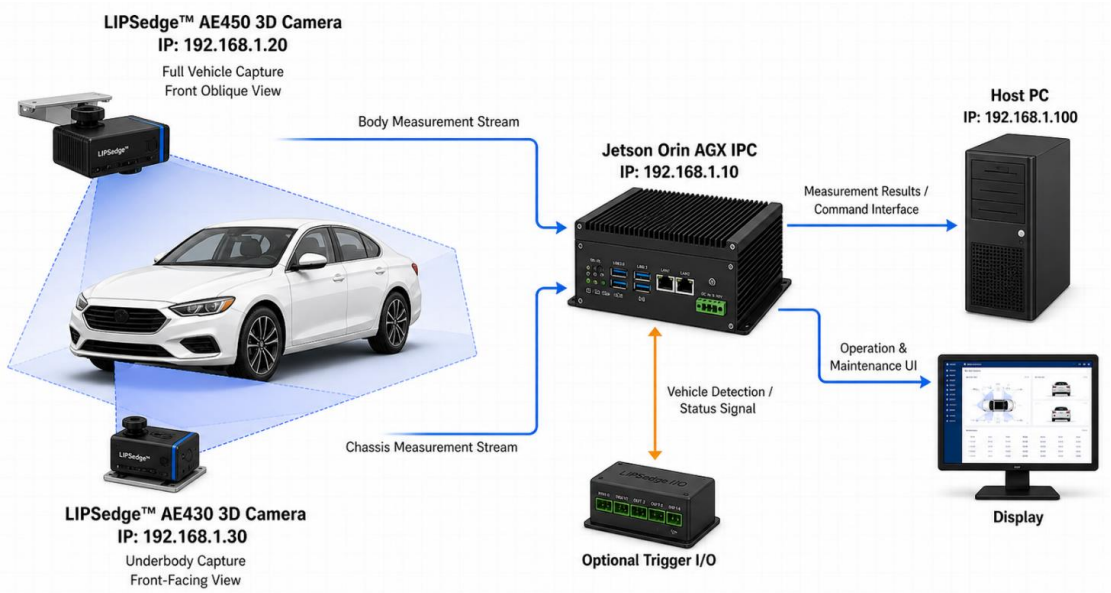
No.	Item	Qty.
7.	**Power supply / PoE / network device**	TBD
	According to delivered configuration	
8.	**Calibration chart or reference object**	TBD
	Used for verification	

4.2 System Diagram



Once the hardware components have been verified, the system diagram provides a conceptual view of the overall architecture. The system is centered on the Jetson Orin AGX IPC, which functions as the main controller for AI processing, 3D processing, storage, and external communication.

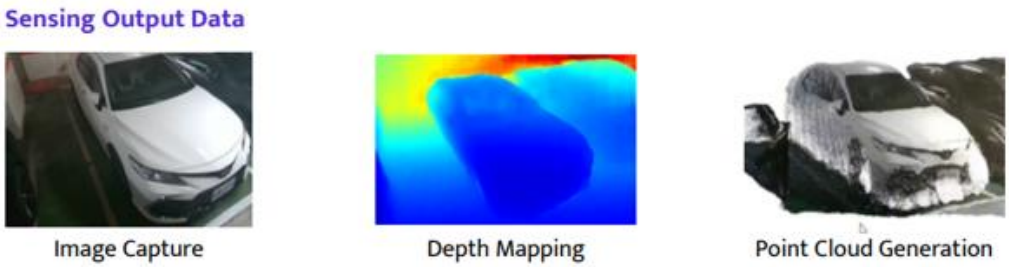
Two 3D cameras connect to the IPC through the camera network. The ` LIPSedge™ AE450 captures vehicle body data used for width and height measurement. It should be placed so the full vehicle body profile remains inside the configured field of view and region of interest. The LIPSedge™ AE430 captures underbody data used for chassis height measurement. It should be placed where the underbody measurement area is visible and protected from impact or water splash. For optimal performance, make sure the network and power are properly connected to provide camera connectivity and host communication.

