

#### MET Laboratories, Inc.

#### www.METLabs.com

























Certifying the world, one product at a time

# Providing the global marketplace with diversified testing and certification services for over 50 years.

#### **MET's Mission**

To consistently satisfy our customer's needs for testing and certification while exceeding their highest expectations for customer service:

- By soliciting, listening and responding to customer comments,
- By constantly improving,
- By increasing services and recognitions,
- And by demonstrating the highest level of courtesy, responsiveness, honesty and integrity.



#### A Message from the President

Dear Valued Customers,

In our over 50 years of existence, MET Laboratories has come to be synonymous with outstanding customer service and an unwavering commitment to excellence. We are constantly improving our processes, procedures and facilities in order to provide the finest and most pleasant experience. Here at MET, we understand the

importance of time when it comes to getting your products to market. Some of the ways we help to keep this time to a minimum is to:

- Assign a single point of contact to guide and assist you throughout the entire process
- Provide a secure online program, METrak, which allows you to track your products progress, as well as, allow you to print reports
- Provide pre-testing compliance review

At MET, our goal is not to meet our customers' expectations, it's to exceed them. We view our customers as our partners and we have succeeded in providing them a place to fill all of their compliance needs. I invite you to learn more about our company through the pages of this brochure. We welcome your feedback, suggestions and questions. We will continue to strive to make a difference in the testing industry and to Certify the World, One Product at a Time.

Regards, Rob Frier President MET Laboratories, Inc.



Len Frier forms
Maryland Electrical Testing
to meet the high-voltage
cable testing needs of
the Baltimore Harbor
Tunnel construction
project.



After international expansion, the company's name is changed to MET Electrical Testing, Inc.

AT&T awards MET the contract to perform the newly regulated FCC Part 68 telecom testing to assure safe connection to the public network.

Congress declares new regulations restricting electromagnetic interference.MET becomes one of the first labs approved for the new FCC Part 15 testing.



MET wins a large military contract to perform environmental testing on Army generator units. MET's environmental simulation lab is born.

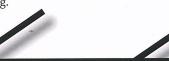
MET sues OSHA for a second time, due to inactivity on OSHA's part to fulfill the promise made in 1984 to establish criteria to certify labs as a NRTL.



1970



1978







#### MET Laboratories, Inc.

History

MET Laboratories has been the premiere product testing and certification laboratory for over 50 years. During this time, MET has emerged as a leader in the industry and has grown to include labs across the United States and internationally.

The company was founded in 1959 by Leonard Frier as Maryland Electrical Testing, and originally focused on the testing of high voltage electrical transmission and distribution systems. In the 1970's, MET became one of the first laboratories to perform electro-magnetic interference and telecommunications testing to the emerging Federal Communications Commission (FCC) regulations. The states of Washington and Oregon approached MET at this time to perform electrical safety testing.

In the late 1980's, MET Labs won a decade long battle to be recognized as an equal to UL for product safety certification. Due to MET's efforts, the Occupational Safety and Health Administration (OSHA) created the Nationally Recognized Testing Laboratory (NRTL) program and MET Labs became the first NRTL.

In the 1990's, MET Labs shifted its focus and began exclusively testing and certifying electrical products. The name was then changed to MET Laboratories, Inc. At the same time, MET was recognized by the IECEE Certified Body Scheme. Through this scheme, MET's test reports are now accepted in over 50 countries. During this time, the Standards Council of Canada accredited MET for product safety testing and certification.

Over the past 50 years, MET has become recognized in states, provinces and local jurisdictions by United States and Canadian government agencies and international bodies.



MET becomes the nation's first Nationally Recognized Testing Laboratory - NRTL.

MET focuses exclusively on laboratory testing. Changes name to MET Laboratories.



MET opens its' first west coast, full service laboratory in Union City, California.



MET establishes an operations base in Shenzhen, China



MET opens its' second west coast, full service laboratory in Santa Clara, California.



MET acquires DELL Austin Laboratory, and establishes MET Austin.









1989

#### **ELECTRO-MAGNETIC COMPATIBILITY**

The Electro-magnetic Compatibility (EMC) Laboratories at MET have extensive experience in testing a wide range of commercial and military equipment for the domestic and global market.

