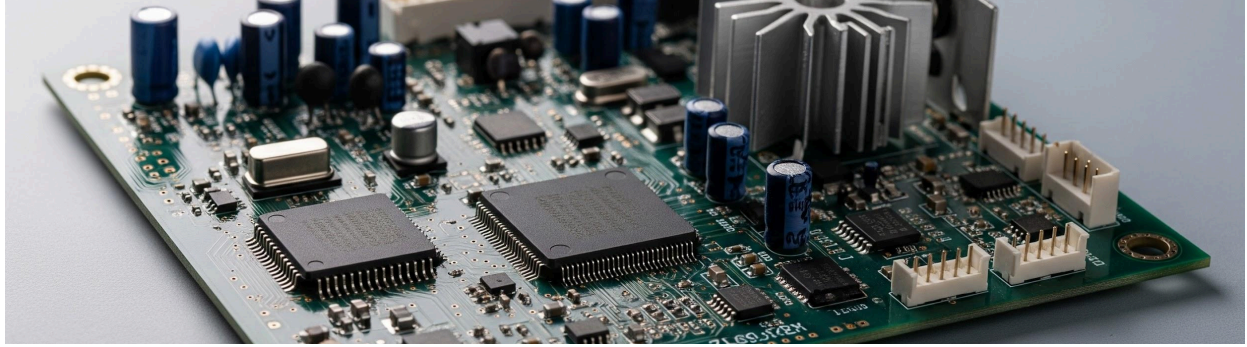




OAK4-S P5 Thermal shock test

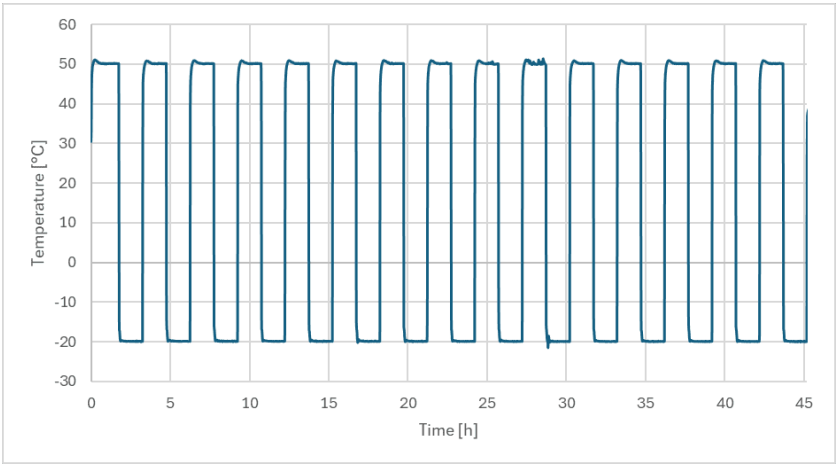
ISO 19014 according to IEC 60068-2-14 Test Na

Date: 10.6.2025

Location: SIQ-Ljubljana, Slovenia

Standards used

- **ISO 19014 according to IEC 60068-2-14 Test Na**
 - Temperature range: -20°C to 50°C
 - Dwell time between shocks: 1h 30min
 - Cycles: 15
 - Total time: 45h



Devices under test

Lux ID	Variant	Testing mark	Unit ID	MXID	Cable used
CR1.5A SLO4	OAK4-S-AF	/	4SAF-T2519-00033	772785313	Phoenix contact 1407472
CR1.5A SLO6	OAK4-S-AF	/	4SAF-T2519-00036	2864314457	Phoenix contact 1407472