The IPC is then connected to an external host that handles the uploaded measurement results or provides a host command interface. At the same time, the IPC is also connected to a display to supports local operation and maintenance UI. Optional trigger I/O can be connected for vehicle detection, status signals, or access-control integration.

An example network configuration assigns the IPC to `192.168.1.10`, the LIPSedge™ AE450 camera to `192.168.1.20`, the LIPSedge™ AE430 camera to `192.168.1.30`, and the external host to `192.168.1.100`. Actual IP addresses are site-specific and marked as TBD.

Overall, the graph shows how the LIPSMetric™ VD115 system utilizes the LIPSedge™ AE450 and AE430 cameras to capture body and chassis data, send it to the Jetson Orin AGX IPC for processing, and the IPC distributes results to external hosts, local displays, or integration interfaces.

As the LIPSMetric™ VD115 system captures vehicle data and sends it to the IPC for processing, it combines vehicle body sensing and underbody sensing to support measurement, review, and troubleshooting. Depending on the camera model, the 3D cameras can provide RGB or image capture for visual evidence, IR images for camera diagnostics and detection review, depth maps for measurement processing and site verification, and point-cloud data for 3D analysis, debugging, and validation.



4.2.1 Camera Installation

After reviewing the system diagram and confirming the hardware layout, install the cameras at the approved project locations. LIPSedge™ AE450 and LIPSedge™ AE430 serve different measurement purposes and shall be positioned according to their configured field of view, measurement region, and environmental protection requirements.

For detailed installation, wiring, SDK setup, and camera configuration instructions, refer to the corresponding product user manuals:

- LIPSedge™ AE450 3D Ruggedized Stereo Camera User's Manual
- LIPSedge™ AE430 3D Ruggedized 3D Stereo Camera User's Manual

LIPSedge™ AE450 Installation

LIPSedge™ AE450 is used for vehicle width and height measurement. Mount LIPSedge™ AE450 where the complete vehicle body profile remains within the configured field of view. The mounting position shall provide a clear view of the full measurement region and follow the approved system layout.

1. Confirm the approved LIPSedge™ AE450 mounting position.

2. Install the bracket on the prepared structure.

3. Mount LIPSedge™ AE450 on the bracket and leave the screws slightly adjustable.

4. Connect the power and data cables according to the wiring plan.

5. Adjust the LIPSedge™ AE450 camera angle until the full vehicle body measurement region is visible.

6. Confirm the live image and depth data from LIPSedge™ AE450.

7. Tighten all bracket screws after the camera position is verified.

8. Record the final mounting height, angle, distance, IP address or device ID, and cable length.

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LIPSedge™ AE430 Installation

LIPSedge™ AE430 is used for chassis height or underbody clearance measurement. Mount LIPSedge™ AE430 where the underbody measurement region is visible and where the camera can be protected from vehicle impact, water splash, and road debris.

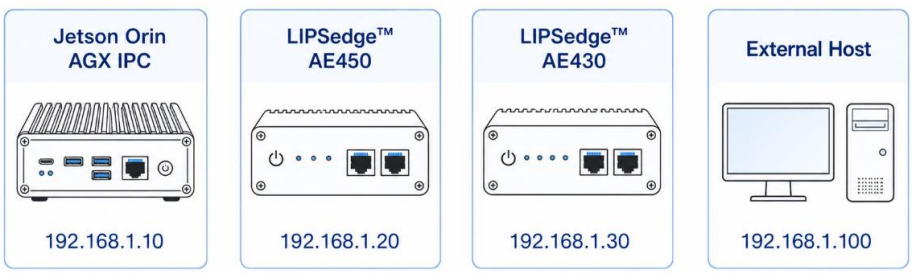
1. Confirm the approved LIPSedge™ AE430 mounting position.
2. Install the bracket at the project-defined chassis measurement position.
3. Mount LIPSedge™ AE430 on the bracket.
4. Connect the power and data cables according to the wiring plan.
5. Adjust the LIPSedge™ AE430 camera angle until the underbody measurement region is visible.
6. Confirm the live image and depth data from LIPSedge™ AE430.
7. Protect LIPSedge™ AE430 and its cables from impact, water splash, and road debris.
8. Record the final mounting height, angle, distance, IP address or device ID, and cable length.