The full range of MET's EMC capabilities include:

- FCC testing and TCB certification
- Industry Canada testing and certification
- Military standards testing
- Meter testing
- European emissions and immunity testing
- International Compliance testing
- NEBS, RBOC and Carrier testing
- Wheelchair testing
- SAR testing
- Automotive testing to SAE standards and e-mark
- Medical devices

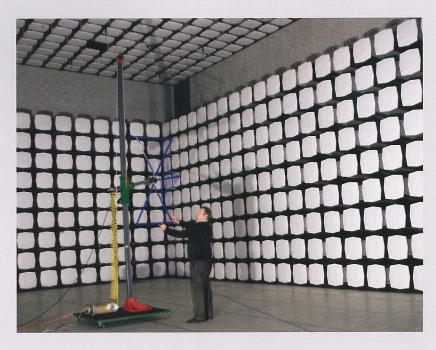
MET is an A2LA accredited and a FCC designated Telecommunication Certification Body (TCB), fully authorized to test and certify to all applicable FCC regulations, including Part 15, Subpart C 15.247. As a TCB, MET can issue a FCC Grant of Certification in less than one week. We also provide a single point of contact, from testing though certification.

MET has many EMC accreditations including the National Institute of Standards and Technology's (NIST) National Voluntary Laboratory Accreditation Program (NVLAP). MET has also been approved by NIST as a Conformity Assessment Body (CAB). As a CAB, MET can serve as a Competent Body for the European EMC Directive and as a Notified Body for the R&TTE Directive.



MET's Baltimore facility provides quick, easy access to Baltimore-Washington International Thurgood Marshall Airport, Reagan National Airport, and Dulles International Airport.

Our Santa Clara and Union City facilities are within easy reach of the, San Francisco, San Jose, and Oakland airports.
The MET Austin Lab is convenient to the Austin-Bergstrom International Airport.



Silicon Valley's newest and best EMC facility boasts 18,000 square feet of temperature controlled test environment, a brand new, full-height, fully anechoic 10 meter chamber, a new 5 meter chamber, full immunity capabilities and state of the art wireless testing capabilities.

MET's dual antenna process can simultaneously prescan 30 MHz - 1 GHz and 1 GHz to 10 GHz for radiated emissions compliance in less than 20 minutes.

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#### **ENVIRONMENTAL SIMULATION**

The Environmental Simulation Laboratory (ESL) at MET has the most advanced testing equipment in the country, capable of simulating any physical aspect of the environment. MET is also capable of performing extensive pre/post comparison testing of mechanical/physical properties including coating adhesion, tensile strength, elongation, bearing strength, compressive properties, creep, rupture, impact, shear, and rockwell hardness. Many of these physical properties can be evaluated from temperatures of -70C to 350C.

## Testing is automated through computer controlled systems to maximize accuracy and repeatability.

MET offers additional evaluation services that help shorten the time to market and reduce the cost of product changes. MET will perform an evaluation of the performance of commercial equipment. This evaluation compares the equipment's performance to commercial standards, to the manufacturer's selected specifications or to competitor's products. MET performs failure evaluations, as well as, additional special testing services, such as enclosure compliance, package testing and seismic qualification testing.

Other specialized testing includes automotive testing to SAE standards, and ingress testing for IP Codes to IEC 60529 and ISO 20653 (IP codes for road vehicles).





#### The environmental simulation lab is capable of the following tests:

- acoustic noise
- airborne contaminants
- altitude
- chemical compatibility
- flame spread
- freezing rain
- full spectrum solar radiation
- fungus
- humidity

- loose cargo
- office vibration
- salt-fog corrosion
- SO2 / salt-fog
- seismic
- thermal shock
- ultraviolet
- wind driven rain
- xenon-arc weathering



MET's seismic test systems can accommodate large cabinets or multiple rack systems. MET employs a high performance value that allows ETSI / NEBS operational shock and vibration profiles on one shaker, saving significant time by not having to switch from a hydraulic to an electro-dynamic system. Installation set-up includes an electric overhead crane for the safe and efficient movement of test systems.

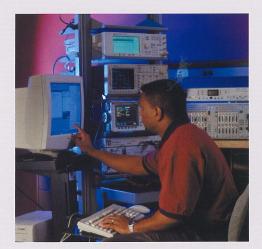
#### **TELECOM / NEBS**

MET's Telecom and NEBS testing capabilities rival those of any other laboratory. MET's extensive capabilities in telecommunications include testing, application preparation and agency liaison.

MET tests products for compliance to U.S., Canadian, and international standards for the full range of telecom devices, from network equipment to consumer products.

MET maintains communication throughout the project to keep any modifications needed for the compliance of the product as cost effective as possible.