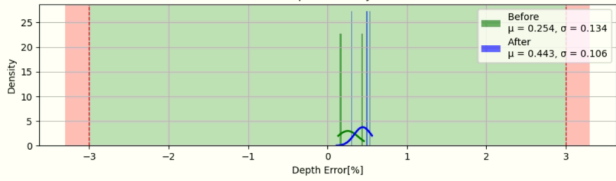
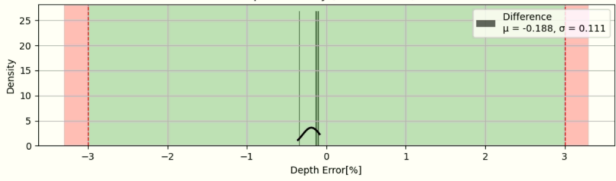
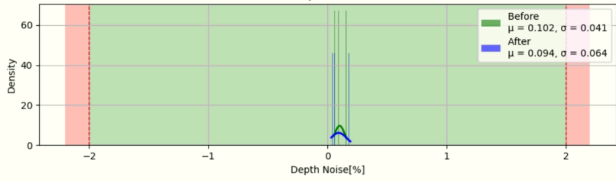
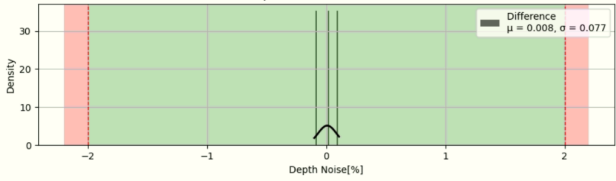
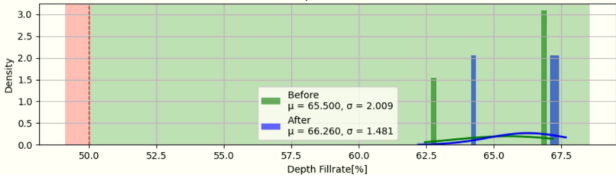
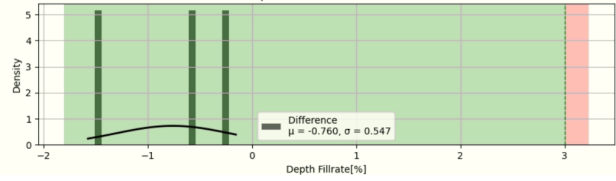
Detected crashes

Lux ID	Run 1	T _{runtime}	Conclusion
CR1.5A SLO4	Pass ▾		One crash in the middle of the test due to a SW bug. The unit continued to work after the test was reran during the test.
CR1.5A SLO6	Pass ▾		One crash in the middle of the test due to a SW bug. The unit continued to work after the test was reran during the test.

*Runtime refers to the duration a stress test was active.
*Crash refers to a stress test crash not an UART log error/crash output.

Depth evaluation

- All devices showed no degradation in depth quality.
- Depth accuracy remained within the predefined specifications.
- Depth noise stayed within acceptable limits for all devices.

Depth evaluation distribution	
Description:	An evaluation of depth quality from before and after the test.
OS:	Luxonis OS RVC4 1.8.0
DepthAI version	3.0.0-alpha.15
OpenCV version	4.5.5
Test setup:	Calibrig-Slovenia-A
Results:	OAK4-D SiQ Vibration Before/After Distribution Graph, 1280x800px Depth Accuracy  Before $\mu = 0.254, \sigma = 0.134$ After $\mu = 0.443, \sigma = 0.106$ Depth Accuracy (Before - After)  Difference $\mu = -0.188, \sigma = 0.111$ Depth Noise  Before $\mu = 0.102, \sigma = 0.041$ After $\mu = 0.094, \sigma = 0.064$ Depth Noise (Before - After)  Difference $\mu = 0.008, \sigma = 0.077$ Depth Fillrate  Before $\mu = 65.500, \sigma = 2.009$ After $\mu = 66.260, \sigma = 1.481$ Depth Fillrate (Before - After)  Difference $\mu = -0.760, \sigma = 0.547$
Notes:	All devices show minimal differences between before and after the test.
Pass/Fail:	Pass

Depth evaluation per each device	
Description:	An evaluation of depth quality from before and after the test.
OS:	Luxonis OS RVC4 1.8.0
DepthAI version	3.0.0-alpha.15
OpenCV version	4.5.5
Test setup:	Calibrig-Slovenia-A

Results:

OAK4-D SiQ Vibration Before/After Difference graph, 1280x800px

The figure consists of three vertically stacked bar charts sharing a common x-axis labeled 'Devices' with three categories: 436594526, 625901373, and 3803051503. Each chart compares 'Before' (blue), 'After' (orange), and 'Diff' (green) values. The top chart, 'Depth Error[%]', has a y-axis from -3 to 3. The middle chart, 'Depth Noise[%]', has a y-axis from -2 to 2. The bottom chart, 'Depth Fillrate[%]', has a y-axis from 0 to 70. In all charts, the 'Before' and 'After' values are nearly identical, and the 'Diff' values are very close to zero. The 'Depth Fillrate' chart includes a light red shaded area from 0 to 50% and a light green shaded area from 50% to 70%.

