Visualize and characterize embedded structures and defects

ZEISS Xradia Context microCT

ZEISS Xradia Context is an easy-to-use 3D micro-computed tomographic (microCT) X-ray system for analysis of all types of electronic products. A high-array detector enables high resolution of fine details even with relatively large imaging volumes. The system features a large field of view, rapid sample mounting and alignment, a streamlined acquisition workflow and fast exposure and data reconstruction times.

Context microCT is the ideal entryway into the ZEISS X-ray ecosystem, with guaranteed data quality based on the proven Xradia Versa platform, and the flexibility to be converted to an Xradia Versa X-ray microscope (XRM).

Versatile

- Analyze diverse electronic products and packages
- Visualize buried structures non-destructively in 3D for process analysis, construction analysis and failure analysis
- Enable larger fields of view and sample sizes by automated vertical stitching
- Achieve highest resolution on small samples

Easy to Use

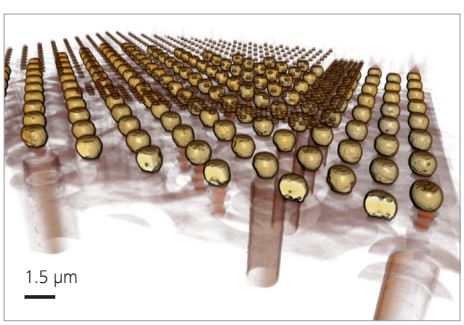
- User-friendly Scout-and-Scan™ system for quick sample set-up and local area positioning
- Robust stage with flexible software-controlled source/detector positioning
- Recipe-based data acquisition and automated reconstruction
- Optional autoloader for continuous operation

Superior Image Quality

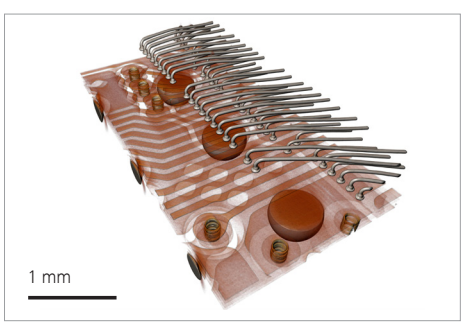
- Large high-speed 6-megapixel detector with small pixel sizes maintains resolution at even relatively large fields of view
- 30 – 160 kV range enables superior contrast
- Optimized high-purity filters enhance image quality and reduce beam hardening
- Advanced drift correction for superior stability
- Dynamic hardware- and software-enabled ring artifact removal system

Proven Performance

- Based on award winning ZEISS Xradia Versa XRM platform
- Field convertible to Versa XRM



3D microCT scan reveals microbump cracks on a 2.5D interposer package,1.56 µm/voxel.



3D microCT scan of power management chip showing multiple wire bond and interconnect layers, 0.9 µm/voxel.

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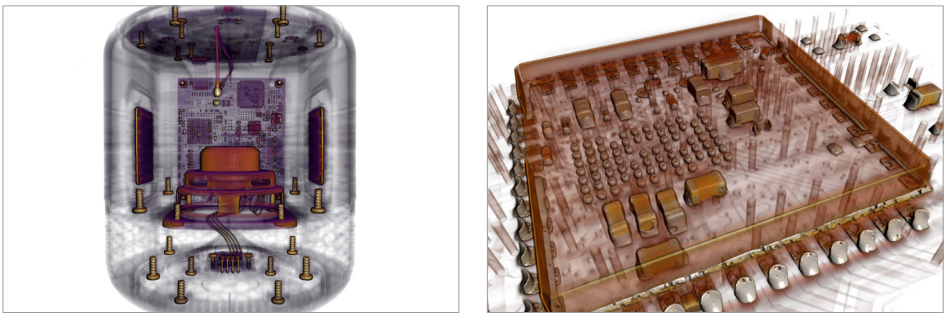
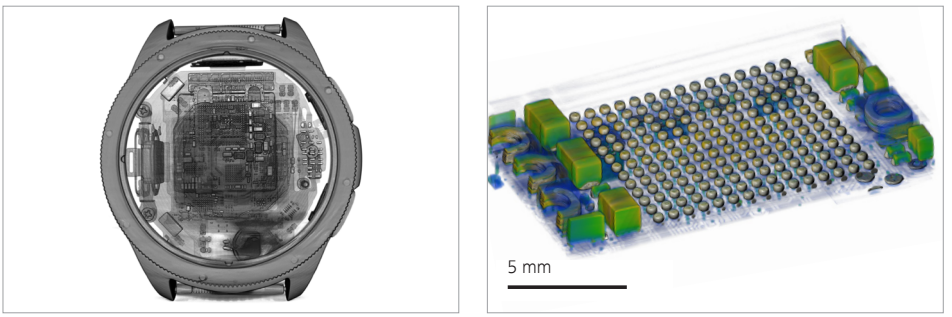
Seeing beyond

Features and Benefits

- Visualize buried structures and defects non-destructively in 3D across a wide range of samples sizes with class-leading resolution at chosen field of view
- View unlimited virtual cross sections from any angle
- Suitable for technology development, production validation or failure analysis
- Easy to use and easy to maintain
- Superior stability and image quality
- Proven performance based on award-winning Xradia Versa platform
- Option for field conversion to Versa X-ray microscope offering both objective-based high-resolution and larger sample capability
- Offline data option to perform data acquisition and data analysis in parallel



3D microCT scan of smart speaker (left) and smart speaker motherboard (right), 39 µm/voxel.



3D microCT scan of smartwatch (left) and smartwatch motherboard showing SMT components and BGA bump array (right), 2.85 µm/voxel.

Xradia Context microCT

Specifications	
Spatial Resolution [a]	0.95 µm
Minimum Achievable Voxel [b] (Voxel size at sample at maximum magnification)	0.5 µm
Achievable Voxel at Working Distance [b,c]	0.5 µm / 0.5 mm 0.8 µm / 2.5 mm 2.5 µm / 12.5 mm 4.0 µm / 25 mm 12.1 µm / 100 mm
Tube Voltage / Power Range	Spot stabilized 30-160 kV / 10 W
High Speed, Large Array CMOS Flat Panel	3072 x 1944 pixels
Single Field of View (diameter / height)	140 mm / 93 mm
Maximum Field of View [d] (diameter / height)	140 mm / 165 mm

[a] Spatial resolution measured with ZEISS Xradia 2D resolution target.
[b] Voxel is a geometric term that contributes to but does not determine resolution, and is provided here only for comparison. ZEISS specifies resolution via spatial resolution, the true overall measurement of instrument resolution.
[c] Working distance defined as clearance around axis of rotation. This value can be interpreted as the radius of the sample.
[d] Maximum Field of View uses the Vertical Stitching software feature to extend the total reconstructed volume.

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