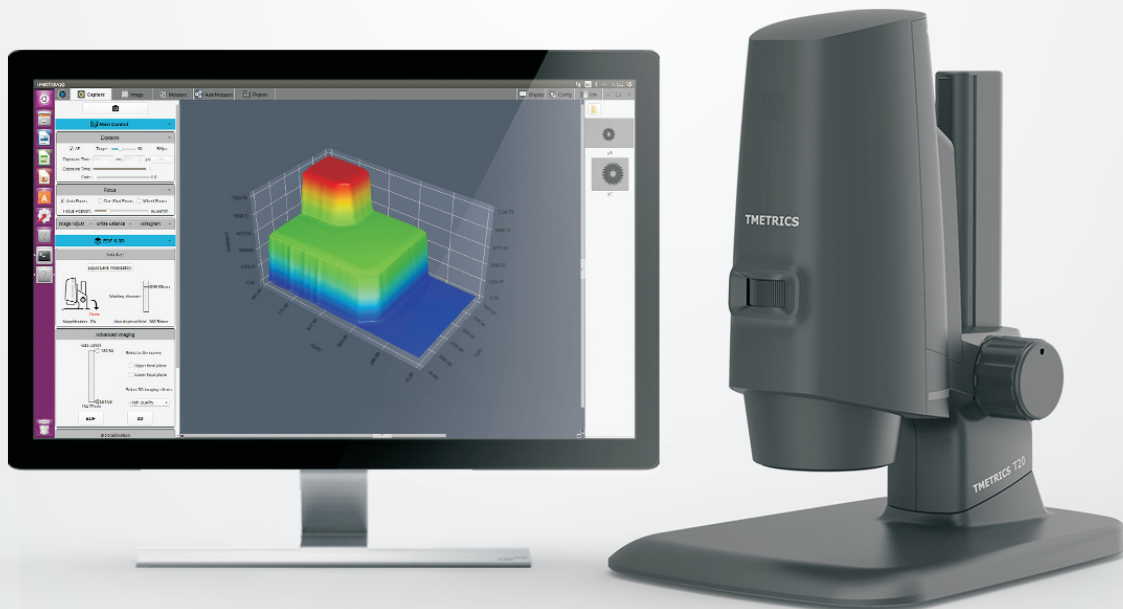# TUCSEN

TMETRICS T20

3D-Super Depth of Field Microscope

Greatly improve the microscopy observation, measurement and analysis efficiency!

System Upgrade

Core technology creats strong linkage performance

GPU+FPGA
Heterogeneous computing host

EDF+3D+Edge recognition
Three core algorithms

Liquid Lens
Excellent auto-focusing

10X Optical Zoom
16X- 160X magnification
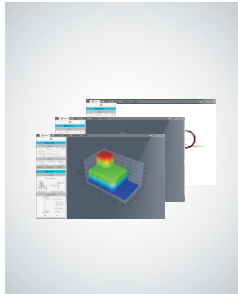
Simple but Powerful All-in-one Design

Highly integrated, equal to five professional equipment in one

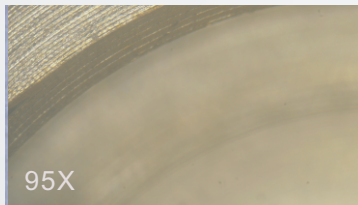| Stereoscopic microscope | High speed & dynamic color camera | Microscopy image analysis software | Precision Z-axis electronic platform | High performance mainframe |

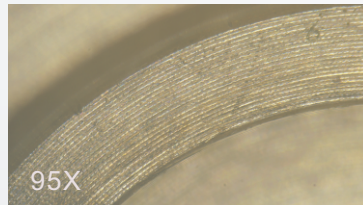No computer is required, all functions can be completed by mouse

Observation Upgrade

Observe under high magnification,

microscope cannot focus on multiple layers at the same time.

