



Intel® RealSense™ L515 Camera

Specification Update

Revision 002

June 2020

Intel products described herein. You agree to grant Intel a non-exclusive, royalty-free license to any patent claim thereafter drafted which includes subject matter disclosed herein.

No license (express or implied, by estoppel or otherwise) to any intellectual property rights is granted by this document.

Intel technologies' features and benefits depend on system configuration and may require enabled hardware, software or service activation. Performance varies depending on system configuration. No computer system can be absolutely secure. Check with your system manufacturer or retailer or learn more at intel.com.

Intel technologies may require enabled hardware, specific software, or services activation. Check with your system manufacturer or retailer.

The products described may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

Intel disclaims all express and implied warranties, including without limitation, the implied warranties of merchantability, fitness for a particular purpose, and non-infringement, as well as any warranty arising from course of performance, course of dealing, or usage in trade.

All information provided here is subject to change without notice. Contact your Intel representative to obtain the latest Intel product specifications and roadmaps.

Copies of documents which have an order number and are referenced in this document may be obtained by calling 1-800-548-4725 or visit www.intel.com/design/literature.htm.

Intel and the Intel logo, Intel RealSense, Core trademarks of Intel Corporation in the U.S. and/or other countries.

*Other names and brands may be claimed as the property of others.

© 2020 Intel Corporation. All rights reserved.

Contents

1	Preface.....	5
	1.1 Affected Documents	5
	1.2 Nomenclature.....	5
2	Summary Table of Changes	6
	2.1 Codes Used in Summary Tables.....	6
3	Errata	8
	3.1 Open.....	8
	3.2 Fixed.....	9

Table

Table 2-1. Errata Summary Table	6
Table 2-2. Specification Changes	7
Table 2-3. Specification Clarifications	7
Table 2-4. Documentation Changes.....	7

Revision History

Revision Number	Description	Revision Date
001	Production Firmware 1.3.15.100 Release	June 2020
002	Development Firmware 1.4.1.0 Release (Recommended)	June 2020

§§

1 Preface

This document is an update to the specification contained in the [Affected Documents](#) table below. This document is a compilation of device and documentation errata, specification clarifications and changes. It is intended for hardware systems manufactures and software developers of applications, systems or tools.

Information types defined in Nomenclature are consolidated into the specification updates and are no longer published in other documents.

This document may also contain information that was not previously published.

1.1 Affected Documents

Document Title	Location
Intel® RealSense™ L515 Camera Datasheet	https://dev.intelrealsense.com/docs/lidar-camera-l515-datasheet

1.2 Nomenclature

Errata are design defects or errors. These may cause behavior to deviate from published specifications. Hardware and software designed to be used with any given stepping must assume that all errata documented for that stepping are present on all devices.

Specification Changes are modifications to the current published specifications. These changes will be incorporated in any new release of the specifications.

Specification Clarifications describe a specification in greater detail or further highlight a specification's impact to a complex design situation. These clarifications will be incorporated in any new release of the specification.

Documentation Changes include typos, errors, or omissions from the current published specifications. These will be incorporated in any new release of the specification.



2 Summary Table of Changes

The following tables indicate the errata, specification changes, specification clarifications, or documentation changes which apply to the Product Name product. Intel may fix some of the errata in a future stepping of the component and account for the other outstanding issues through documentation or specification changes as noted.

2.1 Codes Used in Summary Tables

Status

Doc:	Document change or update will be implemented
Open:	In engineering assessment
Plan Fix:	This erratum may be fixed in a future firm of the product
Fixed:	This erratum has been previously fixed
No Fix:	There are no plans to fix this erratum

Table 2-1. Errata Summary Table

Number	Status	Errata
N/A	Fixed in Development Firmware 1.4.1.0	Horizontal shift of depth map
RS5-7338	Fixed in Development Firmware 1.4.1.0	Camera lost connection to LIBRS after closing all sensors
RS5-7604	Fixed in Development Firmware 1.4.1.0	Close object invalidation
RS5-7195	Open	Sequential frame drops when simultaneously streaming color, depth, IR, confidence, accelerometer, and gyroscope.
RS-5250	Open	Occasionally, after resetting the device, the Viewer gets stuck and does not show the camera. The reproduction rate is very low (<100ppm) and has been observed only on Windows 10 RS4 machines. The recovery is by unplugging and replugging the device.
RS5-5104	Open	First two color video streams are incomplete.
RS5-6586	Open	Corrupted Depth and IR
RS5-7374	Open	LIBRS stuck after camera hardware reset
RS5-7898	Open	Preset and control changes