4.2.2 IPC & Network Configuration

After installing the camera, install the NVIDIA Jetson Orin AGX IPC at the project-approved location. The IPC serves as the central controller for camera data acquisition, AI processing, 3D processing, storage, and external communication. Its installation shall follow the approved system layout, wiring plan, and network configuration.

1. Install the Jetson Orin AGX IPC in the project-approved location.
2. Connect power to the Jetson Orin AGX IPC.
3. Connect a monitor, keyboard, and mouse if local operation is required.
4. Connect LIPSedge™ AE450 and LIPSedge™ AE430 to the camera network or to the designated IPC network port.
5. Connect the external network if host system integration is required.
6. Power on the Jetson Orin AGX IPC, LIPSedge™ AE450, LIPSedge™ AE430, and related network devices.
7. Confirm that the network links are active.
8. Confirm that LIPSedge™ AE450 and LIPSedge™ AE430 are detected by the IPC.
9. Record the final IP address, device ID, network port, and cable connection for each device.

Example Network Settings

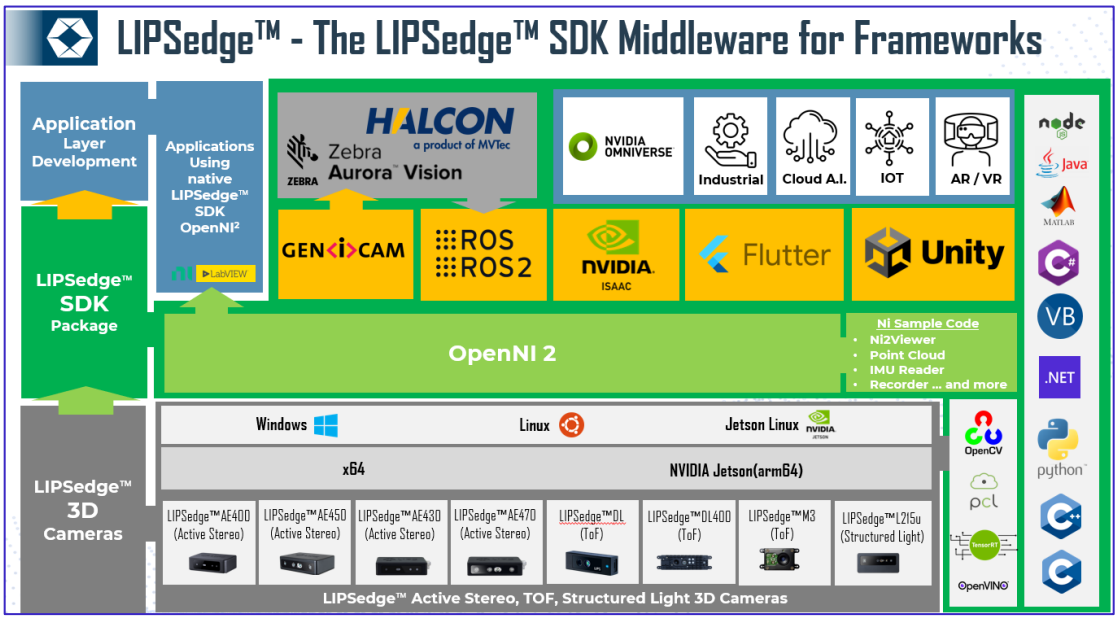


5. SDK Structure (Global by camera)

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.

