



EMI/EMC, CLIMATICS, AND DYNAMICS TESTING

Element Rockford's 83,000 square foot facility provides best-in-class EMI/EMC, climatics, and dynamics testing services. Staffed by top test engineers with years of experience, customers get everything they need from a single location. We specialize in complex test programs and cater to a wide variety of industries, including: aerospace, military, commercial electronics, telecommunication, automotive, and medical.

EMI/EMC AND ESD TESTING AT ELEMENT ROCKFORD

We perform a variety of EMI/EMC and ESD testing, which include RS103, greater than 200 V/m, 10 kHz to 40 GHz, indirect lightning effects, and multiple burst/multiple stroke lightning up to Level 5 of DO-160. Element Rockford provides complete certification for aerospace, information technology, industrial, and for commercial electronic products to global EMC regulatory standards.

Key EMI/EMC and ESD services include:

- Radiated Susceptibility ~ 200 V/m, Frequency Range 10 kHz to 40 GHz
- HIRF Testing 100 MHz to 10 18 GHz to 7200 V/m pk
- Radiated Emissions 30 Hz to 40 GHz
- 10 Meter Semi-Anechoic Chamber
 - >> 6m Diameter Turn Table Rated to 30,000 lbs.
 - >> 15' x 15' Door
 - >> Suited for Heavy Vehicles to 80,000 lbs.
 - >> High Temperature Vehicle Exhaust System
- Seven MIL/AERO Semi-Anechoic Chambers
- One Semi Anechoic Screen Room
- Two Shielded Rooms
- Reverberation Chamber 100 MHz to 18 GHz
- Extended Ground Plane Test Beds
- AC & Telecom Port Surge, Electrical Fast Transients, Ring-Wave, and Bust Testing
- Airborne Acoustic Noise and Structure-Borne Noise
- Shielding Effectiveness, Transfer Impedance
- Electrostatic Discharge to 30 kV
- Electromagnetic Pulse (EMP) to 50 kV/m
- HERO
- RADHAZ Analysis
- Two 500 HP 4-Quadrant Drives for Motor/Generator Testing
- Three 150 HP Drives for Motor/Generator Testing, two 4-Quadrant
- One 300 HP Drive for Motor/Generator Testing Dedicated to ENV Testing
- AC power to 480 VAC and DC Power to 600 VDC, 400 kW
- Reverberation for Accelerated EMI/EMC Testing
- State-of-the-Art Amplifier Achieves Greater than DO-160 Category L levels from 100 MHz to 18 GHz
 - >> 12' x 20' x 10' Chamber with 438 cubic feet Test Volume (4' x 7' Door)

INDIRECT LIGHTNING TESTING

We are accredited for DO-160 lightning-induced transient susceptibility testing. Services are provided both in-house and at client facilities. Our easily transportable rack-mounted equipment achieves level five DO-160 for pin injection and cable injection testing, multiple stroke, and multiple burst.

DELIVERING INNOVATIVE PRODUCT TESTING AND CERTIFICATION SOLUTIONS

EXTREME ENVIRONMENTAL TESTING

Yes, we can provide test services to simulate any condition on earth—and beyond. In fact, our environmental chambers range from small to walk-in-sized and are capable of replicating high and low temperatures, humidity, and altitude conditions. Key environmental testing services include:

- Temperature and Humidity Testing on Rotating Equipment
 - >> 300 HP Drive to 30,000 RPM
 - >> Stop, Start, Endurance, Acceleration, Deceleration Testing
- 4' Diameter x 12' Altitude Chamber
 - >> 100,000 Foot Capability
- 4' Diameter x 6' Altitude Chamber
 - >> 200,000 Foot Capability
 - >> Equipped with Liquid Nitrogen Cold Plate and Shroud
- Rapid Decompression
- Simulated Space Altitude with Temperature
- Walk-in Temperature/Humidity Chamber
 - >> 8' x 9' x 10', 40°C to 90°C to 10°C/Minute Ramp Rate, 0 to 90°C RH
- 4' x 4' x 4' Temperature/Humidity/Altitude Chamber
- Several 4' x 4' Thermal Chambers
- Thermal Shock
- Salt Fog
- Dripping Rain
- Shipboard Voltages Available

DYNAMICS TESTING AT ELEMENT ROCKFORD

We provide world-class dynamics testing services including several electrodynamic shaker systems capable of testing all forms of vibration, sine-on-random, classical, and pyrotechnic shock. Clients can take advantage of on-site instrumentation, data acquisition and spectral analysis, and root cause failure analysis for test and design optimization. Key services in Rockford include:

- Two T1000 Unholtz-Dickie Shakers Rated at 15,000 Force Pounds.
- One T2000 Unholtz-Dickie Shakers Rated at 20,000 Force Pounds.
 - >> Capacity for Auxiliary Equipment
- An 8-Foot Diameter, 300 RPM Centrifuge for Acceleration Testing
- Drop Shock (High G Levels with Digital Waveform Capture for Post-Test Analysis)
- Pyrotechnic Shock

HIRF TESTING IN ROCKFORD

Our operation is accredited for DO-160 radiated susceptibility testing both in-house and at your facilities. Packed in custom cases for easy transport, our state-of-the-art HIRF testing equipment achieves category L pulse modulation levels from 400 MHz to 18 GHz.

DRIVE FORWARD WITH POWER SYSTEMS TESTING

We are fully equipped for testing power systems, producing up to 300 kVA and more. Seven chambers, which includes a 10-meter and reverberation chamber, are configured with drive stand ports and load rooms. Two 500 HP drive stands and one 150 HP drive stand are available on-site. Four of the drives are four-quadrant capable, allowing for both generator set and motor testing. Drives can be transferred between chambers to provide the best possible match between facility capability and test article configuration.

UNIQUE CAPABILITIES AT ELEMENT ROCKFORD

- HIRF. Element Rockford is accredited for DO-160 radiated susceptibility testing both in-house and mobile at customer facilities. Packed in custom cases for easy transport, our state-of-the-art equipment achieves category L, pulse modulation levels from 400 MHz to 18 GHz.
- Power Systems. Element Rockford offers unique capabilities for testing power systems, producing up to 300 kVA and more. Seven chambers (including a 10-meter and reverberation chamber) are configured with drive stand ports and load rooms. Two 500 HP drive stands and one 150 HP drive stand are available on-site; each drive is four-quadrant capable allowing for both generator set and motor testing. Drives can be transferred between chambers as-needed to give the best possible match between facility capability and test article configuration.
- Reverberation. Our reverberation chambers, couple with state-of-the-art amplifiers, achieves greater than DO-160 Category L levels from 100 MHz to 40 GHz. Our newest high field reverb chamber can reach MIL-STD 464 levels, in excess of 22,000V/m.
- Lightning. We are accredited for DO-160 lightning induced transient susceptibility testing both in-house and at customer facilities. Our easily transportable rack-mounted equipment achieves level 5 for both pin injection and cable injection testing, multiple stroke and multiple burst.
- 10-Meter Chamber. We also offer a state-of-the-art 10-meter chamber for EMC measurements. The 10-meter chamber is suitable for testing to most international emissions and susceptibility standards such as CISPR, IEC, VCCI, ANSI, FCC, SAE, and more. The extra large 10-meter chamber operates from 26 MHz to 40 GHz, and is equipped with a 6m turn table rated to 30,000 lbs. load capacity, 80,000 lb floor load capacity, as well as a 15' x 15' floor level access door.