



MProbe Vis(X)

Thin Film Measurement System

It is easy to be an expert with MProbe

Majority of translucent or lightly absorbing films can be measured quickly and reliably: Oxides, Nitrides, Photoresists, Polymers, Semiconductors (Si, GaAs, aSi, polySi, etc.), Hard coatings (SiC, DLC, AlN), Polymer coatings (Paralene, PMMA, Polyamides), ITO, Cell Gaps, Alumina, thin metal films (<50nm) and many more.

Specification highlights:

- **Thickness Range: 10 nm - 150 μm**
- **Wavelength Range: 400nm - 1000 nm**
- **Connection: USB2.0 / 1 GbE LAN**
- **Data acquisition rate: up to 1.5kHz**
- **Minimum measurement time: 10 μs**

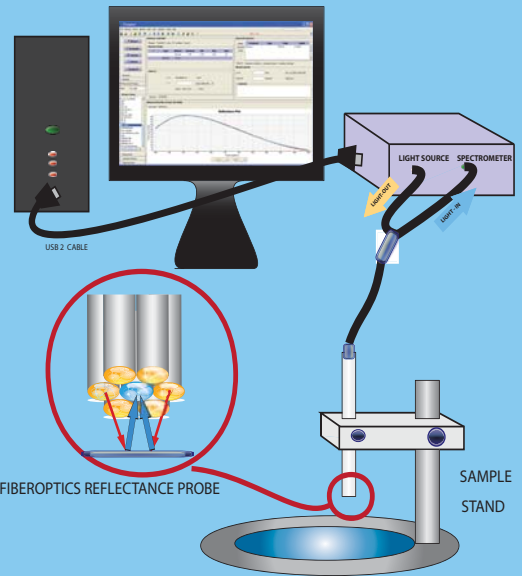
Real time measurement and analysis. Multi-layer, thin, thick, free-standing and nonuniform layers.

Extensive materials library (500+ materials) - new materials easily added. Support of parameterized materials: Cauchy, Tauc-Lorentz, Cody-Lorentz, EMA and many more....

Flexible: Desktop or in-situ, R&D or on inline. Easy integration with external system using TCP-IP. Customization for OEM

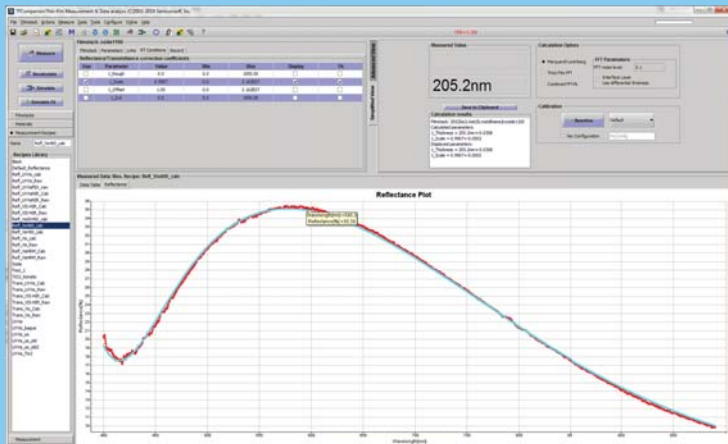
Measurement: thickness, optical constants, surface roughness

User friendly and powerful: One-click measurement and analysis. Powerful tools: simulation & sensitivity, background and scaling correction, linked layers and materials, multi-sample measurements, dynamic measurements and production batch processing.



MProbe system diagram

Precision	0.01nm or 0.01%
Accuracy	0.2% or 1 nm
Stability	0.02nm or 0.03%
Spot Size	<1 mm standard
Sample Size	10 mm - 200 mm (300mm optional)

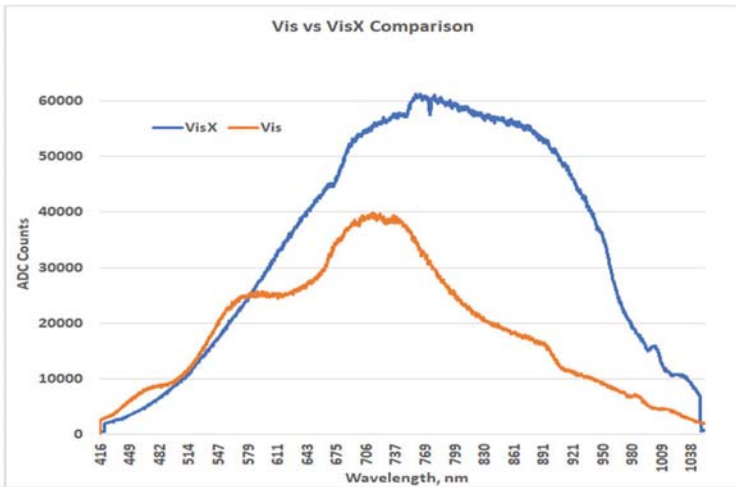


Measurement of 200nm Si oxide film.
Measurement vs. model data fit.



MProbe system (desktop configuration)

Specification



Comparison of MProbe Vis and VisX sensitivity. Intensity measurement of 5W TH lamp (Integration: 150µs)

MProbe Advantage

- 1 GbE LAN connectivity
- Fast measurement
- Standalone software included
- Remote diagnostics
- Measurement history to recall and display results (plots and statistics)
- Compare and evaluate multiple reflectance/transmittance spectra
- Correction options for angle, wavelength resolution and intensity variations
- Clean room class 1000 compatible
- Free software update for 12 months

Spectral range (nm) Effective	400-1000nm Vis 450 -1050nm VisX
Spectrometer/detector	F3 astigmatism-corrected (toroid mirror) spectrometer, 2048 pixels Si CMOS, 16 bit ADC.
Spectral resolution	<1.0 nm
Light source	5 W Tungsten-halogen lamp (Xe filled), CT 2800° Lifetime: 10000 hrs
Reflectance probe	Fiberoptics (7 fibers assembly), 400µm fiber core
Precision	<0.01 nm or 0.01%
Accuracy	<1nm or 0.2%
Weight (main unit)	5 kg
Size (main unit)	9" x 12" x 4" (WxDxH)
Power	100-250VAC, 50/60 Hz, 20W

Hardware options

-LP500	long-pass filter, limits wavelength below 500nm. Used for photoresist measurement. (other filters available)
-DAC	4 channels DAC board for analog output of the measurement results (0-20mA)
-TO	Transmittance option
-20W	replace 5W TH lamp with 20W TH lamp (2000 hrs lifetime)

Software options	
-MOD	remote control (TCP) based on Modbus protocol
-CM	continuous measurement with specified number of measurement and/or delay between them
-TCP	TCP server for continuous production line measurement. Customized to requirements.

Included in the Box:

1. Main unit (spectrometer/light source/electronics)
2. Reflectance probe VisNIR
3. Sample Holder SH200A with VisACH focusing lens
4. Calibration set
5. Si oxide test wafer (200nm)
6. TFCompanion -RA software
7. Power adapter, USB cable

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