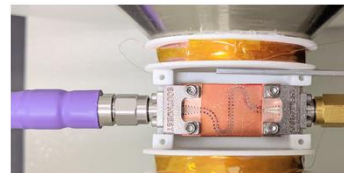


# RFMag26 (Radio Frequency Magnetic Metrology System)

Ferromagnetic resonance (FMR) spectrometer and Broadband permeameter for 10MHz ~ 26 GHz (40 GHz)



The **RFMag26** system offers a complete solution to measuring complex permeability and FMR spectra of ferrites and metallic magnetic materials up to 26 (or 40) GHz and magnetic fields up to 1.0 (or 2.0) T. RFmag26 enables accurate evaluation of complex permeability of ultrathin magnetic films (e.g. 2nm NiFe) for spintronics and RF applications. Broadband FMR measurements provide crucial material parameters, and raw data for publishing. This is the commercially available permeameter with the highest upper frequency limit, and the highest signal to noise ratio.



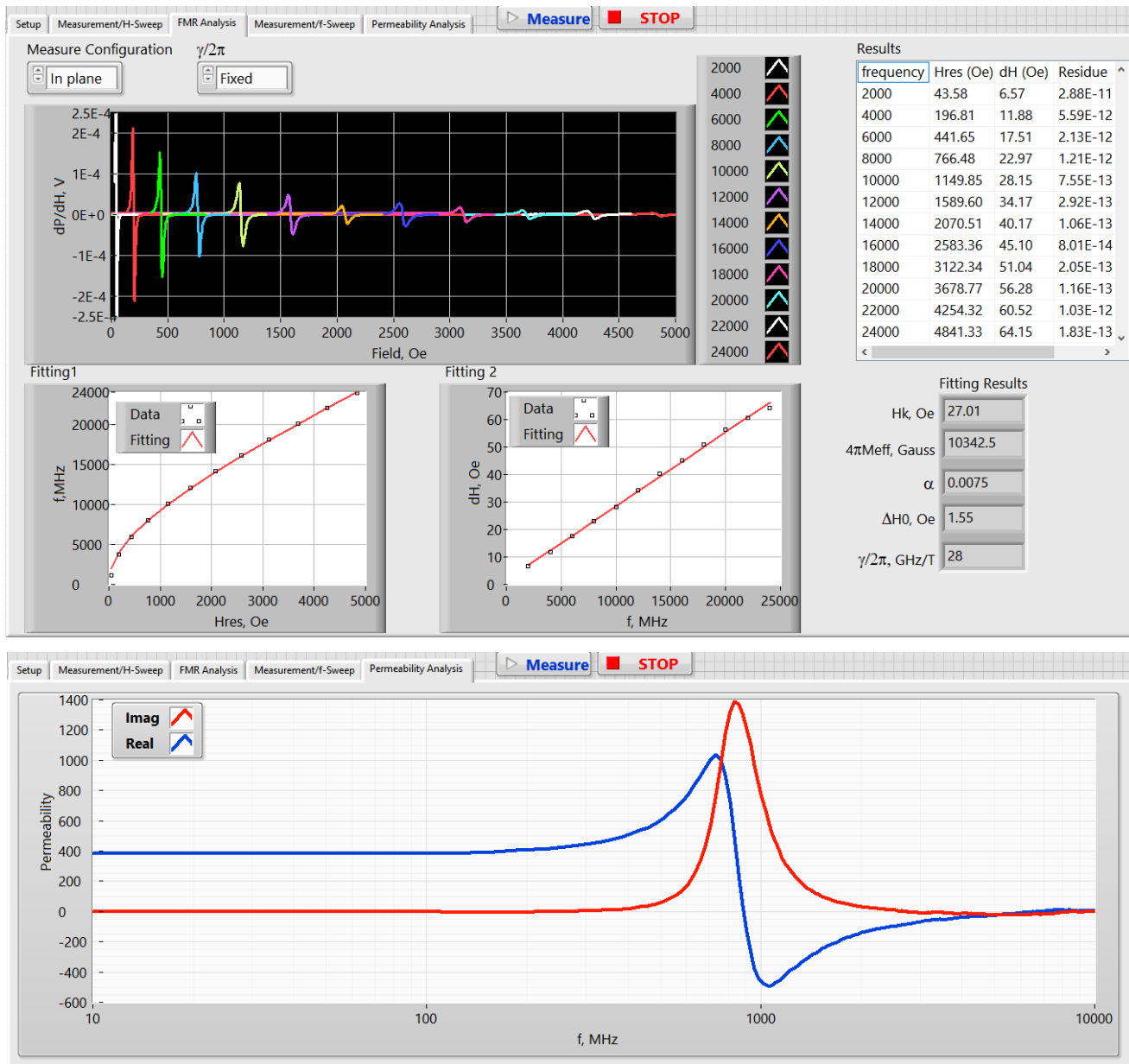
## Features:

- 10MHz-26GHz (or 40 GHz) Broadband Permeability Measurements
- 10MHz-26GHz (or 40 GHz) Broadband FMR Measurements
- In-Plane and Out-of-Plane Measurements
- High Signal to Noise Ratio (SNR > 40 for 2nm Permalloy at 12 GHz)
- Extract Magnetic Material Parameters: Complex Permeability Spectrum ( $\mu'$ ,  $\mu''$ ), Ferromagnetic Resonance Linewidth ( $\Delta H$ ), Saturation Magnetization ( $M_s$ ), Anisotropy Field ( $H_A$ ), Gyromagnetic Ratio ( $\gamma$ ), Gilbert Damping ( $\alpha$ ), Inhomogeneous Linewidth Broadening ( $\Delta H_0$ ), etc.
- Measurement and Analysis Software Suite with Easy to Use Software Interface

## Specifications:

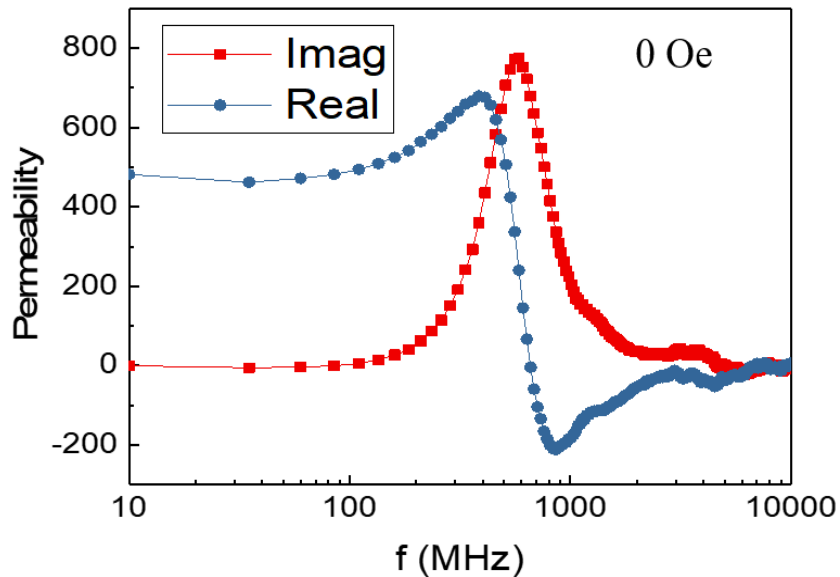
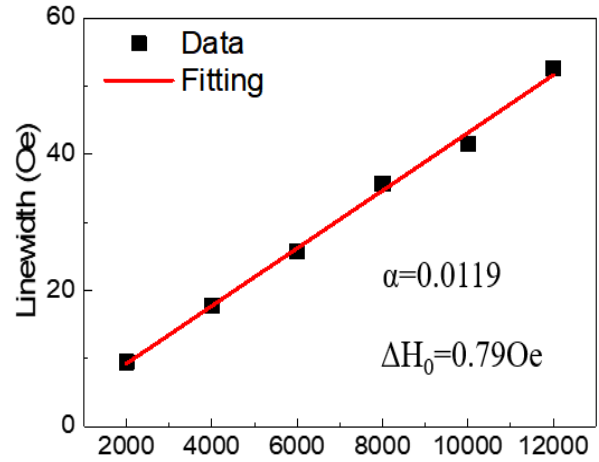
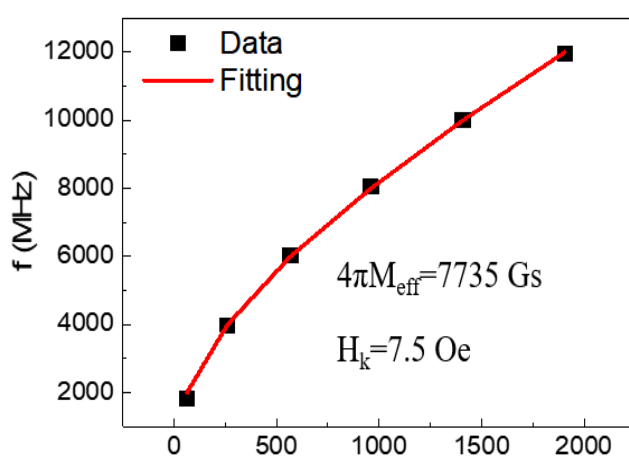
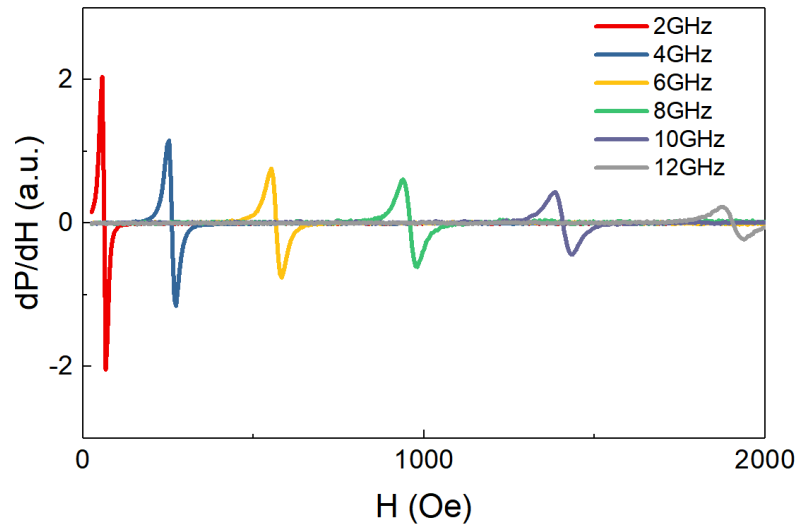
Frequency Bandwidth	10MHz to 26GHz (optional 40GHz upgrade)
Applied rf Signal Level	-5dBm to +15dBm
Frequency Accuracy	10MHz
DC Field Strength	-1.0T to +1.0T (optional 2.0T magnet)
Field Accuracy	0.1%
Temperature	Room temperature

## RFMag26 Graphical User Interface for Measuring a 10nm Permalloy Film



- All in one suite to measure field or frequency-sweep FMR spectra.
- Real-time monitoring of measurements.
- Capable for measuring metallic magnetic materials and ferrite materials.
- Automatically calculate complex permeability spectrum.
- Extract material parameters from FMR for in-plane or out-of-plane configuration.
- Direct export of high-quality results for publications and reports.

## Example Data on a 2nm Thick Permalloy Film from RFMag26:



## Example Test Data on a 30nm Thick FeGaB Film from RFMag26:

