



## Standards Calibration and Recertification

Middleton Research works with metrology departments of companies to calibrate a wide variety of standards in the infrared and the near-infrared regions. Middleton Research has been audited by major pharmaceutical companies and follows ISO 17025 guidelines, recertifying standards on an "as found, as left" basis. Quick turnaround assures minimal disruption. Recertification services are available for standards originally manufactured by Middleton Research as well as for standards manufactured by other organizations. Standards currently available for recertification are identified below. Please contact us regarding certification of other standards, as we continue to add to our recertification portfolio.



### NIR Wavelength Standard

This standard is used for calibration of dispersive and FTNIR instruments in the 1000-2500 nm region. The recertified standard is NIST traceable to SRM-1920a and meets USP wavelength calibration requirements. The recertification package includes an expiration date, certificate of calibration, table of bands, and spectrum. This certified standard is also available for purchase through Middleton Research, part number MRC-910-1920x.



### NIR Linearity Standard

NIR linearity standards can be used to make corrections to the photometric scale. The set of standards typically consist of diffuse reflective disks with reflectances ranging from 99% to 2%R and can have calibrated spectra in the UV, visible, and NIR regions. The certification package includes a table of values, certificate, and spectra.



### IR Wavelength Standard

These standards are used in FT-IR instruments for wavelength calibration. Following recertification, the standards are traceable to NIST SRM-1921b. The recertification package includes a certificate, table of bands, and the corresponding infrared spectrum. This IR transmission wavelength standard is available for purchase from Middleton Research, part number MRC-910-1921.



### IR Linearity Standard

The recertified standard is calibrated to NRC traceable NG-11 glass. Calibration comes complete with a data table including expanded uncertainties, certificate, and IR spectrum. New IR linearity standards for the photometric calibration of instruments in the mid-infrared range are available for purchase from Middleton Research, part number MRC-910-NG11.



### ATR Standard

This validation standard is used to establish the proper functioning of IR instruments and ATR accessories. The validation package includes a table of the band locations and intensities of the standard as well as reference bands of USP mineral oil run on the same instrument, certificate, and spectrum. This ATR validation standard is available for purchase from Middleton Research, part number MRC-910-ATR.