

IMT Test Lab

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**Struggling with time-consuming verification processes for your medical or laboratory equipment?
A collaboration with IMT reduces time to market and enhances your product's reliability.**

In the complex landscape of modern technology, the assurance of seamless functionality, safety, and resilience against environmental disturbances begins in the early stages of system development.

At IMT's in-house testing facility we dedicate ourselves to testing devices rigorously for their immunity to disturbances and their emission levels. By aligning our processes with global standards, we ensure that your products meet stringent environmental requirements or EMC criteria.

Advantages:

- Short lead times / high availability
- Experts on-site to support you
- Iterations possible on-site in our mechanic and electronic labs

Our Test Laboratory stands as a state-of-the-art facility designed to offer a comprehensive spectrum of testing services, covering various aspects of evaluation. We go beyond traditional precompliance, providing a range of tests including ESD immunity and radiated emission and environmental simulation (temperature, humidity and ambient pressure).

Testing Services



Emission Measurements in LaplaCell

- Precise measurements to evaluate radiated emissions
- Thorough comparison with applicable standards
- Very stable and consistent swept frequency values across the entire test volume area
- Emission EMV 30MHz - 6GHz
- Device under test maximum size 60x60x60 cm
- Filtered I/O including mains, USB, Ethernet and 12 additional individual usable I/O



Conducted Immunity

- Burst according to IEC 61000-4-4
- Surge according to IEC 61000-4-5
- Voltage drop-outs and dips according to IEC 61000-4-11 (max. 250VAC/16A)
- Voltage drop-outs and dips according to IEC 61000-4-29 (max. 250VDC/10A)



Negative pressure chamber

These tests ensures proper operation at higher altitudes like in mountains, airplane or helicopters.

- $1.5 \cdot 10^{-2}$ hPa to ambient pressure
- Chamber size 75x75x75 cm
- Inlets for Mains, USB and RS232, additional connections upon request



Dynamic climatic chamber

- 115 or 720 liters volume
- -40 to +180° C
- 4.8 K/min heat or cooling speed
- 10 to 98% relative humidity

Testing Services



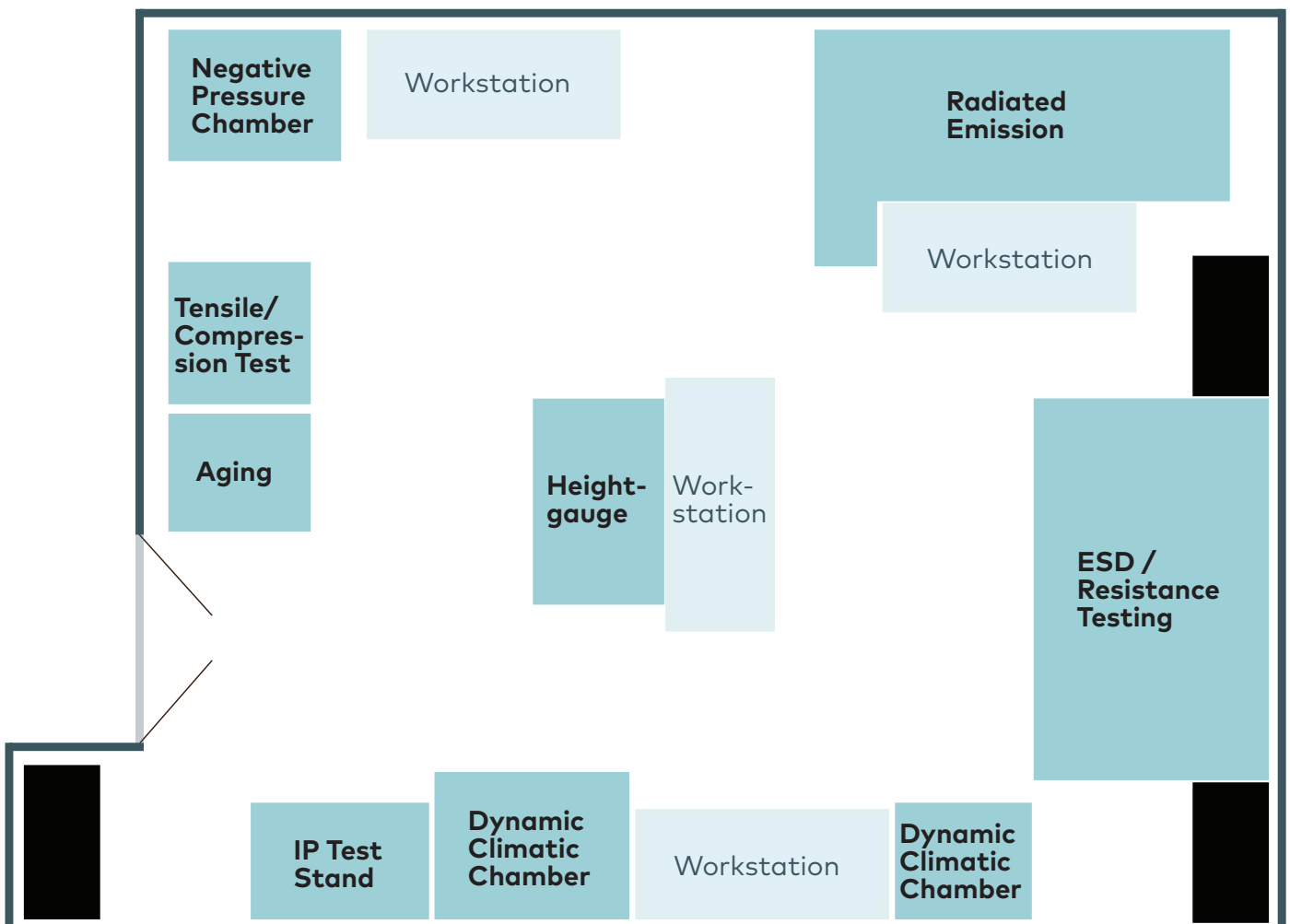
ESD (Electrostatic Discharge)