Device	Before	After	Diff
436594526	0.4	0.5	-0.1
625901373	0.1	0.4	-0.3
3803051503	0.1	0.2	-0.1

Device	Before	After	Diff
436594526	0.1	0.0	0.1
625901373	0.0	0.0	0.0
3803051503	0.1	0.2	-0.1

Device	Before	After	Diff
436594526	67	67	0
625901373	67	67	0
3803051503	63	64	-1

Notes:

All devices show minimal differences between before and after the test.

Pass/Fail:

Pass

Testing setup

Devices

Picture:

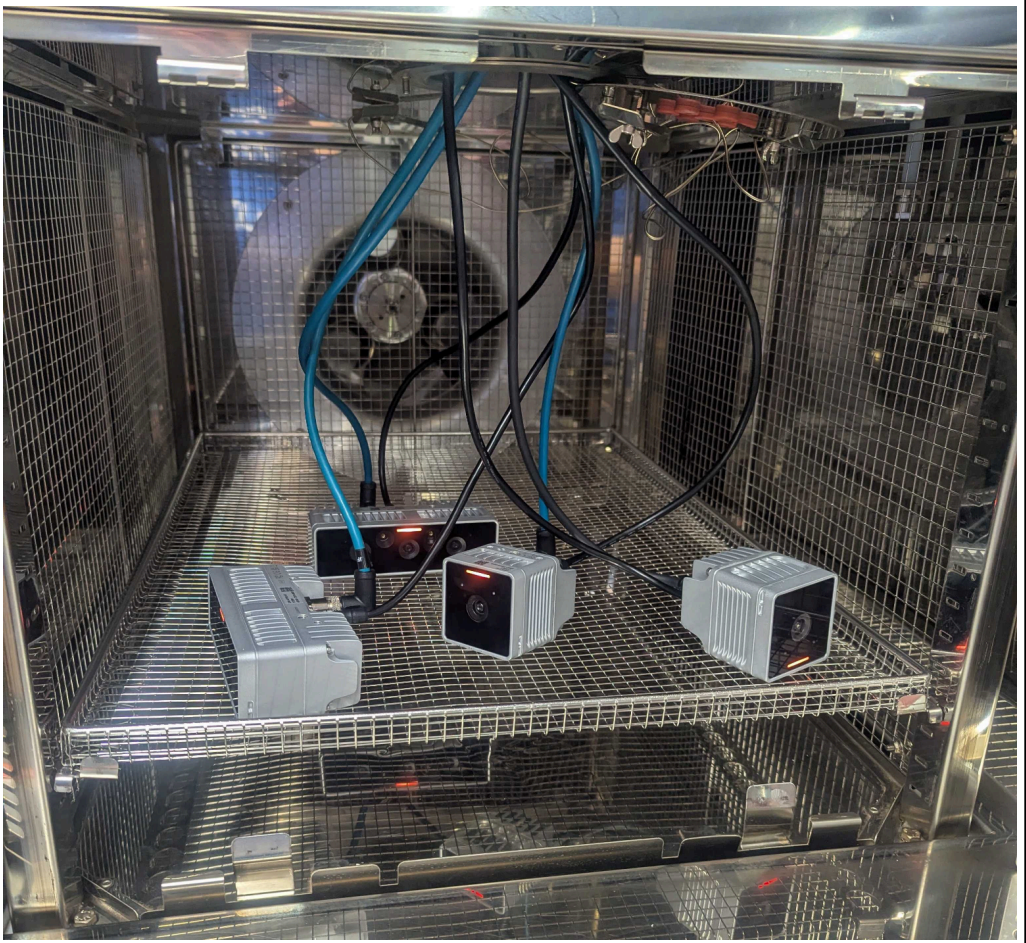


Description

Devices used for the test.