6. Core System Functions

LIPSMetric™ VD115 Vehicle Dimensioner provides the main software functions required for vehicle dimension measurement, result handling, and system diagnosis. The system monitors camera status, displays live image or depth information, detects vehicle measurement states, and calculates vehicle metrics according to the project configuration. Measurement results can be displayed, saved, or uploaded to the project-defined target, with multiple types of system logs available to support maintenance, troubleshooting, and analysis.

Core system functions include:

- **Camera status monitoring**: Monitors the online status of LIPSedge™ AE450 and LIPSedge™ AE430.
- **Live view**: Shows the camera image, depth view, or diagnostic view.
- **Vehicle detection**: Detects vehicle entry and measurement state according to the project configuration.
- **Dimension calculation**: Calculates vehicle width, vehicle height, and chassis height.
- **Result display**: Shows the measurement result and result status.
- **Result export**: Saves or uploads the measurement result to the project-defined target.
- **Log recording**: Stores operation logs, error logs, and debug logs.

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7. Software Setup

LIPSMetric™ VD115 Vehicle Dimensioner is operational once the IPC, cameras, and network devices are properly connected. The software startup method may vary by project. Follow the delivered shortcut, service command, or deployment instruction.

Before system activation, make sure the NVIDIA Jetson AGX Orin IPC is fully booted, the LIPSedge™ cameras are properly connected to the camera network or IPC network port and the camera detection is confirmed.

1. Confirm that the NVIDIA Jetson AGX Orin IPC has fully booted.
2. Confirm that LIPSedge™ AE450 and LIPSedge™ AE430 are powered.
3. Start the LIPSMetric™ VD115 Vehicle Dimensioner application by using the delivered shortcut, service command, or deployment instruction.
4. Confirm that LIPSedge™ AE450 and LIPSedge™ AE430 are online.
5. Confirm that the live view and depth data are displayed correctly.
6. Confirm that the result storage path or host connection is available.
7. Start measurement mode.

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System Checklist

Screen Area	Description
LIPSedge™ AE450 status	Online status, frame rate, ROI, and body measurement status
LIPSedge™ AE430 status	Online status, frame rate, ROI, and chassis measurement status
Live view	Camera image, depth, or diagnostic display
Vehicle status	Waiting, measuring, completed, warning, or failed
Measurement result	Width, height, chassis height, timestamp, and status
Export/upload status	Save or host upload status
System message	Error, warning, and operation messages

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7. Camera Access Diagnosis

If the camera cannot be detected, the live view is unavailable, or the depth data appears abnormal, use the project-defined diagnostic tools adapted from the LIPSedge™ AE series camera access and diagnostic practices to confirm camera status before continuing LIPSMetric™ VD115 Vehicle Dimensioner field operation.

LIPSMetric™ VD115 Vehicle Dimensioner normally uses a project-defined application, diagnostic tool, or maintenance console instead of a standalone SDK viewer.

7.1 Live View and Depth Check

Use the live view and depth view to confirm camera connection, image quality, depth quality, and measurement region coverage.

1. Start the LIPSMetric™ VD115 Vehicle Dimensioner application or the project-defined diagnostic tool.

2. Confirm that LIPSedge™ AE450 is connected and streaming.

3. Confirm that LIPSedge™ AE430 is connected and streaming.

4. Check the live image for blockage, reflection, dirty lens, incorrect angle, or abnormal exposure.

5. Check the depth view for missing depth, unstable regions, strong noise, or unexpected blank areas.

6. Confirm that the vehicle body and chassis regions are inside the configured ROI.

7. Save a diagnostic capture if requested by the project engineer.

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Camera Checklist

View	Check Item
LIPSedge™ AE450 live view	Vehicle body coverage
Expected Result	Vehicle width and height area is visible
LIPSedge™ AE450 depth view	Body depth quality
Expected Result	Depth is continuous in the measurement region
LIPSedge™ AE430 live view	Chassis area coverage
Expected Result	Underbody / chassis region is visible
LIPSedge™ AE430 depth view	Chassis depth quality
Expected Result	Ground and chassis depth are stable
Status window / log	Camera and software state
Expected Result	Camera ID, timestamp, version, warning, and error are shown correctly

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7.2 Image Function Diagnosis

Use capture and recording functions for engineering diagnosis, calibration review, and issue reporting.