95X

95X

95X

Focus position: the highest layer   Focus position: middle layer   Focus position: lowest layer

16-160X magnification observation, high-speed auto focus throughout

When observing a sample with an ordinary microscope, manual focusing is required repeatedly, which is cumbersome and inefficient. T20 adopts liquid lens for high-speed auto-focusing, supports 16-160x microscopic magnification observation, and instantly auto-focus at the mouse click, eliminating the need for repeated manual adjustments in the past, and microscopic observation is simpler and smoother.
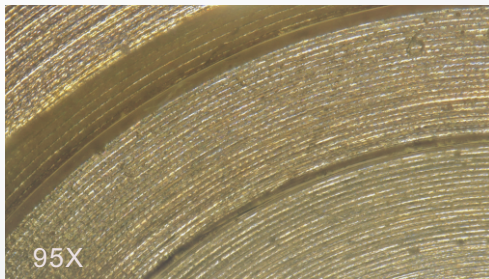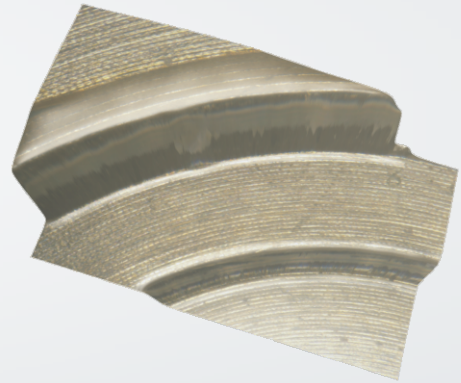

No manual focus operation required

65X

Clear and Efficient Microscopic Observation

T20 super depth of field achieves clear and 3D microscopic observation


95X

Real-time EDF, focus full width in one second

3D display, observe three dimensional shape features

Real-time depth of field (EDF), reduce blurry and false images

It is easy to cause angle deviation, rotation and uneven focal plane when using third-party software and hardware systems to expand the depth of field, T20's optical-mechanical-electrical integration structure and linkage algorithm technology can solve the above problems and obtain a clear and correct full-frame focus picture.
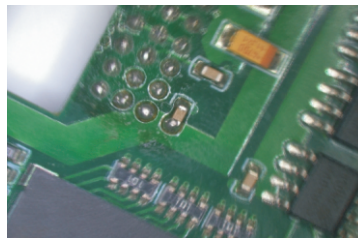
EDF diagram of third-party software and hardware systems
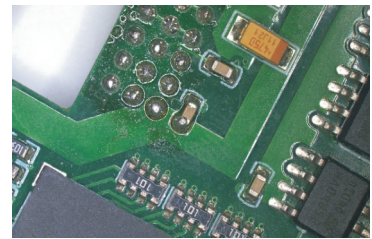
Tucsen T20 integrated system EDF diagram

Real-time wide dynamic (WDR), effectively eliminate strong reflections on metal surface

The strong reflection of the metal surface can easily cause the loss of detailed information and affect the judgment. The T20 WDR mode can create images with perfect exposure and clear light and dark details by calculating the data of multiple images with different brightness in real time.
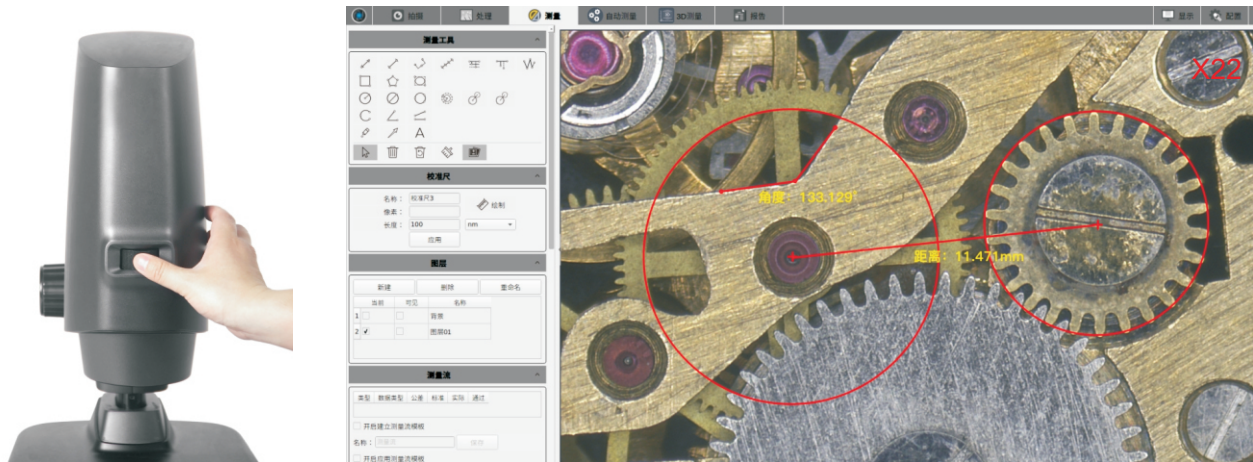