MET is an A2LA accredited and a FCC designated Telecommunication Certification Body (TCB), fully authorized to test and certify to FCC Part 68. MET is fully recognized by the American Council for Terminal Attachments (ACTA). ACTA is the industry council for FCC Part 68 certification requirements and administration, created following the FCC's decision to privatize its Part 68 responsibilities.



# MET is a Verizon Independent Testing Laboratory (ITL)





## **Bundle ALL of your Certification Requirements with MET**

- NEBS Certification
- R&TTE Directive / CE Certification
- Product Safety Certification (NRTL)
- Telecom FCC/ Industry Canada Certification

Four in-house labs at each of MET's NEBS facilities afford flexible scheduling and complete testing to all NEBS requirements. MET can test to the full requirements of the Telcordia standards and the industry specific standards noted below:

- GR-1089-CORE
- GR-63-CORE
- GR-487-CORE
- GR-950-CORE
- GR-49-CORE
- Verizon TPRs
- Verizon TEEER
- AT&T requirements

East Coast: 800.638.6057

West Coast: 888.638.9345



### Did you know that you don't need to use UL anymore?

Well, you don't! MET is recognized by the Occupational Safety and Health Administration (OSHA) as a Nationally Recognized Testing Laboratory (NRTL). MET is approved to certify products in over 170 categories. These categories include consumer products, IT, telecommunications, medical, lighting, hazardous location and a multitude of other product categories.

#### **MET offers:**

- 24 hour quote response time
- Minimal lead time
- Two follow-up inspections per year, instead of four
- No hidden costs
- Complimentary compliance assistance

These benefits make MET the responsive alternative to UL. The MET process will help to minimize the manufacturers time to market and prevent unnecessary delays. MET offers an online Product Safety Certification Database. This searchable catalog includes all products listed by MET for the US and Canada.

#### **PRODUCT SAFETY CERTIFICATION**

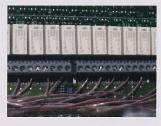
The MET product safety mark is accepted throughout the United States and Canada, as well as, by major retailers including:

- Best Buy
- Home Depot
- Home Shopping Network (HSN)
- Lowes
- Radio Shack
- Sears
- Wal-Mart



#### **Global Recognition**

MET's global presence in product safety testing and certification is reflected in its approval as a National Certification Body in accordance with the IECEE Certified Body (CB) Scheme. MET's test reports which are accepted by laboratories and authorities in over 50 CB scheme member countries. MET's extensive network of partner labs located throughout the world provides product safety testing on a local level for North American certification.



#### Canada

MET's accreditation as a Certification Body by the Standards Council of Canada and provincial authorities throughout Canada allows MET to test and certify products to the Canadian Standards Association (CSA)'s standards.



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#### **MILITARY STANDARD TESTING**

The military test labs at MET offer a wide range of testing for military products. This testing includes environmental simulation, EMC and Fiber Optic Testing. Our highly trained engineers and secure facilities ensure a smooth and efficient testing process. MET is NVLAP accredited for military EMC testing. A sample of the military standards MET is qualified to test to are:

- MIL-STD-167-1A
- MIL-STD-202
- MIL-STD-461 A-F
- MIL-STD-462
- MIL-STD-704 A-F
- MIL-STD-740
- MIL-STD-810
- MIL-STD-883
- MIL-STD-1275

- MIL-STD-1399
- MIL-STD-24623
- MIL-STD-24728
- MIL-STD-28876
- MIL-STD-29504
- MIL-STD-49291
- MIL-STD-83522
- MIL-STD-83526
- MIL-STD-85045
- MIL-E-5400

- MIL-PRF-28800
- RCTA/DO-160
- RS103
- RS105
- RE102
- DOD-STD-1399 Section 070
- NII STD 0101.06 **Ballistic Resistance** of Body Armor

#### **Complete 810 testing**

**Environment:** Extreme conditions including rain, snow, wind, salt spray, altitude, explosive atmosphere, solar radiation, and more.

**Temperature**: From -100°C to 500°C in a wide range of ovens and chambers including 500 to 800 cubic-foot walk-ins, with energized EUT dissipating up to 40,000 Watts.

Humidity: 5% to 100%, wide range of chambers including 800 cubic-foot walk-in.

Shock: Half-Sine and Terminal Sawtooth testing to 30,000 g's.

Thermal Shock: Temperature rate of change up to 100°C/min.

Fungus: As defined in Method 508.5 of MIL-STD 810F.