Function	Description
Image capture	Saves the current LIPSedge™ AE450 or LIPSedge™ AE430 image.
Depth map	Saves the current depth data for quality review.
Point cloud	Saves 3D data if point cloud export is enabled.
Measurement record	Saves vehicle width, vehicle height, chassis height, result status, and timestamp.
Short recording	Records a short image or depth sequence for reproducing an issue.
Log file	Saves system events, camera status, warnings, and error messages.

Issue Reporting

When reporting a field issue, provide the measurement record, log file, captured image or depth data, software version, camera ID, and site conditions whenever available. Include the issue time, vehicle condition, lighting condition, camera mounting condition, and any visible obstruction or environmental factor that may affect image or depth quality.

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8. Vehicle Dimensioning

With the hardware and software setup complete, proceed to the following workflow to perform a normal vehicle measurement cycle. The actual operation flow may vary by project, lane design, trigger method, and host integration rule.

Before starting measurement, confirm that the lane is clear, LIPSedge™ AE450 and LIPSedge™ AE430 are online, and the live view and depth data are normal. LIPSMetric™ VD115 Vehicle Dimensioner shall be in measurement mode before a vehicle enters the measurement area.

Measurement procedure

1. Confirm that the lane is clear.
2. Confirm that LIPSedge™ AE450 and LIPSedge™ AE430 show online status.
3. Confirm that the live view and depth data are normal.
4. Start measurement mode in LIPSMetric™ VD115 Vehicle Dimensioner.
5. Let one vehicle pass through the measurement area according to the site rule.
6. Wait until the measurement status becomes completed.
7. Review the vehicle width, vehicle height, and chassis height.
8. Confirm that the measurement result is saved or uploaded.
9. Continue with the next vehicle.

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9. Configuration File Settings

LIPSMetric™ VD115 Vehicle Dimensioner configuration files define the relationship between physical cameras, software measurement logic, calibration records, and output behavior. Use the approved project configuration as the controlling reference.

Configuration items

- **Camera ID:** Maps physical cameras to LIPSedge™ AE450 and LIPSedge™ AE430.
- **Camera IP or device address**: Defines the camera connection settings.
- **ROI**: Defines the measurement region.
- **Ground reference**: Provides the reference used for vehicle height and chassis height calculation.
- **Calibration data**: Stores camera alignment and correction parameters.
- **Output format**: Defines the project output format, such as CSV, JSON, database, REST API, or project-defined format.
- **Log level**: Defines the logging mode, such as normal, maintenance, or debug.
- **Result path**: Defines the local or network path for measurement records.

IMPORTANT:

1. Do **NOT** modify configuration files unless authorized.
2. Back up the approved configuration before changing parameters.
3. Recalibrate the system after changing the camera position, ROI, or ground reference.

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10. Calibration and Verification

Perform calibration or verification **during initial installation**, and **whenever changes affect the initial measurement environment**, recalibration is required to align LIPSMetric™ VD115 Vehicle Dimensioner with the actual installation site. For instance, recalibrate the system after LIPSedge™ AE450 or LIPSedge™ AE430 is moved, after the camera bracket or measurement area is adjusted, after configuration or calibration data is changed, or when the measurement result is outside tolerance. Refer to the following sections for required calibration items, calibration conditions, and verification procedure.

10.2 Calibration Preparation

Before calibration or verification, confirm that:

- **Camera lens / window**: The camera lens or camera window is clean and not scratched.
- **Camera bracket**: The bracket is fixed and stable.
- **Cables**: The cables are connected and protected.
- **Cameras**: LIPSedge™ AE430 / AE450 are both online and stable
- **Reference object / vehicle**: The approved reference object or validation vehicle dimensions are available.
- **Lane**: The lane is clear and safe.