Before WDR
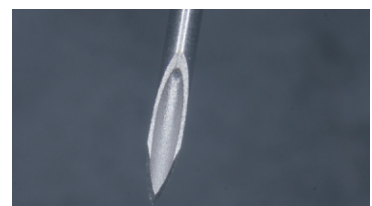
After WDR

Measurement Upgrade

Real-time measurement, no need to recalibrate in auto focus and zoom mode


Automatic edge extraction
to eliminate human error

T20 automatic edge extraction function can quickly perform standard modeling work without manual precise positioning, 3 micron resolution, automatic measurement accuracy ≤ 5 microns, repeat accuracy ≤ 3 microns, effectively eliminating human operation errors.
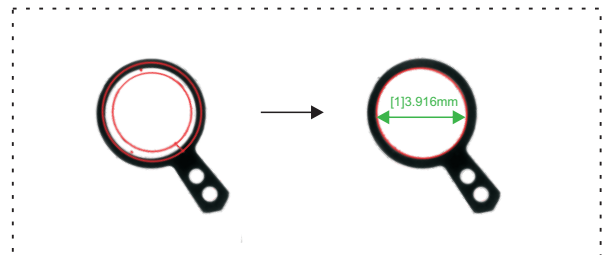

Automatic batch measurement
to improve work efficiency

After completing the standard modeling of small devices, T20 can quickly complete the batch measurement work of other samples, export data information of multiple samples in one time, greatly improve work efficiency.
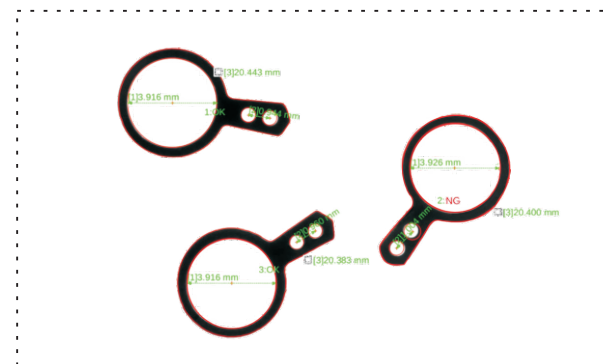
# Continuous and Complete Measurement Data Recording

Available to do 3D measurement at any position
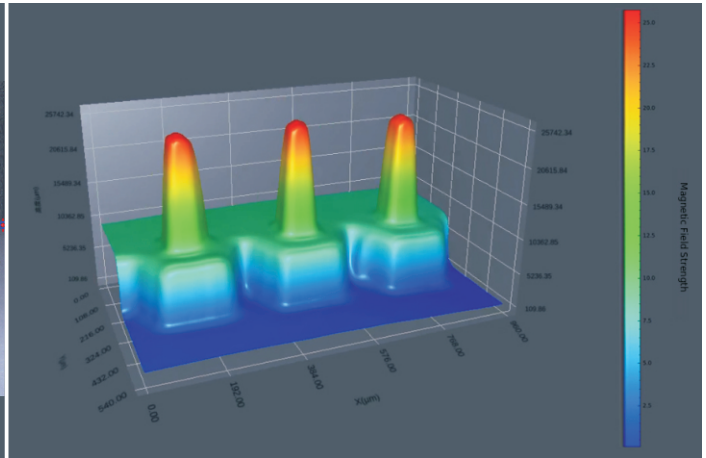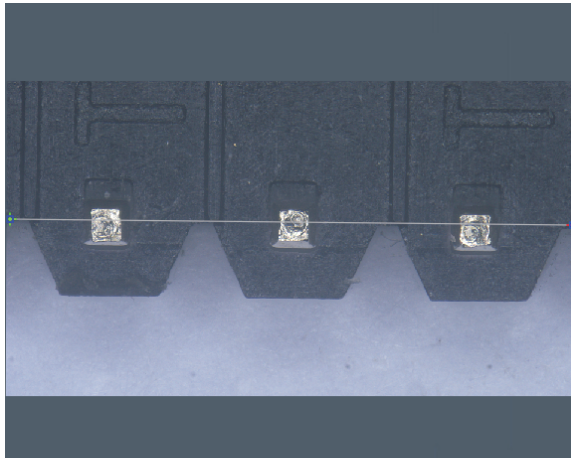
Width: 6.536mm, Altitude: 1.168mm

