

Product: OAK4-S

Standard: ČSN EN ISO 9227:2017, Method NSS
SAE J1455, 4.4.3.1, ČSN EN ISO 4628-1,3

Description: Environmental and Chemical Test

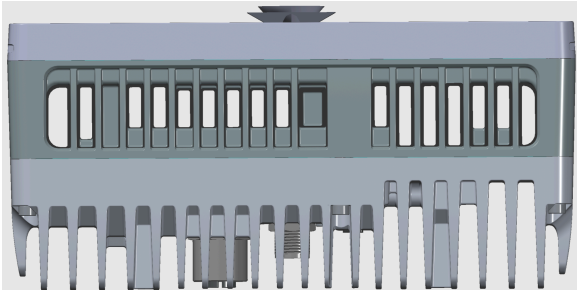
1. Test summary

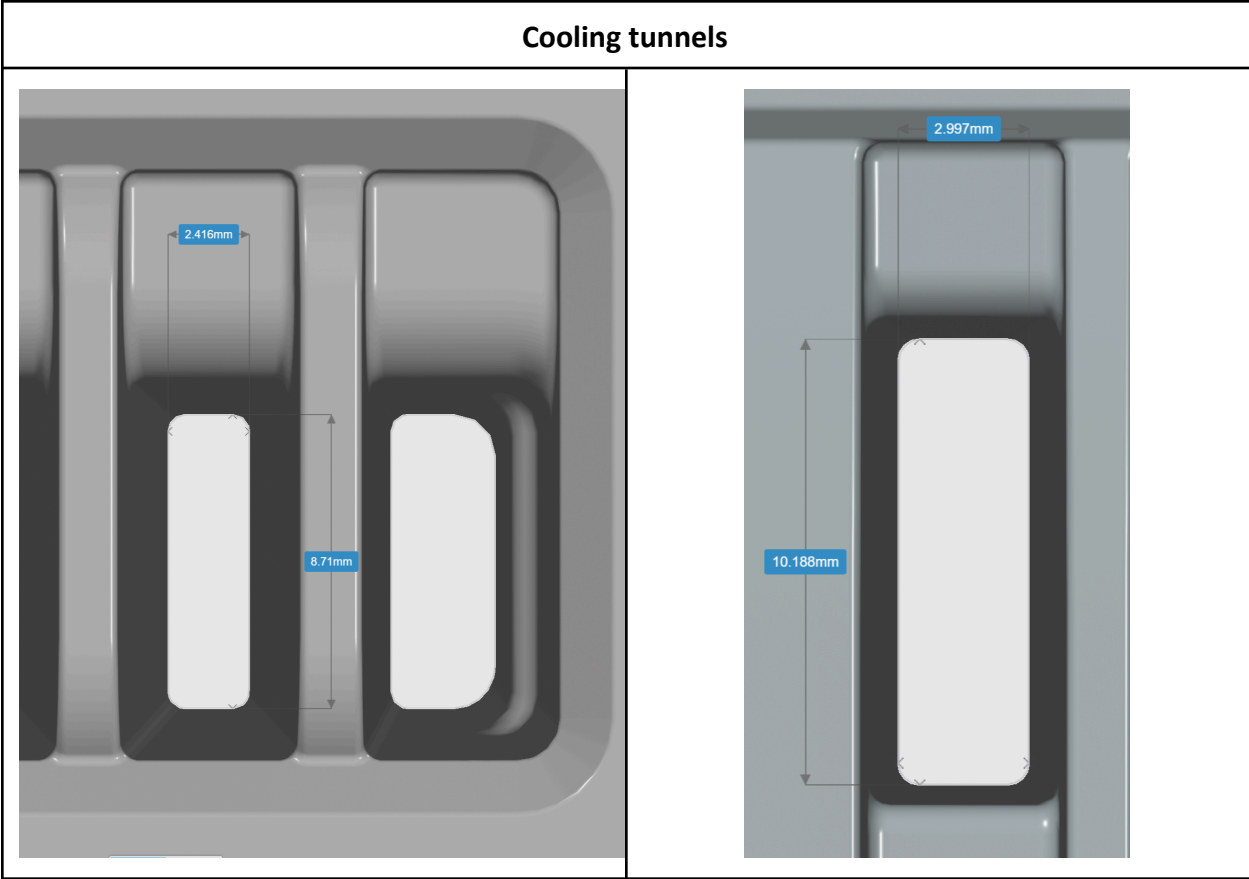
Grey powder coating MS78261, used from OAK4 MP1 devices performed significantly better than all previous samples. It showed no visible corrosion effects, and chemical exposure caused only minor blistering limited to (2) areas mechanically damaged by screw tightening.

The grey powder coating on the tested sample proved to be robust and reliable surface finish.
Overall test result: **PASSED**

2. Reference Device and Compatibility

NOTE: Environmental and chemical test results for the OAK4-S are based on testing performed on the OAK4-D device with similar geometric features and the same overall surface finish. The similarity in design and surface characteristics is considered representative for the purpose of these tests.

