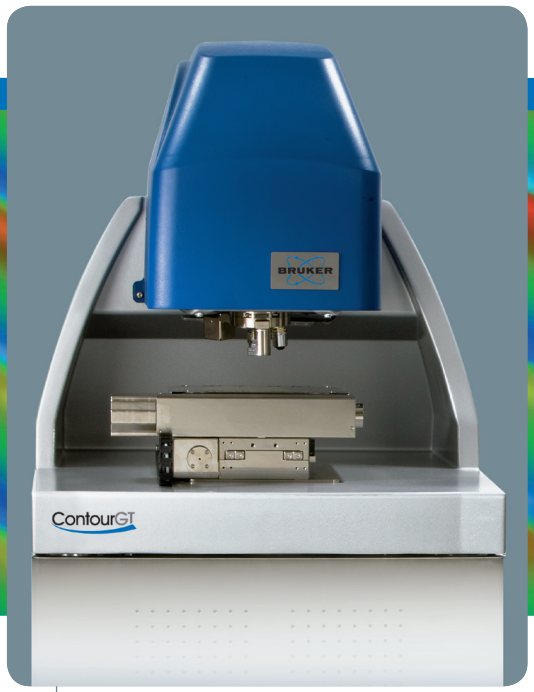
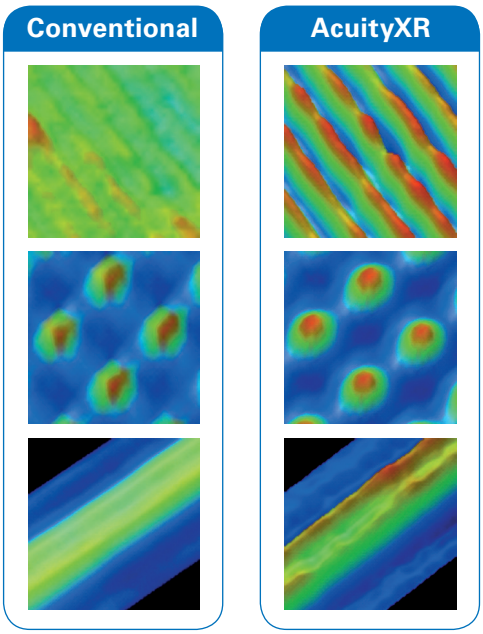


AcuityXR Enhanced-Resolution Microscopy Technology

AcuityXR™ is a revolutionary optical surface profiler measurement capability that combines unique, patent-pending, Bruker hardware and software technology to enable select ContourGT™ Non-Contact, 3D Optical Surface Profilers to break the optical diffraction limit and deliver lateral resolutions previously considered unattainable with conventional optical microscopy techniques.

Breaking the Optical Diffraction Limit

- Resolves features 130 nanometers in width, unprecedented in optical microscopy and nearly three times better than conventional systems
- Minimizes optical effects, providing "true" dimensions of narrow features
- Improves dimensional repeatability on nanoscale structures by a factor of 5X
- Allows wider field-of-view and higher pixel density than equivalent magnifications obtained with conventional means
- Improves sharpness, clarity and definition of scratches, defects, and surface texture



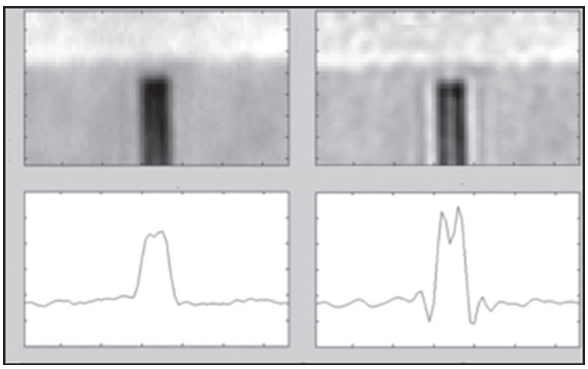
Same 3D Features with and without AcuityXR