Diversified tools, real-time data recording

T20 provides a wealth of measurement and analysis tools, and can record data in real time. The Z-axis measurement accuracy of ≤50 microns and the repeatability of ≤5 microns can meet the needs of most microscopic measurement.
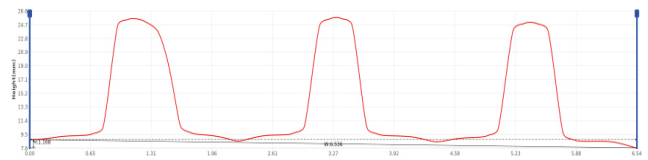
	X1	Y1	X2	Y2	Distance	HeightDiff	
1	6.68	232.07	951.65	242.09	6.536	1.168	Save

高度　　　曲率　　　面积　　　粗糙度

Data can be exported with automatically reports created

T20 can not only save image and video data, but also automatically create test reports with pictures and texts. All data in the workflow can be exported, when the operation is over, the work is completed, quite simple and easy!
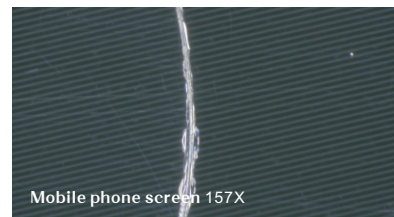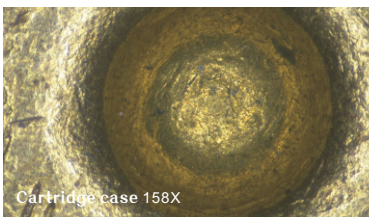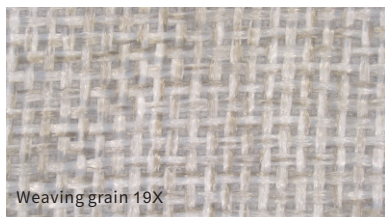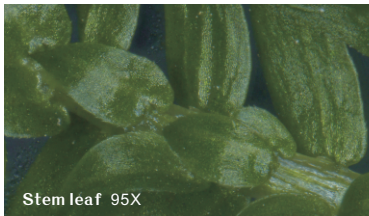
Reference Cases

Material section analysis

Speciality material 34X

Bamboo product 80X

Copper bar 158X
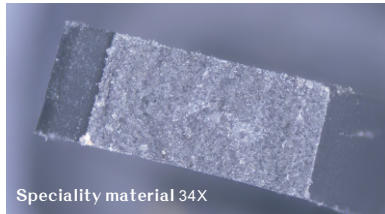
Surface mark inspection

Weaving grain 19X

Cartridge case 158X

Mobile phone screen 157X

Biological observation

Flower pistil 82X

Stem leaf 95X

Insect 157X

Parts measurement

Watch gear 72X

PCB board 72X

Axle 95X
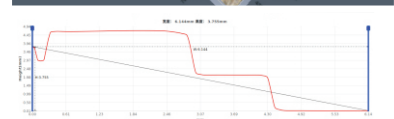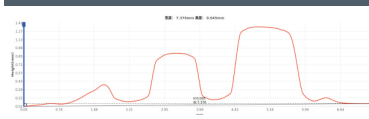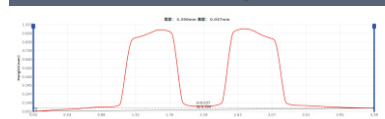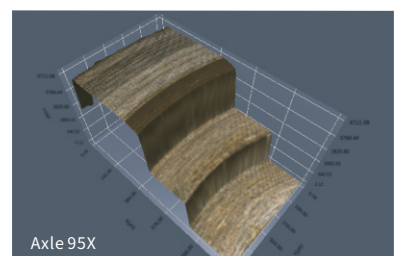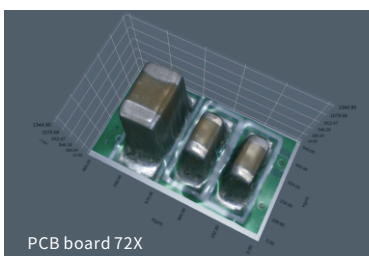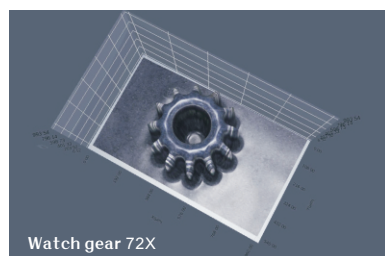
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