OAK4-S	OAK4-D
Geometry with same features - ribs. 3-piece design, cooling tunnels	
	
Ribs on the OAK4-D are more than 2 times longer than on OAK4-S	
	



As shown in the table above, the critical geometric features of both devices are highly similar. The cooling ribs of the OAK4-D are more pronounced and therefore more susceptible to production-related imperfections. The cooling tunnels are also highly comparable, and a similar level of surface finish quality can be expected within this geometry.

Based on these similarities, OAK4-D can be safely considered a reference design for environmental and chemical resistance testing of OAK4-S.

3. Testing and Results



JD Dvořák, s.r.o., Testing laboratory No. 1676
accredited by CAI in accordance ČSN EN ISO/IEC 17025:2018

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Test report 25-AZ165

Date of issue:
14.11.2025

Ing. Radek Lověťtinský
Head of test laboratory

1. Test sample (specification supplied by the customer)

Name (specification) of the sample:	Industrial camera
Quantity of samples (pcs):	1
Other specification:	150 x 70 mm
Date of receipt of the test sample:	21.10.2025

2. Customer

Company name:	Luxonis Holding Corporation
Address:	Walterovo náměstí 329/3 158 00 Praha 5 - Jinonice Czech Republic

3. Testing date:

30.10. - 3.11.2025

Test performed by:

Ing. Ondřej Janča, Hynek Bejvl

Test performed in test room:

PRAHA-Toužimská 897/E3, 199 00 Praha 18 - Letňany

4. Description of test:

By accredited test:

ČSN EN ISO 9227:2017, Method NSS

Tests out of scope of accreditation:

SAE J1455, 4.4.3.1, ČSN EN ISO 4628-1,3

Brief characteristic test:

Corrosion test in salt spray, chemical resistance test

Additional specification:

24+24h

5. Environmental conditions in the lab

Temperature: $(23 \pm 5) ^\circ\text{C}$

Laboratory:

Relative humidity: $(40 \pm 10) \%$

6. Test equipment

Manufacturer:

Weiss Umwelttechnik GmbH

Kind of chamber:

Salt test chamber

Type | Serial number | Metrology number:

AZL M17-SC | 59566016030010 | VSC/KWT 1000

The results are valid only for test samples defined in point 1 in this Test Report as delivered.

The laboratory disclaims any responsibility for the information provided by the customer.

Changes and additions may be made only by laboratory which test report is issued.

This document may be distributed in the total number of pages including annexes and unchanged only.



Test report 25-AZ165

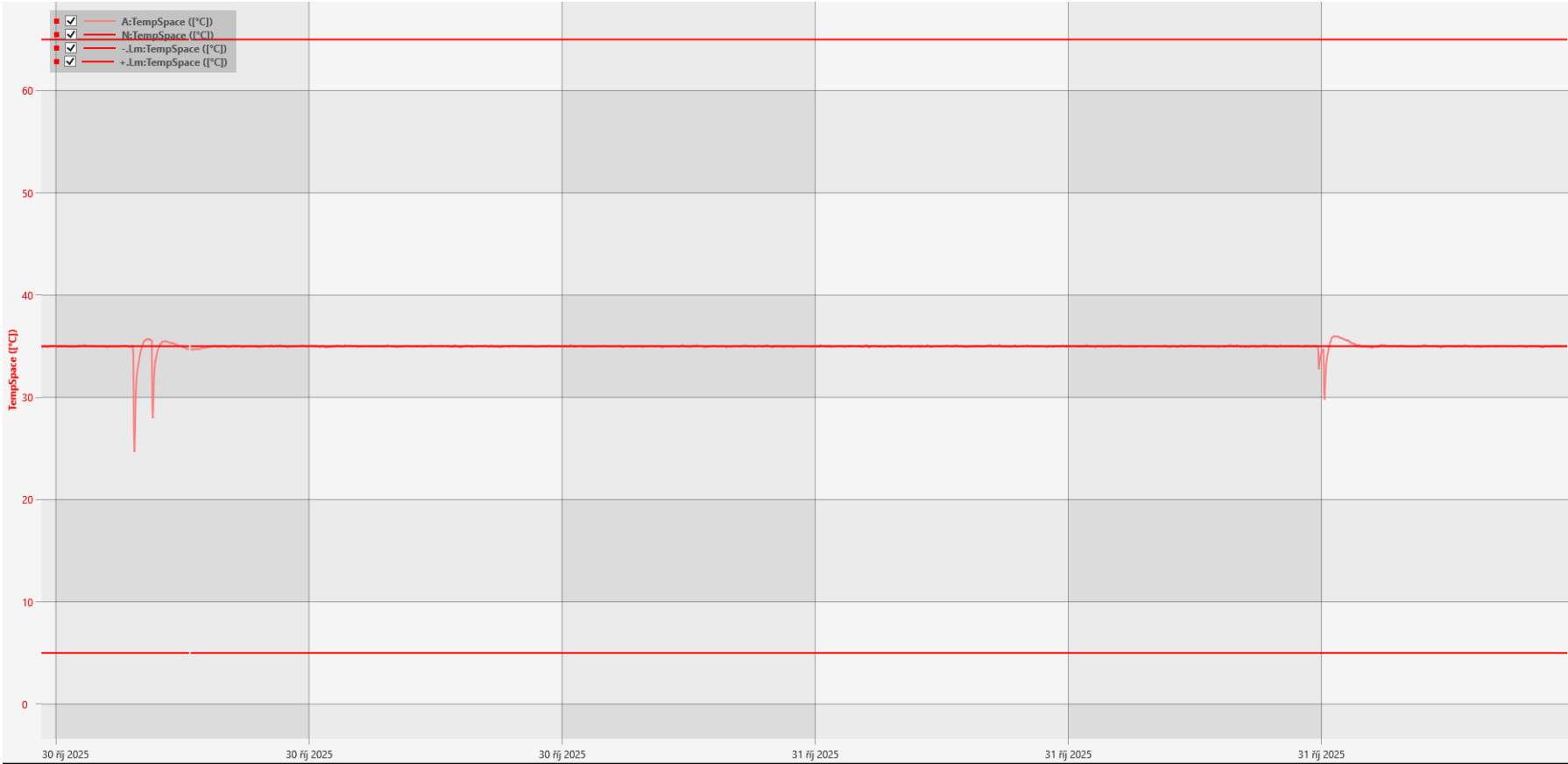
7. Samples photo after 24h of salt spray test



