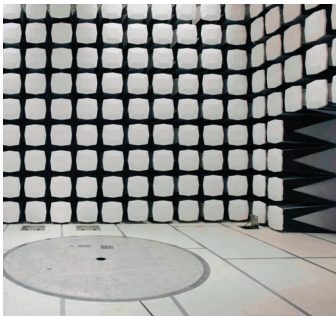


NTS Facility Spotlight: Longmont, Colorado

Specialists in EMI/EMC, Environmental and Dynamic Testing



**Easily accessible location
for clients flying into Denver
International Airport**



**We operate two fully accredited
10-meter chambers**



**NTS Longmont provides vibration
and drop/shock test services all
under one roof**

About NTS Longmont

NTS Longmont offers full-compliance emissions and immunity test services under one roof. We house two fully-accredited 10-meter chambers that provide fast, accurate emissions testing, as well as an excellent environment for clients to trouble-shoot their emission problems. In addition to world-class EMI/EMC testing we also offer our clients a full suite of environmental services featuring temperature cycling, humidity, shock and altitude as well as dynamics capabilities including vibration up to 21,000 force lbs., drop shock, package drop and acceleration.

CBTL Certified Testing for Medical Devices

NTS Longmont is one of the few CB Testing Laboratories (CBTLs) for electromagnetic compatibility in the United States. We can accommodate CB Scheme EMC testing on medical products for world-wide compliance. Our scope includes 2nd, 3rd and 4th editions of IEC 60601-1-2. Through global partnerships, NTS Longmont assists clients in obtaining world-wide product certification

Commercial Testing

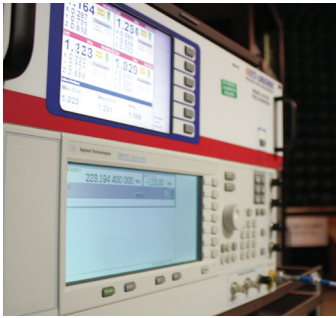
NTS Longmont has the ability to test a wide range of commercial products, from battery-powered, handheld meters to electrosurgical generators to data storage libraries with 100's of terabytes of storage capacity. Full-compliance emissions and immunity testing is performed under one roof and the transition between emissions and immunity is as simple as moving the test article from one test area to another. We have been accredited for European Union (EU) compliance testing since January of 1997 and successfully completed annual audits to ISO 17025.

Military and Aerospace Testing

Testing in NTS Longmont has been audited, witnessed and approved by major aerospace companies. Having tested environments for programs ranging from the International Space Station to the C-17 Globemaster, we understand the unique aspects the different standards present. With support from other NTS facilities, our capabilities can include the most extreme environments specified for military and aerospace testing. We welcome the prospect of a facility audit prior to testing so that you (and your customer) can be assured we have qualified personnel, the correct test equipment and adequate facilities to test your product.

Pre-scan and Mitigation

Many products will encounter problems during the process of EMC compliance testing. By performing pre-scan testing earlier in the design cycle, potential compliance problems may be identified at a time when changes to the product are more easily implemented, and done so in a more cost-effective manner. Our well-equipped lab provides an excellent environment for clients to trouble-shoot their non-compliance issues. We have an ample supply of EMI gaskets, ferrites, power line filters, and a variety of components which are invaluable when solving EMI problems. Clients who have traditionally used open area sites for trouble-shooting have been amazed by their increase in productivity, estimating that trouble-shooting at NTS Longmont resulted in an improvement of anywhere from a 2 to 4 times over trouble-shooting at an OATS.



Transition your product between emissions and immunity simply by moving from one test area to another



NTS Longmont features a wide range of environmental test capabilities



We feature combined temperature/humidity chambers with drive-in capability



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Longmont, CO 80504
(303) 776-7249

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Specifications subject to change.

Highlights and Primary Test Specifications

EMI/EMC

Emissions

- ▶ Radiated E-Field Emissions
- ▶ Radiated H-Field Emissions
- ▶ Conducted Emissions AC Mains
- ▶ Conducted Emissions Telecomm
- ▶ AC Power Line Harmonics
- ▶ AC Power Line Flicker

Immunity

- ▶ Radiated E-Field Immunity
- ▶ Power Frequency H-Field Immunity
- ▶ Conducted Immunity
- ▶ Electrostatic Discharge (ESD) Immunity
- ▶ Electrical Fast Transient/Burst Immunity
- ▶ Surge Immunity
- ▶ Voltage Dips, Short Interruptions and Voltage Variation Immunity

Environmental and Dynamics

- ▶ Temperature Cycling: Multiple Chambers the largest being a 20' x 17' x 12' man-rated drive-in chamber. Temperature Ranges: -76°F to 320°F, -60°C to 160°C, Temperature Transition Rate: 1°C/min to 10°C/min
- ▶ Combined Temperature and Vibration Chamber
 - Temperature Cycling (AGREE) with electro-dynamic shaker 5 Hz to 2,000 Hz and 1 inch displacement, Chamber size: 4' x 6' x 4', Temperature Ranges: -76°F to 320°F, -60°C to 160°C, Temperature Transition Rate: 10°C/min
 - Temperature Cycling (AGREE) with low frequency vibration, Lansmont Hydraulic Shaker frequencies 1 Hz to 500 Hz, 6 inch stroke displacement for transportation vibration testing, Chamber size: 4' x 6' x 5', Temperature Ranges: -76°F to 320°F, -60°C to 160°C, Temperature Transition Rate: 10°C/min
- ▶ Combined Temperature and Humidity Chambers
 - Drive-in capability - 27' x 7' x 7'
 - Temperature Range: -76°F to 320°F, -60°C to 160°C
 - Temperature Transition Rate: 10°C/min
- ▶ Temperature Shock/Thermal Shock
 - 3 Zone Chamber, each zone is 3' x 3' x 3', uses a wire carriage/basket
 - Horizontal chambers, 3 - 5 second transfer rate
 - -76° to 320°F, -60°C to 160°C
- ▶ Combined Temperature and Altitude Chamber
 - Altitude: -2,000 feet below sea level to 200,000 feet, 27 cubic foot chamber, unique capability for positive pressure
 - Temperature: -75°C to 177°C controlled to +/- 2°C
- ▶ Shaker systems
 - Ling 335 electro-dynamic shakers, Sine, Random, Shock, 18,000 force-lbs, 5 - 2000 Hz, 1 inch stroke
 - TEAM Servo Hydraulic shaker, Vertical and Horizontal, Sine, Random, 21,000 force-lbs, 0.5 - 500 Hz, 40 IPS, 10.5 inch stroke
- ▶ Drop Shock Tower - Large package and small component capabilities for aircraft, bump, transportation and impact.
- ▶ High Velocity Shock Tower - Bungee Assisted
- ▶ Package Drop Machine
- ▶ Acceleration - 3 foot radius centrifuge, slip rings, 15 single channels with ground, 2 coaxial and 7 low noise single channels, up to 200 g's, Crash Safety

Pre-Scan and Mitigation

- ▶ Electrostatic Discharge
- ▶ Radiated RF immunity
- ▶ Electrical Fast Transient/Burst
- ▶ Surge
- ▶ Conducted RF Immunity
- ▶ Power Quality Failure
- ▶ AC Power Line Harmonics
- ▶ AC Power Line Flicker

About NTS

NTS provides test, inspection and certification services to help clients build better, stronger, safer, more reliable products. NTS engineers and technicians have extensive knowledge of current test and conformity requirements, both domestic and international. With over 50 years of experience and a nationwide network of laboratories, we bring a unified solution to a global market.