

Test report summary

Tested for: Dignita AB
Box 1703
701 17 Örebro

Tested by: MHF International Road Safety Test Lab
Storgatan 3
543 31 Tibro Sweden

Subcontractor: Tüv Rheinland, Autoliv Safety Centre

Product name: AL-5

Serial number: Unit 1: F-1009210005, Unit 2: F1010110003, Unit 3: F1109003002
Unit 4: F11090030001, Unit 5 F1109005001, Unit 6: F1109005002

Test Standard: EN 50436-2:2007

Classification: 4.10 EMC The tests according to the e-MARK approval no:
E13*10R00*10R03*12549*00
4:11 Electrical disturbances, class A
4:12 Type of protection: IP40
8.3.1 Temperature cycles, code A
8.3.3 Vibrations: 4.1.3.1.5
8.4.5 Warm-up time test to -20°C
8.15 Long term behaviour tested 21 months under accreditation.

Test report no: 1128

Test results: **Approved** In all tests according to EN 50436-2:2007. With classification according to the specifications above.

Tibro 2013-03-19



Tomas Jonsson
Test leader



Ph.D Lars Olov Sjöström
Quality leader

Test report

Every test element has been performed according to approved standards and has been documented in the appendix. The result only applies to the tested objects. The result and the limitations of each test element are shown in this test report.

Date: 2013-03-19

Tested for: Dignita AB
Box 1703
701 17 Örebro

Tested by: MHF International Road Safety Test Lab
Organisation no: 556108-4384
Accredited by Swedac (www.swedac.se)
Storgatan 3
543 31 Tibro Sweden

Subcontractor: The following ISO/IEC 17025:2005 laboratories has been used

Tüv Rhenland
Accredited by Dakks (www.dakks.de)
Tillysrasse 2
904 31 Nürnberg

Autoliv Safety Centre
Accredited by Swedac (www.swedac.se)
Wallentinsvägen 22
447 83 Vårgårda
Sweden

Test report no: 1128

Test period: 2010-10-06 – 2013-03-19

Product name: AL-5

Serial number: Unit 1: F1009210005, Unit 2: F1010110003, Unit 3: F1109003002
Unit 4: F11090030001, Unit 5 F1109005001, Unit 6: F1109005002

Test Standard: EN 50436-2:2007

Test result: The following table shows the test result, with reference to detailed documentation in appendix.

Test element	Lab	Result	Appendix
4.1 Blocking and unblocking	MHF	Pass	1&2
4.2 Override function	MHF	Pass	1&2
4.3 Influence on the vehicle motor	MHF	Pass	1&2
4.4 Vehicle circuitry	MHF	Pass	1&2
4.5 Concentration limit	MHF	Pass	1&2
4.6 Mouthpiece	MHF	Pass	1&2
4.7 Data memory	MHF	Pass	1&2
4.8 Readiness	MHF	Pass	1&2
4.9 Tampering	MHF	Pass	1&2
4.10 Electromagnetic compatibility	Tüv	Pass	Emark
4.11.1 Supply lines	Tüv	Pass	3
4.11.2 Lines other than supply lines	Tüv	Pass	4
4.12 Type of protection	MHF	Pass	1&2
4.14 Communication integrity	MHF	Pass	1&2
4.15 Wireless communication	MHF	Pass	1&2
5 Labelling and marking	MHF	Pass	1&2
6.1 Instructions for installation	MHF	Pass	1&2
6.2 Instructions for use	MHF	Pass	1&2
6.3 Instructions for service	MHF	Pass	1&2
8.1.2 Supply voltage	MHF	Pass	1&2
8.1.3 excess supply voltage	MHF	Pass	1&2
8.1.4 Short-circuit	MHF	Pass	1&2
8.1.5 Reversed polarity	MHF	Pass	1&2
8.1.6 Low-Power-consumption state	MHF	Pass	1&2
8.1.7 Functional test under normal	MHF	Pass	1&2
8.2 Calibration curve test	MHF	Pass	1&2
8.3.1 Temperature cycles	MHF	Pass	1&2
8.3.2 Condensed water	MHF	Pass	1&2
8.3.3 Vibration test	Autoliv	Pass	5
8.3.4 Drop test	MHF	Pass	1&2
8.3.5 Type of protection test	MHF	Pass	1&2
8.4.2 Temperature	MHF	Pass	1&2
8.4.3.1 Temperature, supply, perm..	MHF	Pass	1&2
8.4.3.2 Temperature, supply, remov.	MHF	Pass	1&2
8.4.4 Temperature and humidity	MHF	Pass	1&2
8.4.5 Warm-up time	MHF	Pass	1&2
8.4.6 Pressure	MHF	Pass	1&2
8.5 Breath volume	MHF	Pass	1&2
8.6 Flow	MHF	Pass	1&2
8.7 Exhalation time	MHF	Pass	1&2
8.8 Response time	MHF	Pass	1&2

8.9.1 Test gases	MHF	Pass	1&2
8.9.2 Cigarette smoke	MHF	Pass	1&2
8.10.2 Pressured air	MHF	Pass	1&2
8.10.3 Obstruction of the mouthpiec.	MHF	Pass	1&2
8.10.4 Sucking through the mouthpi,	MHF	Pass	1&2
8.10.5 Filter	MHF	Pass	1&2
8.10.6 Condensation	MHF	Pass	1&2
8.10.7 Water	MHF	Pass	1&2
8.10.8 Putting out of service	MHF	Pass	1&2
8.10.9 Removal of handset	MHF	Pass	1&2
8.10.10 Bypass	MHF	Pass	1&2
8.11 Start period	MHF	Pass	1&2
8.12 Restart period	MHF	Pass	1&2
8.13 Retest	MHF	Pass	1&2
8.14 Calibration interval test	MHF	Pass	1&2
8.15 Long term behaviour (tested 21 months)	MHF	Pass	1&2

Possible annotations are shown in the test protocol document appendix 1 and 2.

Limits:

4.10 EMC The tests according to the e-MARK approval no:
E13*10R00*10R03*12549*00
4:11 Electrical disturbances, class A
4:12 Type of protection: IP40
8.3.1 Temperature cycles, code A
8.3.3 Vibrations: 4.1.3.1.5
8.4.5 Warm-up time test to -20°C
8.15 Long term behaviour tested 21 months under accreditation.

Test result:

Approved In all tests according to EN 50436-2:2007. With classification according to the specifications above.

Appendix:

No 1: Test protocol document for alkolock no: 145:01
No 2: Test protocol document for alkolock no: 145:02
No 3: Report number:85-R10-1098/11 Tüv Rheinland
No 4: Report number: 16036540 001 Tüv Rheinland
No 5: Test report no 11-k1430 Autoliv Safety Centre
Emark: Societe nationale de certification et d'homologation



Tibro 2013-03-19

A handwritten signature in blue ink, appearing to be "TJ".

Tomas Jonsson
Test leader

A handwritten signature in blue ink, reading "Lars Olov Sjöström".

Ph.D Lars olov Sjöström
Quality leader