#### Complete 461/462 EMC/EMI testina

MET offers the complete range of immunity, emissions, and susceptibility testing in our three-meter, five-meter, and ten-meter ambient free chambers. MET's magnetic immunity testing is capable of generating magnetic fields from DC to 100 kHz in excess of 1600 A/m (20 Gauss). These intentionally generated intense magnetic fields exceed requirements for Army/Navy RS101, DoD-STD-1399 (pt. 070), RTCA DO-160 and various ANSI and European specifications. MET performs antenna port testing to MIL-STD-461: CE106, CS103, CS104, CS105 and RE103.



#### **ITAR and DID compliant**



MET is one of a few labs that can test 200 V/m **Radiated Immunity and EMP** testing per MIL-STD-461/462 in-house.

MET's blowing dust chamber can test devices measuring up to 36"W x 36"H x 36"D, with temperatures up to 200°F / 93°C.



• MIL 83522

MIL 83526

#### **Fiber Optic testing**

MET has DSCC Laboratory suitability approval to test Military Devices to diverse test methods and specifications:

- MIL 28876
- MIL 24728
- MIL 49291
- MIL 810
- MIL 29504
- MIL 85045
- MIL 1344,
- MIL 202 • EIA/TIA specifications

#### Testing includes:

- EMC
- Environmental
- Fungus
- Electrical / Mechanical

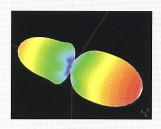
Our capabilities extend beyond those listed and MET's fiber optics lab is always open to expanding the scope of accredited testing through customer sponsorship of QPL test methods and specifications.

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MET's testing of telecommunications equipment began long before the first IEEE 802.11 committee was formed. MET has constantly adapted to the testing needs resulting from the evolution of telecommunication devices from analog to digital to wireless.

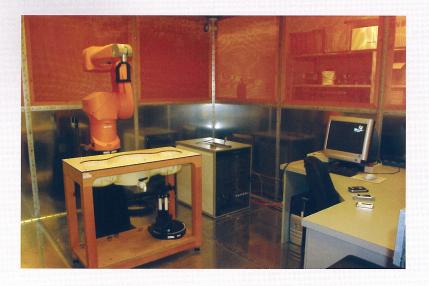
#### **Regulatory Testing Services**

- Testing to FCC, EU and IC requirements. Harmonized standards allow MET's tests reports to be used in most countries
- TCB, a CAB and a Notified Body under the R&TTE Directive
- Accredited by A2LA to ISO/IEC 17025:2005
- Specializes in regulatory testing of most 802.xx devices



#### **3D Antenna Pattern Measurements**

- Polar or spherical plots
- Frequencies up to 300GHz
- Semi or fully anechoic sites
- Far-field and Near-field measurements



#### **Specific Absorption Rate (SAR)**

- Employs the latest DASY4 SAR system
- Calibrated from 150MHz- 6GHz for head and body
- Performs all types of experimental testing



#### **Dynamic Frequency Selection**

- A FCC approved DFS vendor
- Uses National Instruments portable platform for its NTIA waveform generation
- Can test all Master and/or Client devices

#### **RFID**

Exclusive EPCglobal Test lab for:

- Hardware Certification Program
- Performance Test Center Accreditation Program
- Software Certification Program

#### Exclusive DASH7 Test lab for:

- Hardware Certification Program
- Software Certification Program





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#### **SPECIALIZED SERVICES**

#### HALT/HASS

MET offers Highly Accelerated Life Testing (HALT) and Highly Accelerated Stress Screening (HASS). This is the industry's closest simulation to a real-world environment. The purpose of this test is to ensure reliability by exposing the product to rapid temperature transitions and random vibration. This evaluation will reveal the defects that are most likely to occur in real life application. This test is valuable for any manufacturer, as it will save money in the future due to recalls and warranty issues.

#### **ELECTRICAL MEDICAL DEVICES**

MET is recognized as a NRTL by OSHA for product safety testing and certification of medical equipment. MET also performs the required EMC testing for medical devices. This service covers all types of electrical medical products that may be used in a hospital, clinic or therapy center. Custom installed medical equipment can also be inspected by MET at locations throughout the United States.

#### **ELECTRIC WHEELCHAIR**

MET is recognized by RESNA/FDA and the European Union for the testing and certification of electric wheelchairs. MET is an expert in the regulatory requirements throughout the world regarding electric wheelchair and scooter testing.