Summary Table of Changes

Table 2-2. Specification Changes

Number	Specification Changes
N/A	Development firmware 1.4.1.0 is highly recommended as this firmware fixes a horizontal shift of the depth map. Using the combination of FW 1.4.1.0 and Librealsense version 2.35.2 will be the best configuration for L515 cameras since the Librealsense version 2.35.2 is the first official release of SDK that supports L515 cameras.

Table 2-3. Specification Clarifications

No.	Specification Clarifications
	<p>Firmware releases are classified as "Production" and "Development" Firmware.</p> <p>Production Firmware – Firmware version recommended for Production builds integrating Intel® RealSense™ L500 Series, Remote product update and Software development.</p> <p>Development Firmware – Firmware version recommended for software developers and may contain features that have not been fully validated by Intel. The development firmware is not recommended for production builds or remote product update.</p>

Table 2-4. Documentation Changes

No.	Documentation Changes
	None for this revision of this specification update.

§§

3 Errata

3.1 Open

RS5-7195	Sequential frame drops when simultaneously streaming color, depth, IR, confidence, accelerometer, and gyroscope.
Problem:	While concurrently streaming color, depth, IR, confidence, accelerometer, and gyroscope, several consecutive frames may drop. This issue happens on rare occasions.
Implication:	The failure is observed on L515 cameras
Workaround:	None
Status:	Refer the Summary Tables of Changes

RS-5250	Occasionally, after resetting the device, the Viewer gets stuck and does not show the camera. The reproduction rate is very low (<100ppm) and has been observed only on Windows 10 RS4 machines. The recovery is by unplugging and replugging the device.
Problem:	When restarting the device using the HW Monitor Command RST, the device may not be recognized by RS Viewer. This has only been observed on Windows 10 RS4 machines and happens rarely.
Implication:	The failure is observed on L515 cameras
Workaround:	Unplug and plug the device.
Status:	Refer the Summary Tables of Changes

RS5-5104	First two color video streams are incomplete.
Problem:	In some instances, the first two color video frames are incomplete when Depth, IR, Confidence, and IR streams are simultaneously streaming. This issue only occurs on Intel host controllers.
Implication:	The failure is observed on L515 cameras
Workaround:	None
Status:	Refer the <i>Summary Tables of Changes</i>

RS5-6586	Corrupted Depth and IR
Problem:	Occasionally, after few hrs of operation a corrupted IR or depth image may happen
Implication:	The failure is observed on L515 cameras
Workaround:	Stop and Start the camera
Status:	Refer the <i>Summary Tables of Changes</i>

Errata

RS5-7374	LIBRS stuck after camera hardware reset
Problem:	LIBRS lost connection to camera after disconnecting and reconnect of the USB
Implication:	Low reproduction rate
Workaround:	Restart LIBRS
Status:	Refer the <i>Summary Tables of Changes</i>

RS5-7898	Preset and control changes
Problem:	Camera presets and control changes are in effect only if performed after start streaming
Implication:	The failure is observed on L515 cameras
Workaround:	None
Status:	Refer the <i>Summary Tables of Changes</i>

3.2 Fixed

N/A	Horizontal shift of depth map
Problem:	It is possible for the depth map to shift in the horizontal direction over time.
Implication:	Depth map looks good however it slightly shifted compared to a reference such as the RGB camera image.
Status:	Refer the Summary Tables of Changes

RS5-7338	Camera lost connection to LIBRS after closing all sensors
Problem:	Occasionally camera lost connection after sensor start stop operation
Implication:	N/A
Workaround:	N/A
Status:	Refer the Summary Tables of Changes

RS5-7604	Close object invalidation
Problem:	Camera behavior change, in previous release camera will shut down depth stream once close object is detected after 1 sec. in 1.4.1.0 release the camera will invalidate the frames with the invalid depth
Implication:	N/A
Workaround:	N/A
Status:	Refer the Summary Tables of Changes