



# MProbe UVVisSR

## 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, Photore-sists, Polymers, Semiconductors (Si, aSi, polySi), Hard coatings (SiC, DLC), Polymer coatings (Paralene, PMMA, Polyamides), thin metal films and many more.

**Thickness Range: 1 nm - 75 μm**  
**Wavelength Range: 200nm -1000 nm**

LCD, FPD application: ITO, Cell Gaps, Polyamides. Optical Coatings: dielectric filters, hardness coating, anti-reflection coating Semiconductor and dielectrics: Oxides, Nitrides, OLED stack

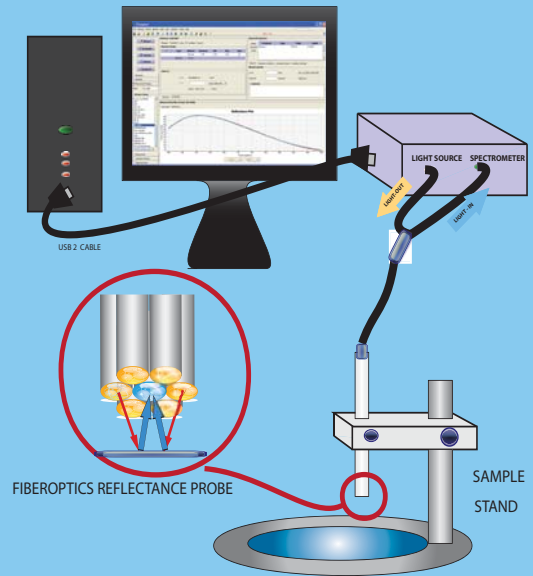
**Real time measurement** and analysis. Multi-layer, thin, thick, freestanding and nonuniform layers.

**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 on inline. Easy integration with external system using TCP Modbus interface

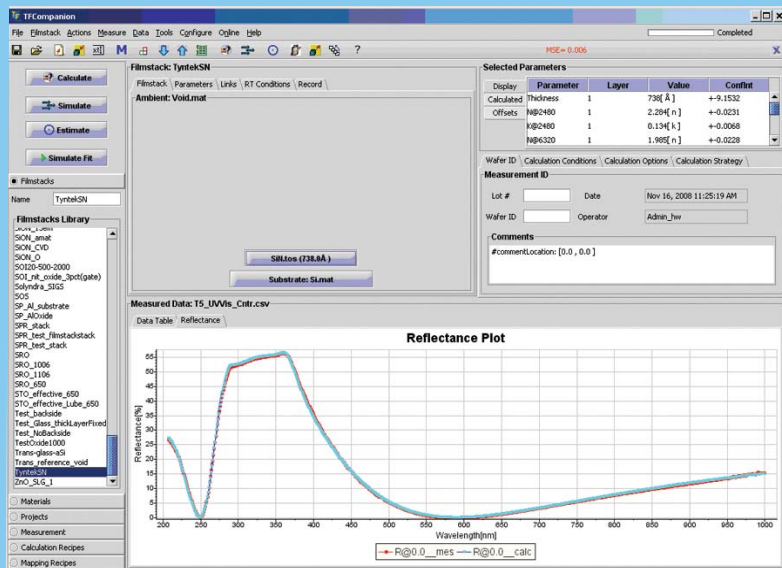
**Measurement:** thickness, optical constants, surface roughness

**User friendly and powerful:** One-click measurement and analysis. Powerful tools: simulation & sensitivity, background and scaling correction, linked layers and materials, multisample measurements, dynamic measurement 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	2 mm standard, down to 3 μm (MSP)
Sample Size	from 1 mm