10.3 Verification Procedure

Verification confirms that LIPSMetric™ VD115 Vehicle Dimensioner produces measurement results within the project-defined tolerance. Use the approved reference object or site-defined verification method to check vehicle width, vehicle height, and chassis height. During verification, confirm that the cameras are online, the ROI and depth data are stable, and the result is saved or uploaded correctly. Record the verification result as parameters for project traceability.

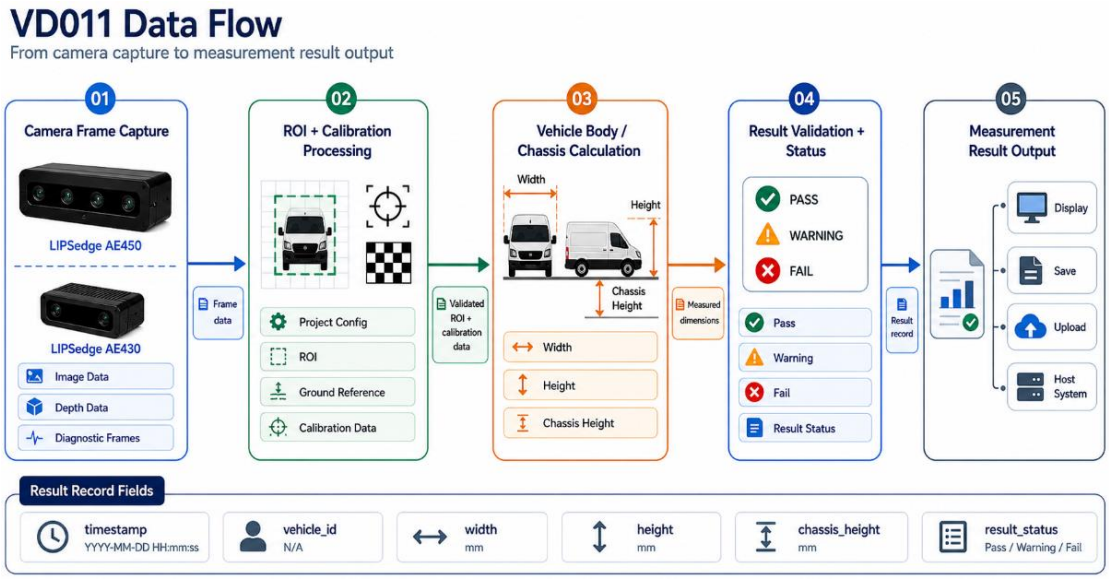
1. Prepare the approved reference object or validation vehicle.
2. Confirm the camera live view and depth data.
3. Start calibration or verification mode.
4. Capture measurement data.
5. Compare the measurement result with the reference dimensions.
6. If the result is within tolerance, save the configuration.
7. If the result is outside tolerance, adjust the camera position, ROI, or calibration parameters and repeat the verification.

Acceptance record

Item	Reference Value	Measured Value	Difference	Result
Vehicle width	TBD	TBD	TBD	Pass / Fail
Vehicle height	TBD	TBD	TBD	Pass / Fail
Chassis height	TBD	TBD	TBD	Pass / Fail

11.Data Flow

LIPSMetric™ VD115 Vehicle Dimensioner receives image and depth data from LIPSedge™ AE450 and LIPSedge™ AE430. The software applies the project configuration, ROI, calibration data, and measurement logic to calculate vehicle width, vehicle height, and chassis height. The result is then displayed, saved, uploaded, or sent to the host system according to the project-defined output method.