- Tests according to IEC 61000-4-2
- Up to 25 kV contact and air discharge

Facilities

Our facilities include:

Fresh Water Outlets, Effluence, Electrical Outlets (230V, 400V 3-phase 16A, 400V 3-phase 32A), Ethernet, Compressed Air, Wash Basin.



Standards and Descriptions

Our wide range of testing includes partial or complete tests for medical equipment according to IEC 60601-1 and ISO 80601-2-xx as well as laboratory equipment according to IEC 61010-1 and IEC 61326-1, including:

Medical Electrical Equipment

IEC 60601-1	General requirements for basic safety and essential performance
General requirements for basic safety and essential performance:	
IEC 60601-1-2	Collateral Standard: Electromagnetic disturbances - Requirements and tests
IEC 60601-1-6	Collateral standard: Usability
IEC 60601-1-8	Collateral Standard: General requirements, tests and guidance for alarm systems in medical electrical equipment and medical electrical systems
IEC 60601-1-9	Collateral Standard: Requirements for environmentally conscious design
IEC 60601-1-10	Collateral Standard: Requirements for the development of physiologic closed-loop controllers
IEC 60601-1-11	Collateral Standard: Requirements for medical electrical equipment and medical electrical systems used in the home healthcare environment
IEC 60601-1-12	Collateral Standard: Requirements for medical electrical equipment and medical electrical systems intended for use in the emergency medical services environment
Particular requirements for basic safety and essential performance:	
ISO 80601-2-12	of critical care ventilators
ISO 80601-2-13	of an anaesthetic workstation
ISO 80601-2-55	of respiratory gas monitors
ISO 80601-2-61	of pulse oximeter equipment
ISO 80601-2-79	of ventilatory support equipment for ventilatory impairment
ISO 80601-2-80	of ventilatory support equipment for ventilatory insufficiency
ISO 80601-2-84	of ventilators for the emergency medical services environment
ISO 80601-2-90	of respiratory high-flow therapy equipment

Laboratory Equipment

IEC 61010-1	Safety requirements for electrical equipment for measurement, control and laboratory use - General requirements
IEC 61326-1	Electrical equipment for measurement, control and laboratory use - EMC requirements - General requirements



Advisory and Optimization

Our experienced team provides detailed recommendations for improvements if the system doesn't meet specified standards. We offer advisory services to enhance overall EMC properties, ensuring your products are robust and reliable under diverse operating and storage conditions.



Development Support

Beyond testing, we provide developmental support by assessing and optimizing the EMC characteristics of your device. This approach is particularly advantageous for preemptive EMC evaluation before engaging a costly accredited laboratory.

Further we also assist in making the device resilient to environmental factors such as temperature, humidity, or ambient pressure. Our expertise extends to providing recommendations and implementing strategies to ensure your device can withstand various environmental conditions, enhancing its overall durability and reliability. This comprehensive approach reinforces the robustness of your products and mitigates potential risks associated with environmental stressors.



Personal and Flexible Service

Understanding the urgency of bringing your products to market, our laboratory offers flexible and short-notice availability. This ensures that you don't have to endure long waiting times for testing, accelerating your product development cycle and time-to-market.

Please contact us for more information - we'd be happy to discuss your specific testing requirements for your project.



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