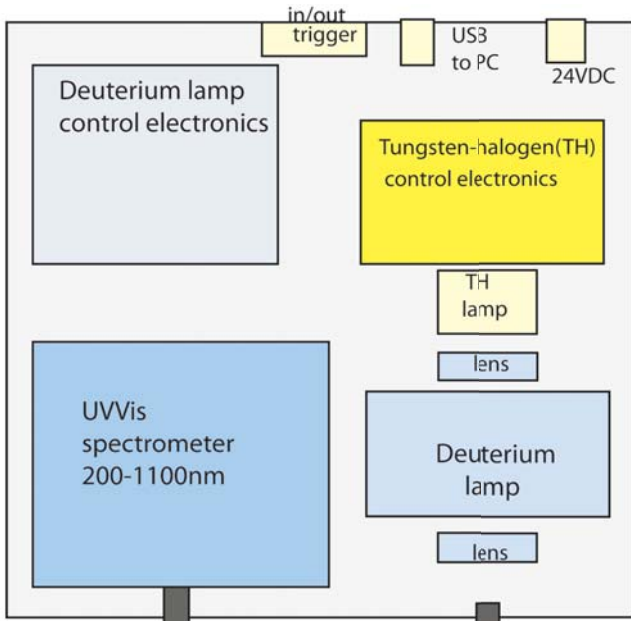


Measurement of 73nm SiN film (Thickness, n&k)  
 Measure vs. model data



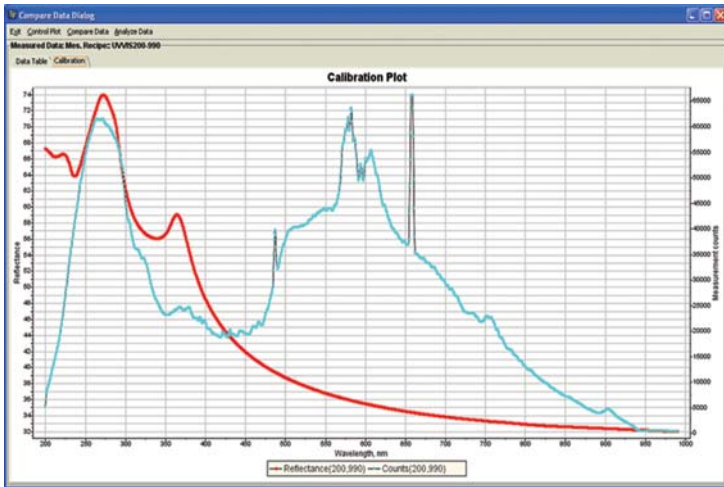
MProbe UVVis system (desktop configuration)

# Specification details

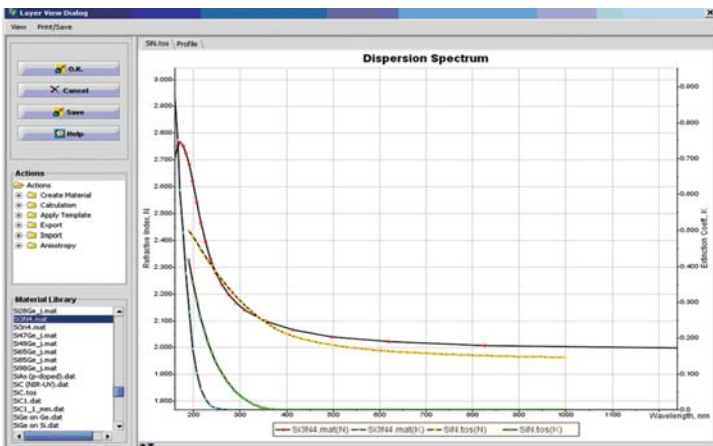


Inside the box

Spectral range (nm)	200-1100
Spectrometer/detector	F4 spectrometer, 2048 pixels Si CCD, 16 bit ADC, 200-1100 nm range
Spectral resolution	<2 nm
Light source	20W Tungsten-halogen lamp, 2000hrs 30W Deuterium lamp 2000 hrs
Reflectance probe	Fiberoptics (7 fibers assembly), 400 $\mu$ m fiber core solarization resistant.
Precision	<0.01 nm or 0.01%
Accuracy	<1nm or 0.2%
Weight (main unit)	4 kg
Size (main unit)	8" x 10" x 4" (WxDxH)
Power	100-250VAC, 50/60 Hz 20W



Calibration plot: Si reflectance(red) vs. Intensity(blue).  
Max intensity: 16 bit. Integration time: 20ms



Measured n,k dispersion of SiN vs. library data. n,k dispersion represented using Tauc-Lorentz model

Options	
-FLUVNIR	UVNIR achromatic triplet lens (CaF2/Quartz). WD:25mm. Spot size: <80 $\mu$ m.
-FLUV	Quartz focusing lens. WD: 35mm Spot size: <0.5mm
-FDHolder	Face-down sample holder. For measurement of transparent and flexible samples
-TO	Transmittance option
- MOD	remote control (TCP) based on Modbus protocol
- CM	continuous measurement with specified number of measurement and/or delay between them

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