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#### **ELECTRICITY METER CERTIFICATION**

This certification program offers a full test program or a menu of testing options for electricity meter certification. This process ensures electricity meters across America are safe, reliable and accurate. Product safety, surge and EMC testing are all part of this thorough and reliable testing program. MET also tests to various EN standards for meters slated for sale in Europe; and to CFE GWH00-78 for meters that will be marketed in Mexico. MET is the only lab accredited by Measurement Canada for the testing of previously approved electricity meters which have been modified and are being re-submitted for approval purposes.

#### **ALTERNATIVE ENERGY AND ENERGY STAR**

MET is a pioneer in the testing and certification of alternative energy products, such as solar panels, wind generators, inverters. MET has a stand alone facility specifically for photovoltic module flame testing per UL 1703, Flat-Plate Photovoltaic Modules and Panels.

MET Labs has been designated by the U.S. Environmental Protection Agency (EPA) as both a recognized laboratory and a Certification Body (CB) for specified products within the ENERGY STAR program.

#### **FIELD LABELING**

Field Evaluations are performed by MET on uncertified equipment to support the local authority having jurisdiction (AHJ) in the US. In addition, the Standards Council of Canada has accredited MET to act as an inspection body for product safety in Canada. MET's field inspectors will be in contact within 24 hours of the initial call or email. MET offers guidance through the entire process including notifying the electrical inspectors, explaining the modifications needed to bring the equipment into compliance, issuing the final report-and clearly labeling the equipment with all of the necessary information for the local inspector to accept the equipment for use in that jurisdiction.

**Customer Service** 

MET's standard for customer service is the highest in the industry. At MET, the belief is that products should be on the market, and not in the test lab, therefore everything is done to make the process smooth, fast, and inexpensive.

From the start, MET will assign a single point of contact to the client for the entire process. The project coordinator will immediately notify customers of changes, problems and progress.

**METrak Online: Job Details** 

METrak is an online tracking system MET created to provide customers with instant, real-time information on their product throughout the testing process. The system will send customers instant notification when there is a change of status on their job so that progress can be constantly tracked. METrak is accessible 24 hours a day, 7 days a week via a secure internet connection. The information provided in METrak includes

overall status, status of each specific test, notes regarding each task, reporting tools, and contact and e-mail links to coordinators and project engineers.

At each of MET's locations customers have access to secure set-up areas, as well as, individual customer lounges. Free lunch, wireless internet and compliance assistance all contribute to an efficient and streamlined testing and certification process.

#### Call us:

East Coast: 800.638.6057 West Coast: 888.638.9345

or email us at Info@metlabs.com

Please visit us at: www.METLabs.com and see all that MET Laboratories can do for you!

MET Laboratories and the MET Label are recognized throughout the United States, Canada and the world.

#### A Partial Listing of MET's accreditations and recognitions:

- Nationally Recognized Testing Laboratory (NRTL) OSHA
- Standards Council of Canada (SCC)
- American Association for Laboratory Accreditation (A2LA) accredited (Baltimore #0591-01, Union City / Santa Clara #0591-02)
- National Voluntary Laboratory Accreditation Program (NVLAP) NIST
   (Baltimore NVLAP LAB CODE: 100273-0, Union City NVLAP LAB CODE: 200445-0)
- National Certification Body (NCB) IECEE
- Telecommunications Certification Body (TCB) Federal Communications Commission
- Industry Canada Terminal Attachment Program
- EPA-Recognized ENERGY STAR Certification Body (CB)
- Measurement Canada
- European Notified Body Status
- CAB status for EMC
- Defense Industrial Supply Center
- EPCglobal Inc,™ official test lab for Hardware / Software Certification Program
- Voluntary Council for Control of Interference (VCCI) (Japan)
- International Safe Transit Association (ISTA)
- A member of the American Council of Independent Laboratories (ACIL)

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Seoul, Korea +82 10 7296 8169

#### **GLOBAL SOLUTIONS**

Through MET's accreditations, partnerships, affiliations and experience we can guide you through the global regulatory maze. With the addition of an office in Shenzhen, China, and Seoul, Korea, MET laboratories is positioned at the forefront of global testing and certifications.

MET manages an extensive network of partner labs throughout the world for local product safety testing leading to the MET NRTL and cMET certification.

MET can perform all of the necessary testing and provide the required CE reports for the Low Voltage, Machinery and EMC Directive. MET is accredited by the IECEE Certification Body Scheme (CB Scheme). As a member of the CB Scheme, MET can perform the testing and provide an international test certificate which can be used for product safety certification in over 50 countries.

Please feel free to contact MET for information, guidance or pricing.