Unprecedented Interferometric Capability

AcuityXR is an optional capability available only on select models of the ContourGT™ Family of Non-Contact, 3D Optical Surface Profilers. Bruker ContourGT systems with AcuityXR and equipped with enhanced Phase Shifting Interferometry (PSI) and patented High-Definition Vertical Scanning Interferometry (HDVSI) measurement modes can resolve features of 130 nanometers in width, unprecedented in optical microscopy and nearly three times better than systems not equipped with the technology. Furthermore, AcuityXR enables enhanced lateral resolution without reducing the field-of-view that would accompany equivalent magnifications achieved through conventional means. With AcuityXR, ContourGT systems can measure and resolve sample areas of interest under extreme magnification with none or reduced "stitched" fields-of-view to provide substantially improved ease of use.

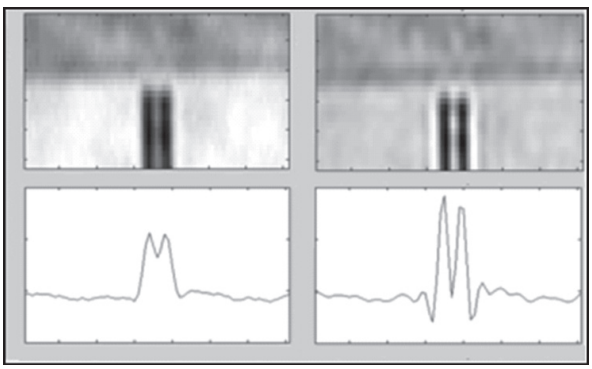
130nm Trace Signal

AcuityXR Disabled AcuityXR Enabled



150nm Trace Signal

AcuityXR Disabled AcuityXR Enabled

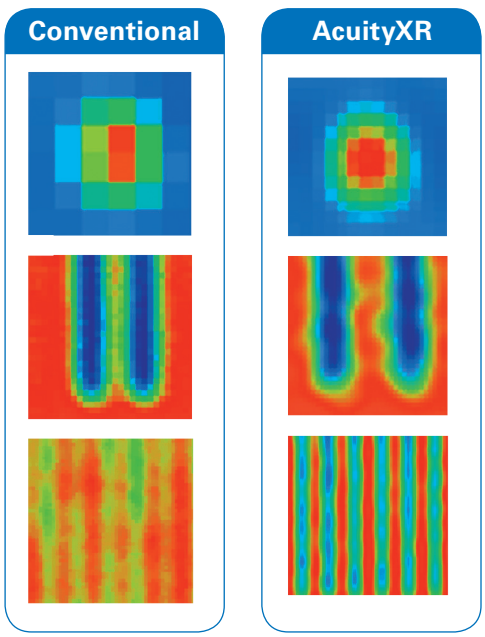


Improved Gage Performance

AcuityXR utilizes unique algorithms with a patent-pending iterative technique with feedback from the ContourGT metrology hardware to systematically reduce system noise and mitigate blurring effects caused by diffraction on the final calculated surface height. The result is an up to 5X improvement in dimensional repeatability on nansocale structures, providing a true metrology benefit in addition to its ability to reveal exceptionally fine features.

See the AcuityXR Difference

For ContourGT users, AcuityXR provides improved sharpness, clarity and definition of scratches and defects, and reveals surface textures with greater detail. Furthermore, the higher pixel density from AcuityXR allows the resolution of nanometer-level features that have been impossible to resolve with conventional confocal or interferometric microscopy techniques. AcuityXR is available on ContourGT-K1, -X3, and -X8 models. Contact your local Bruker representative today to see the AcuityXR difference.



Same 2D Features with and without AcuityXR

Cover images
Foreground: Bruker ContourGT.
Background: 3D rendering of 200nm grating, utilizing AcuityXR.

Bruker Nano Surfaces Business

Tucson, AZ USA
Phone +1.520.741.1044/800.366.9956 ext.3
productinfo@bruker-nano.com
www.bruker-axs.com/acurityxr_measurement_mode.html