Test setup

Picture:

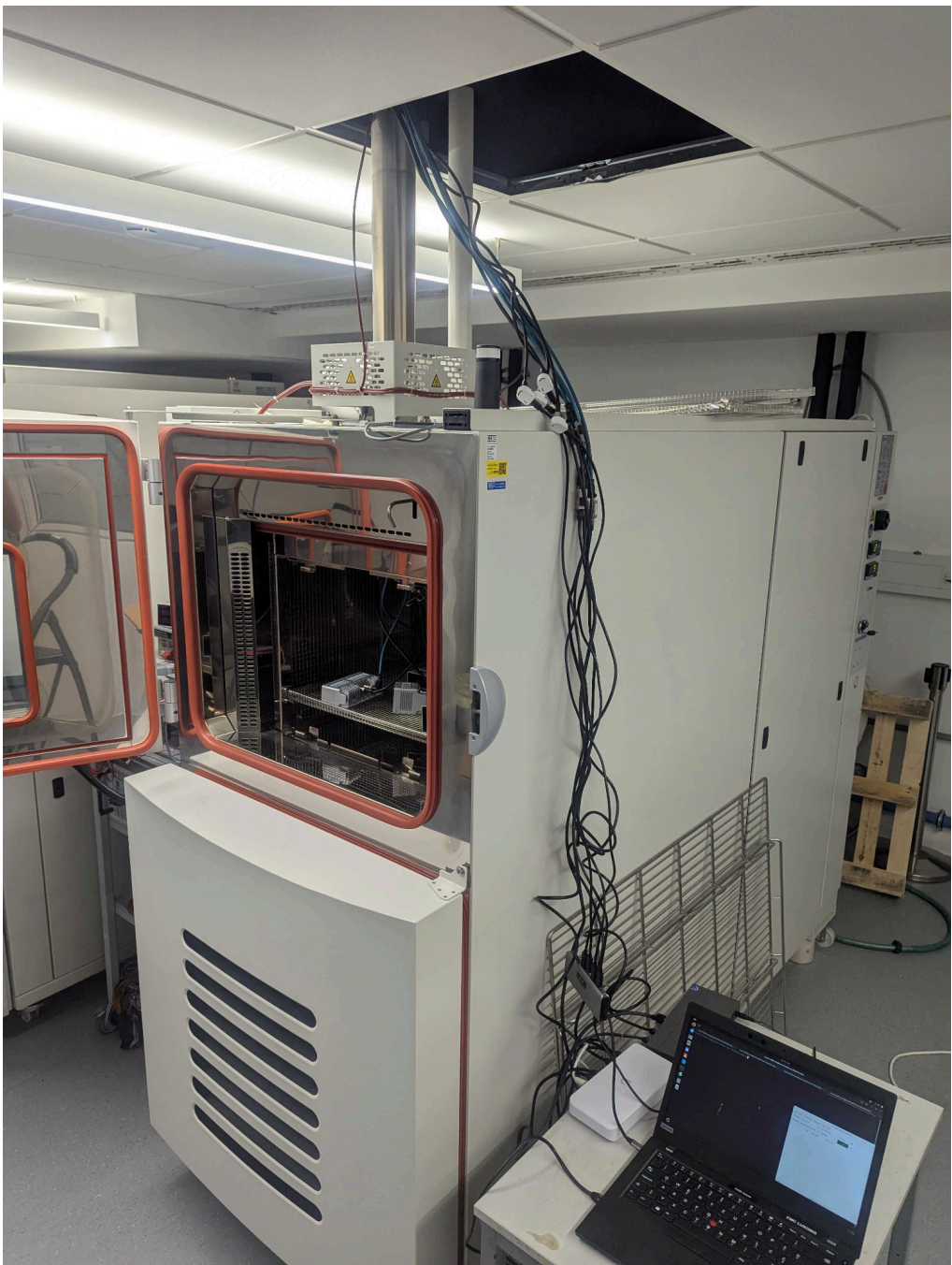


Description

Placement of devices in the testing chamber.

Test setup

Picture:



Description

Testing setup with laptop and cables.

Test setup

Picture:



Description

Running the stress test on the device while testing.