OAK4-D

8. Graphical record during test – salt spray

Whole record



9. Samples photo after chemical resistance test



OAK4-D

10. Results

Salt spray test acc. ČSN EN ISO 9227

Assessment of surface changes acc. to ČSN EN ISO 4628-1			
Sample Name	Test time	Visual assesment of changes ČSN EN ISO 4628-1 (grade + verbal)	Corrosion evaluation dle ČSN EN ISO 4628-3 (grade, %)
OAK4-D	24h ČSN EN ISO 9227 NSS	0 – without changes	R% 0 (0%)

Comment:

- Graphic recording was performed using the software SIMPATI
- Samples after test were rinsed with clean running water afterwards with compressed air.
- Interruption of test (time, duration, comment) – without interruption of test
- Volume of accumulated solution: 1,6 ml/h
- pH of test / accumulated solution: 7,02 pH / 7,15 pH
- Concetration of accumulated salt solution: 50 g/l

Chemical resistance test acc. SAE J1455, 4.4.3.1

Test liquid Sample: OAK4-D	Surface changes (grade + verbal) ČSN EN ISO 4628-1
Engine oil	0 – without changes
Brake fluid	0 – without changes
Cooling liquid	0 – without changes
Detergent	0 – without changes
Wheel cleaner	0 – without changes
Alcohol	0 – without changes
Hydrochlorid acid	0 – without changes
Battery acid	0 – without changes
Amonia	0 – without changes
Gasoline	0 – without changes

Comment:

Samples of cameras were delivered by customer with original package/boxes without any treatment, cleaning or heat stored before testing. Conditioning of samples were performed in ambient atmosphere in laboratory. Testing of chemical resistance was carried out acc. required section 4.4.3.1 of SAE J1455 after 24 h of NSS test. Cameras were mounted to tilted operation position also due to suppression by abnormal retention of test liquids. For air flow was used standard fan distanced by 20 cm far, room temperature of test took place. Liquids are noted in following table. Spraying of 2 cycles each 5 min in 10 min interval, by hand sprayer on entire sample surface. Evaluation of changes acc. to ČSN EN ISO 4628-1. Samples were washed by water with detergent to remove all residues of test chemicals and dried by laboratory paper.

Used liquids:

Test liquid	Category	Note
Engine oil	Lubricants, operating fluids, fuels	15w-40 Dynamax
Gasoline		N95
Brake fluid		DOT 4 – Dynamax 265
Cooling liquid	Coolants	Style fridex – Sharon -30°C
Detergent	Maintenance	Water solution + Jar
Wheel cleaner		Pure – Sharon
Alcohol		Ethanol, pure - technical
Hydrochlorid acid	Aggressive chemicals	HCl 10w% f.a.
Battery acid		H ₂ SO ₄ 30-38w% - technical
Amonia		NH ₃ (aq.) 25w% - technical

--- End of test report ---

4. Conclusion

Damage caused by the chemical test appears to be minimal and is limited to two small areas near the screw head. The blistering most likely resulted from initial mechanical damage caused by the screw during tightening.

The minor imperfections observed have no impact on the overall durability of the surface coating.

Overall test result: PASSED