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11.1 Result Fields

Results Field	
timestamp	Measurement completion time (YYYY-MM-DD HH:mm:ss)
vehicle_id	Vehicle ID or transaction ID
width	Vehicle width (mm) measured by LIPSedge™ AE450
height	Vehicle height (mm) measured by LIPSedge™ AE450
chassis_height	Chassis height (mm) measured by LIPSedge™ AE430
result_status	Measurement status
✔ Pass, ⚠ Warning, or ✘ Fail	

12. Software Package & Data Handling

LIPSMetric™ VD115 Vehicle Dimensioner may be delivered as a local application, a measurement service, or an SDK/API-style integration package depending on the project. Use the final delivery package, release note, and project acceptance document as the controlling references.

12.1 Software Package Structure

The delivered package may vary by project. Use the final delivery folder and release note as the controlling reference.

Package Item	Description
Application / service	Contains the LIPSMetric™ VD115 Vehicle Dimensioner application or background measurement service.
Configuration files	Contain camera mapping, ROI, calibration path, output path, and integration settings.
Calibration data	Contains approved calibration records and site-specific correction parameters.
Diagnostic tools	Provide live view, depth view, capture, recording, log viewer, or project-defined diagnostic functions.
API / SDK interface	Provide live view, depth view, capture, recording, log viewer, or project-defined diagnostic functions.
Output folder	Stores measurement results, image or depth captures, point cloud data, CSV or JSON files, or database export files.

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Package Item	Description
Log folder	Stores operation logs, warning or error logs, camera connection logs, and service logs.
Document set	Includes the user's manual, datasheet, release note, wiring plan, and site acceptance record.

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12.2 Measurement State Flow

LIPSMetric™ VD115 Vehicle Dimensioner measurement logic shall be checked by state, not only by the final result.

State	Meaning	Operator / Integrator Check
Idle	Software is started but not measuring.	Confirm configuration is loaded
Camera online	LIPSedge™ AE450 and LIPSedge™ AE430 are connected.	Confirm live view and depth view
Ready	The system is calibrated and waiting for a vehicle.	Confirm lane is clear and trigger mode is correct
Measuring	The vehicle is inside the measurement ROI.	Do not move camera, bracket, or reference objects
Result generated	Vehicle width, vehicle height, chassis height, and status are calculated.	Confirm result values and status
Result exported	File, API, database, or digital I/O output is completed.	Confirm host receives expected data
Fault	A camera, configuration, calibration, or output error occurred.	Check error message, log, camera status, and host connection

12.3 API and Result Data Handling

When LIPSMetric™ VD115 Vehicle Dimensioner is integrated with an external host, define the command, result, and error behavior before site acceptance.

Interface Item	Required Definition
Measurement trigger	Local UI, REST API, digital I/O, database polling, or host command
Status query	Camera online, calibration status, measurement state, service health, and error code
Result fields	Timestamp, vehicle ID, width, height, chassis height, status, and confidence/validation flag if enabled
Result format	CSV, JSON, database schema, REST response, or project-defined message
Image/depth capture	Whether capture is saved for every vehicle, warning case only, or maintenance mode only
Retry behavior	Host timeout, resend, duplicated transaction handling, and fail-safe behavior
Log retrieval	Local folder, remote service access, or engineering export package

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12.4 Release and Acceptance Records

For every deployment, keep the following records with the project file set.

Record	Purpose
Software version	Confirms the delivered LIPSMetric™ VD115 Vehicle Dimensioner application or service build
Configuration version	Confirms camera mapping, ROI, output path, and host interface settings
Calibration record	Confirms approved site calibration and reference values
Validation record	Confirms measurement result against reference vehicle/object
Integration test record	Confirms host trigger, result output, error handling, and log retrieval

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13. Error Messages / Troubleshooting

Troubleshooting provides basic checks and corrective actions for camera connection, software operation, measurement results, data export, and system logs.

