



DESCRIPTION

The material test system based on SilentRIM™ Lens technologies is used to evaluate the transmission characteristics of materials, enabling the calculation of intrinsic properties such as dielectric permittivity, magnetic permeability, sheet impedance, resistivity and conductivity.

FEAUTRES

- Cover from 1GHz to mmWave frequency range up to 50GHz
- Loss tangent measurement accuracy down to 0.001 level
- Paired with software for automatically calibration and calculation of the material properties (dialectic constant and loss tangent)

TYPICAL APPLICATIONS

- RF material and component design: Radomes, absorbers, PCB substrate for microwave applications.
- Performance characterization: Measuring insertion loss of radomes and reflection loss of radar absorbers.
- Shielding effectiveness: assessing conductive materials by measuring the conductivity or isolation by the material.

SPECIFICATIONS

Measurement Capability	SLR-M-1000	SLR-M-3000	SLR-M-5000	SLR-M-8000
Lens size (D) (m)	1.6m	0.8m	0.5m	0.25m
Minimum size of material (m) ¹ at lowest frequency	1.6m	0.65m	0.4m	0.2m
Accuracy of dielectric constant	+/- 0.05	+/- 0.05	+/- 0.05	+/- 0.05
Accuracy of loss tangent	+/-0.0005	+/-0.0003	+/-0.0002	+/-0.0002
Frequency Range GHz	1-6	3-40	5-60	8-100

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RF System

VNA compatibility	Keysight and R&S (other VNA please contact Ascan)			
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Weights and Dimensions

Installation Envelope W×L×H	2.4m×6m×2.4 m	2.4m×4m×1.2 m	1.2m×3m×0.9m	0.6m×2m×0.4m
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DELIVERABLES

Hardware

- Probe tower × 2
- SilentRIM Lens × 2
- Specimen holder × 1
- Linear Rail × 1

Software

- System calibration
- Data acquisition
- Calculation of material properties (DK and Loss tangent)

RF subsystem

- RF cables for selected band and product
- RF Absorbers covering equipment
- Calibration kit

Site Deliverables

- Hardware, system and software manual
- Shipping crates

OPTIONS AND ACCESSORIES

RF Components

Feed Horns for different frequency band

On Site Services

Installation
Training

Notes: This datasheet is not used as a contractual document. It is a general introduction of the system. Please contact Ascan for more information.