



SPECIALISTS IN EMI | ENVIRONMENTAL | DYNAMICS | SOLAR

Element Tempe is your comprehensive testing location for climatic simulations, dynamics, and EMI/EMC test services in Arizona. We deliver expertise for both the commercial and military sectors all the way from full qualification programs to early-stage design verification and R&D efforts.

Our competencies extend to dynamic evaluations, encompassing vibration, shock, SRS, and acceleration tests. In the realm of climatic simulations, we provide temperature, humidity, and altitude assessments. Notably, we stand as a Center of Excellence for solar radiation testing, adhering to the stringent MIL-STD-810 standards Procedures I and II. Our EMI/EMC capabilities cover emissions, susceptibility, and high-power RF testing. As Arizona's leading testing facility, Element Tempe upholds a commitment to precision, leveraging its vast experience, specialized expertise, and state-of-the-art equipment.

EMI/EMC

Element Tempe provides world-class electromagnetic interference (EMI) and electromagnetic compatibility (EMC) testing services so your time from design to market is as efficient as possible.

We offer EMI/EMC testing services to help our clients' products meet a broad range of industry and government standards, namely RTCA/DO-160 and to MIL-STD-461 regulations. Fully backed by our ISO/IEC 17025 accreditation, our EMI/EMC services include:

- Radiated Susceptibility (10 kHz to 40 GHz, 200V/m)
- HIRF Testing 100 MHz to 18 GHz and Up to 7200 V/m pk
- Radiated Emissions from 30 Hz to 40 GHz
- MIL/AERO Semi-Anechoic Chambers
- Reverberation Chamber 200 MHz to 18 GHz
- Extended Ground Plane Test Beds
- Indirect Lightning-Single Stroke, Multiple Stroke, Multiple Burst (DO-160 Level 3, MIL-STD-461 Internal Equipment Levels)
- Electrical Power Characteristics Testing
- Airborne Acoustic Noise
- Shielding Effectiveness, Transfer Impedance
- Electrostatic Discharge Up to 30 kV
- HERO
- USCAR-28 and AK-LV-16 compliance testing for airbag initiators

PRIMARY SPECIFICATIONS

- RTCA/DO-160
- MIL-STD-461

DYNAMICS

To ensure your products can withstand the extended forces caused by random and sine vibrations — as well as the intense short-term forces from shocks, drops, and accelerations—there is no substitute for comprehensive dynamics testing. Element Tempe’s wide selection of dynamics, vibration, shock, and acceleration capabilities includes:

ELECTRODYNAMIC AND MECHANICAL SHAKER SYSTEMS

- Up to 24,000 Force Pounds
- 5 Hz to 3000 Hz
- Up to 3” pk-pk Displacement

ETS 11045 SHAKER SYSTEM VIBRATION

- 24,000 lbf, 220 g, 2” pk-pk Displacement, Up to 80”/sec Velocity
- Shock 44,000 lbf, 3” pk-pk Displacement. Up to 180”/sec Velocity
- 480kVA Amplifier
- 1,520 Pound Max Static Payload

ACCELERATION

- 3 centrifuges with arm radius lengths of 57, 36, and 11-Inches
- Up to 1,200 Gs
- Up to 40 Slip-Rings for powered and functional testing

DROP TOWERS

- Multiple drop towers with up to 45-Foot Drop
- Package drop machines

PRIMARY SPECIFICATIONS

- MIL-STD 810
- MIL-STD 202
- RTCA DO160
- ISTA
- ASTM
- UL 50
- ETSI 300-019-xx
- IEC 60068-2-xx

ENVIRONMENTAL

At Element Tempe, our capabilities extend to replicating the most intricate conditions encountered on Earth and in space. We are equipped to recreate specific scenarios to ascertain that your product delivers optimal performance in its intended operational setting. Whether it’s simulating the drastic thermal changes that a satellite component will face or the worst-case decompression event that a piece of avionics equipment might experience, our test equipment has you covered. We cater to an expansive array of products, ensuring they are robust enough to thrive even in the most rigorous conditions.

TEMPERATURE/HUMIDITY CHAMBERS

- From 2’ x 2’ x 2’ to a 4’ x 6’ x 8’ Walk-In Chamber
- >> Humidity up to 95%
- >> Temperature ramp rates up to 30C/min

THERMAL SHOCK

- -185C to 200C
- Up 24” x 24” x 24”
- Liquid to Liquid Thermal Shock (6”x6”x6” Basket)

ALTITUDE

- Up to 100,000 Feet

COMBINED ENVIRONMENTS (TEMPERATURE, ALTITUDE, AND HUMIDITY)

- 36” x 36” x 40”

THERMAL VACUUM

- -180° to 175°C Space Simulation
- 1x10-5 Torr
- Multi-Zone Temperature Control Chambers
- 33” x 33” Platen and Up to 36” High

RAPID AND EXPLOSIVE DECOMPRESSION AND OVERPRESSURE

EXPLOSIVE ATMOSPHERE

FLUID SUSCEPTIBILITY TESTING

DUST AND WATER INGRESS (IP TESTING)

BLOWING SAND AND DUST

- Dust Storms up to 40mph

RAIN AND WIND

- Wind-Driven Rain up to 40mph

SALT FOG

- Salt-fog, salt spray, and Cyclic Corrosion Testing.

SOLAR RADIATION

- Three Walk-in Chambers with Irradiated Area Up to 20 Square Feet
- Heating Effects (MIL-STD-810 Procedure I)
- Actinic Effects (MIL-STD-810 Procedure II)

PRIMARY SPECIFICATIONS

- MIL-STD 810
- MIL-STD 202
- RTCA DO160
- ASTA
- ASTM
- NEMA
- GR 63-CORE
- GR 487-CORE
- GR 13-CORE
- UL 50
- ETSI 300-019-xx
- IEC 60068-2-xx