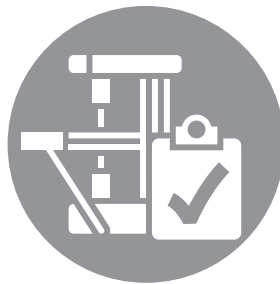


imecs LAB

RF Material Characterization Simplified

X-KU

Version: 1.0







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KEY FEATURES OF IMECSLAB

-  **Pre-Calibrated : Just Press Go!**
-  **Non-contact/Non-destructive operation**
-  **Multi-layer characterization up to 3 layers**
-  **Powerful Analysis**
 - Material Scattering Parameters
 - Shielding Effectiveness
 - Complex Frequency Dependent Permittivity and Permeability
 - Sheet Resistance
 - Conductivity








imecLab is comprised of a Measurement module and a Computer module

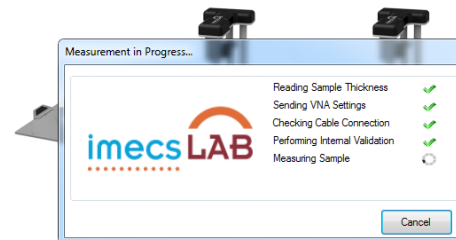
imecsLAB is an all-in-one RF material characterization system designed for easy use by the non-expert. Measurements are taken with the simple touch of a button. The system is pre-calibrated, so no special skills or expertise is required.

imecsLAB sets the industry standard in free space microwave measurement by providing non-contact multi-layer material characterization. This innovative device combines PaneraTech's patent-pending edge treatment, and E-cal tray technologies. imecsLAB utilizes revolutionary highly focused probes that allow for RF characterization on small size samples.

Accompanied by a powerful and highly intuitive software, imecsLAB offers a comprehensive material characterization capabilities ranging from measurement of shielding effectiveness to extraction of dielectric properties, conductivity and sheet resistance.

EASY TO USE SOFTWARE

-  **Auto Detects and Connects to Vector Network Analyzer**
-  **Self-Diagnoses System Errors**
-  **Monitors Overall System and RF Cable Calibration Status**
-  **Provides Intuitive Feedback to the User**
-  **Versatile Data Visualization, Comparison, Import and Export Capability**



Please Load Measurement Sample

Measure

PERFORMANCE PARAMETERS

DESCRIPTION	SPECIFICATION
Frequency ¹	8GHz- 18GHz
Maximum Shielding Effectiveness ^{2,3}	<p>Base Option: @8 GHz, 55 dB @12 GHz, 65 dB @18GHz, 70dB</p> <p>Extended Option: @8 GHz, 70 dB @12 GHz, 75 dB @18GHz, 75 dB</p>
Sheet Resistance ^{2,3,4}	<p>Base Option: Min: 0.3 Ohm/sq Max: 3000 Ohm/sq</p> <p>Extended Option: Min: 0.05 Ohm/sq Max: 3000 Ohm/sq</p>
Reflection Coefficient ⁴	± 0.4 dB ± 2°
Transmission Coefficient ⁴	± 0.3 dB ± 2°
Permittivity (Teflon) ⁴	2.1 ± 1%
Electric Tangent Loss (Teflon) ⁵	± 0.01
Maximum Number of Layers for Advanced Parameter Extraction ⁵	Up to 3
Material Types for Advanced Parameter Extraction ⁵	<p>Type I: Single Layer Composite Host Substrate</p> <p>Type II: One Side Coated Substrate Host Substrate</p> <p>Type III: Two Side Coated Substrate Host Substrate</p>

SYSTEM PARAMETERS

DESCRIPTION	SPECIFICATION
Sample Size	Minimum 4 in x 4 in (100 mm x 100 mm)
Sample Thickness ⁶	Maximum 0.4 in (10 mm)
Measurement Module Weight	37 lbs. (17 kg)
Measurement Module Size (W x L x H)	12 in x 13.5 in x 22 in (305 mm x 343 mm x 559 mm)
Computer Module Weight	21 lbs. (9.5 kg)
Computer Module Size (W x L x H)	12.5 in x 13.5 in x 12 in (318 mm x 343 mm x 305 mm)
Operating System	Windows 7 Professional
External Keyboard, Mouse	Included
Monitor	12 in (300 mm) Touchscreen Display
Power Supply	100-240V ~ 1.8A, 50-60Hz
Supported Interface with Vector Network Analyzer	GPIB or Ethernet
USB Interface	USB 2.0 for Data Transfer
Distance Sensor	Keyence IL-065 Laser Sensor
Operating Temperature	0°C ~ 50°C
Required VNA Options	Frequency of Operation Covers 6 GHz to 20 GHz. Full S-Parameter Measurement Capability (S11, S22, S21) GPIB or Ethernet Interface

NOTES

- 1 Other frequency bands are available upon request.
- 2 Extended option requires additional hardware. Please inquire with us.
- 3 Performance is based on an external VNA with the following settings: Power: -10dBm, IFBW: 3KHz
Dynamic range is based on metal sheet measurements.
- 4 Analysis is based on a single layer material measurements
- 5 Advanced parameter extraction such as permittivity, conductivity etc. for each layer is performed up to a total of 3 layers.
- 6 System can be manufactured to accommodate thicker samples. Please inquire with us.