CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

Link Engineering Company
20715 West Happy Valley Road
Wittmann, AZ 85361

Fulfills the requirements of

ISO/IEC 17025:2017

In the fields of

TESTING and **CALIBRATION**

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

Jason Stine, Vice President

Expiry Date: 21 October 2025

Certificate Number: ACT-1997.02

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

Link Engineering Company

20715 West Happy Valley Road
Wittmann, AZ 85361

Daniel Williams d.williams@linkeng.com

TESTING AND CALIBRATION

Valid to: **October 21, 2025** Certificate Number: **ACT-1997.02**

TESTING

Mechanical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Full Brake System	ECE-R13, ECE-R13H, ECE-R78, ECE R90, FMVSS 105, FMVSS 122, FMVSS 135, ECE R139 (BAS)	Friction Materials/ Brake Hardware/ Full Vehicle	Vehicle, In-Vehicle Data Acquisition System, Proving Grounds Field Testing
Performance	Thermal Capacity, High Speed Fade, AMS Fade Test, Vacuum Boosted, Trailer Tow, Death Valley, Link Brake Balance, New Car Assessment Program, Customer Specified Variations of the Above Listed Tests	Friction Materials/ Brake Hardware/ Full Vehicle	Vehicle, In-Vehicle Data Acquisition System, Proving Grounds Field Testing
Durability	Detroit City Traffic, Phoenix City Traffic, Detroit Suburban Traffic, Phoenix Suburban Traffic, Huron Detroit Metropolitan Traffic, Customer Specification 7.2-L2-495	Friction Materials/ Brake Hardware/ Full Vehicle	Vehicle, In-Vehicle Data Acquisition System, Proving Grounds Field Testing
Brake Wear	Los Angeles City Traffic, Detroit City Traffic, Phoenix City Traffic, Detroit Suburban Traffic, Phoenix Suburban Traffic, Huron Detroit Metropolitan Traffic, Customer Specification 7.2-L2-495	Friction Materials/ Brake Hardware/ Full Vehicle	Vehicle, In-Vehicle Data Acquisition System, Proving Grounds Field Testing

Mechanical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Noise	Los Angeles City Traffic, Phoenix City Suburban Traffic, Marquette City Traffic, Customer Specification 7.2-L2-495	Friction Materials/ Brake Hardware/ Full Vehicle	Vehicle, In-Vehicle Data Acquisition System, Proving Grounds Field Testing
Thermal Failure	Death Valley/Fluid Boil	Friction Materials/ Brake Hardware/ Full Vehicle	Vehicle, In-Vehicle Data Acquisition System, Proving Grounds Field Testing
Customer Specification	Stopping Distance, Brake Line Pressure, Pedal Force, Pedal Travel, Deceleration, Brake Pad Temperature, Rotor Temperature, Customer Specified Variations of the Above Listed Tests	Friction Materials/ Brake Hardware/ Full Vehicle	Vehicle, In-Vehicle Data Acquisition System, Proving Grounds Field Testing
Fuel Economy, Coast-down, Fuel Consumption	SAE J1321, SAE J2263	Full Vehicle	Vehicle, In-Vehicle Data Acquisition System, Proving Grounds Field Testing
NVH Vehicle Testing, Interior/Exterior Noise Studies, Pass by Noise	SAE J986, ECE R51, ECE R28 FMVSS 141, ECE R138	Full Vehicle	Vehicle, In-Vehicle Data Acquisition System, Proving Grounds Field Testing
Thermal HVAC, Cooling Systems, Cold Chamber, Performance, Durability	Customer Specification	Full Vehicle	Vehicle, In-Vehicle Data Acquisition System, Proving Grounds Field Testing
Wheel and Tire, Tire Blow-out, Structural Integrity	FMVSS 110, ECE R141	Full Vehicle	Vehicle, In-Vehicle Data Acquisition System, Proving Grounds Field Testing
Stability Control System	FMVSS 126, ECE R140	Full Vehicle	Vehicle, In-Vehicle Data Acquisition System, Proving Grounds Field Testing

CALIBRATION

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-) [2, 3, 5, 6]	Reference Standard, Method, and/or Equipment
Pressure Sensors	(0.1 to 206 84.27) kPa	0.021 kPa	6.4-L2-176 Calibration of Pressure Transducers
Vacuum Sensors	(0.5 to 711.2) mmHg	0.12 mmHg	6.4-L2-164 Calibration of Vacuum Transducers
Force Sensors	(4.448 to 1 338.92) N	0.09 N	6.4-L2-90 Calibration of Pedal Force Transducers
Accelerometers	(-1 to 1) g	0.0038 g	6.4-L2-38 Calibration Procedures for Accelerometers

Electrical-DC and Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-) [4]	Reference Standard, Method, and/or Equipment
DC Volt Sensor	Up to ±10 V	0.0004 V	7.4-L2-1130 DC Voltage Calibration 6.4-L2-207 VMAX DAS Calibration Setup 7.4-L2-2271 VMAX Calibration Using Internal Software
AC Volt Sensor	Up to 10 V	0.004 V	6.4-L2-207 VMAX DAS Calibration Setup 7.4-L2-2271 VMAX Calibration Using Internal Software
Electrical Simulation: Temperature Sensor	(-40 to 2400) °F	0.73 °F	7.4-L2-1126 Temperature Hardware Calibration 7.4-L2-1147 Temperature Software Calibration 7.4-L2-1108 Temperature Linearizer Calibration 6.4-L2-207 VMAX DAS Calibration Setup 7.4-L2-2271 VMAX Calibration Using Internal Software

Time and Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-) [4]	Reference Standard, Method, and/or Equipment
Frequency-Measure	1000 Hz	0.57 Hz	6.4-L2-207 VMAX DAS Calibration Setup 7.4-L2-2271 VMAX Calibration Using Internal Software

Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-) [4]	Reference Standard, Method, and/or Equipment
Non-Contact Displacement Probes	(0.01 to 25.4) mm	0.002 mm	6.4-L2-227 Calibration of Non-Contact Probes
Distance Sensors	(0.025 to 508) mm	0.005 mm	6.4-L2-92 Calibration of String Potentiometers.

Notes:
1. Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 (k=2), corresponding to a confidence level of approximately 95%.
2. This scope is part of and must be included with the Certificate of Accreditation No. ACT-1997.02

Jason Stine, Vice President