13.1 Camera Issues

Possible Cause	Action
Cable disconnected	Reconnect cable and confirm lock
Power unavailable	Check PoE, power adapter, or network switch
Incorrect IP setting	Confirm IPC and camera are in same network segment
Configuration mismatch	Check camera ID and IP/device mapping
Hardware issue	Cross-check cable, port, or replacement device

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13.2 Measurement Instability Issues

Possible Cause	Action
Camera moved after calibration	Re-align and recalibrate
Vehicle outside ROI	Adjust lane guidance or ROI
Dirty camera window	Clean camera window
Reflection or sunlight	Adjust shielding, camera angle, or site lighting
Bracket vibration	Reinforce bracket or mounting structure

13.3 Chassis Height Detection Issues

Possible Cause	Action
LIPSedge™ AE430 view blocked	Remove the obstacle or adjust the LIPSedge™ AE430 angle
Vehicle path offset	Adjust lane guidance
ROI incorrect	Reconfigure chassis measurement ROI
Depth data unavailable	Check camera connection and restart application
Ground reference incorrect	Repeat ground reference and calibration

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13.4 Application Cannot Start

Possible Cause	Action
IPC not fully booted	Wait and retry
Missing camera connection	Confirm that LIPSedge™ AE450 and LIPSedge™ AE430 are online
Configuration file error	Restore approved configuration
Storage full	Export logs or free disk space
Software service error	Restart application or IPC

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14. Appendix

14.1 Installation Checklist

Item	Status
IPC installed and powered	Pass / Fail
LIPSedge™ AE450 mounted	Pass / Fail
LIPSedge™ AE430 mounted	Pass / Fail
LIPSedge™ AE450 cable connected	Pass / Fail
LIPSedge™ AE450 cable connected	Pass / Fail
IPC network configured	Pass / Fail
LIPSedge™ AE450 online	Pass / Fail
LIPSedge™ AE430 online	Pass / Fail
Live view normal	Pass / Fail
Depth data normal	Pass / Fail
Calibration completed	Pass / Fail
Measurement verified	Pass / Fail
Result output confirmed	Pass / Fail

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13.2 Site Configuration Record

Item	Value
Project name	VD115
Installation site	TBD
IPC serial number	TBD
AE450 serial number	TBD
AE430 serial number	TBD
Software version	TBD
Configuration version	TBD
Installation date	TBD
Engineer	TBD

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13.3 Reference Documents

Document	
LIPSense™ 3D Body Pose SDK (V7.0) User's Manual	
Reference Usage	LIPSMetric™ VD115 specifications, system configuration, and mechanical installation reference.
LIPSedge™ T225/T235 SDK User's Manual v1.0.0	
Reference Usage	LIPSedge™ T225 / T235 camera installation, connection, camera access, live view, depth view, capture, and recording reference.
LIPSMetric™ MeasureMaster SDK User’s Maniual (ST110d) v1.2	
Reference Usage	SDK-style guide structure, calibration flow, measurement flow, software package, and data handling reference.
LIPSMetric™ VD115 Vehicle Dimensioner Datasheet v0.6	
Reference Usage	LIPSMetric™ VD115 specifications, system configuration, and mechanical installation reference.

15.Regulatory Compliance Notice

FCC Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.
Increase the separation between the equipment and receiver.
Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
Consult the dealer or an experienced radio/TV technician for help.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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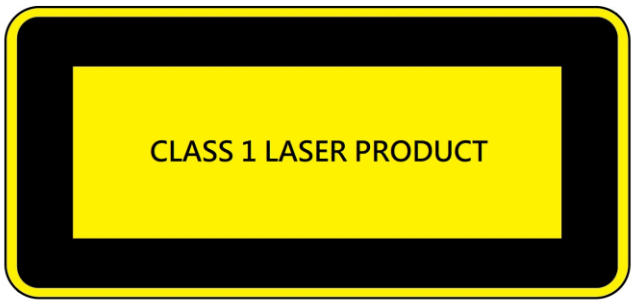
FCC Label Notice



This device complies with part 15 of the FCC Rules. Operation is subject to the following conditions:

(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

CE Compliance

This is a Class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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