

# KSI v650E – New Large Area Scanning

## Scanning Acoustic Microscope

**NEW**

**The all new KSI v650E** Scanning Acoustic Microscope for PCB board, multi jedec tray, solar panel, multi wafer and other large sample inspections. The new v650E combines KSI's unmatched **high speed scanning** and unique vibration decoupling granite design with an **extra large scanning range of 650mm x 650mm**. With the KSI v650E **easy handling** and **fast evaluation** of large size samples is guaranteed.

### The KSI v650E Key-Features:

- **Extra large 650mm x 650mm scan field**
- **New Highly Ergonomic, User-friendly Design with Wide Cover Opening for Easy Large Size Sample Handling**
- **Perfectly suitable for large sample inspections including PCB boards, solar panel, multi wafer and all other large size and standard applications**
- **Simultaneous Multi JEDEC Tray Scanning** for all standard components, such as BGA, CSP, QFP, TQFP, QFN, TSOP and SOIC
- **Prepared for Multichannel Upgrade**
- **High Speed Linear Scanner**
- **Best Price-Performance Ratio**
- **ESD Compliant and Cleanroom Ready for Production Environment**



example picture

- **All-in-one Scanning Acoustic Microscope** for inspection of PCB, multiple jedec, flip chip, stacked DIE, IGBT, multi wafer, MLCC, solar cells, and other semiconductor as well as material science applications
- **Matchless vibration decoupling granite design** and high speed linear drive with max. moving **speed 2.000 mm/s**, and maximum **acceleration 30.000 mm/s<sup>2</sup>**
- **Unique FCT™ (Fluid Cut Technology) Transducer**

### Available options:

- **Customer Specific Tray Fixture** for all Applications (wafer, jedec, BGA's, DCB, Flip Chip etc.)
- **Constant Coupling Liquid Quality** with DI-Water Refill Unit and Water Purity Control
- **Elimination of Contaminations and Gas Bubbles in Coupling Liquid** for Highest Picture Quality and Stable Scan-Process
- **Automation of Sample Positioning, Scan Prozess, Failure Detection, Analysis & Quantification**



**KSI Germany**

Scanning Acoustic Microscopy

a member of  
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# KSI v650E – Scanning Acoustic Microscope

## **KSI Vision Software:**

- Multi language
- User friendly comprehensive graphical interface software
- Variable gain, gate width and gate delay setting during scanning
- Threshold, positive-negative peak phase detection:
  - amplitude, mean, bipolar
- Phase measurement with automated colouring
- Delamination detection
- Picture reset function for easy reconstruction of KSI-SAM images
- Automatic storage of instrument settings
- Image resolution up to 32.000 x 32.000 pixel (1 Gigapixel)
- Impedance measurement with histogram and calibration curve
- Thickness and distance measurement
- Fast fouriertransformation (FFT)
- Control and storage of all instrument settings including A-scan histogram
- Signal processing digital: FFT bandpass, Chebyshev, Moving average, Rectifier and Calculus
- File format: bmp, jpeg, sam, saz, ASCII, csv and others
- Raw data access
- Image enhancement functions and image analysis system

## **Standard Scan modes:**

- A, B, C, G, X, Z, Auto, Sequence, tray-scan (free selectable x-y matrix scan)
- B-scan with quantitative measurement
- A-scan real time display with time of flight function
- HQ-scan, pre-scan and fast pre-scan mode

## **KSI 4D Software™**

Four dimensional sample viewing and analyzing  
Free rotatable in all axis  
Overview of all layers in extra window

## **KSI VISION VIEW™**

Enhanced Delamination detection  
Detailed measurement of delamination  
Area of interest  
Colouring of defects

## **KSI HD –Scan (High Dynamic)**

Enhanced scan results enabling a new generation in resolution and contrast

## **KSI Autofocus 2.0**

## **KSI VISION™ Offline Version for Desktop Usage**

## **System:**

- Plug and Play, no assembly required
- Operating System: Windows 10, Ultimate 64-bit with multilanguage
- Motorized XY-drive: Maintenance Free Linear Motor  
Repeatability:  $\pm 0.1\mu\text{m}$
- Speed/ Acceleration: Up to 2m/s / Up to 30m/s<sup>2</sup>
- Scan field: 200 $\mu\text{m}$  x 200 $\mu\text{m}$  up to 650mm x 650mm
- Motorized Z-drive: 100mm travel range
- Pulser/Receiver compatible with KSI FCT™ transducers up to 300 MHz
- Magnification: Up to 625x

## **Miscellaneous:**

- 36 months manufacturer's warranty on parts and labor
- Remote Support
- ESD & VDE compliant
- Cleanroom ready
- SMEMA, SECS/GEM compatible

## **Options:**

### **KSI VASC™ Software (Vision Automated Scan Control):**

- Control of automated sample handling & scan process
- Various operator levels
- Automated data storage and management
- Automated multi failure detection, analysis & quantification
- Barcode and 2D code interpretation
- Automated water refill and water quality measurement

### **KSI Water Reactor incl.:**

- Water temperature control for enhanced image quality
- Water quality control with conductivity meter
- Degasification unit for DI-water
- Fully automated water level monitoring with independent and accurate couple liquid refilling

**KSI Through-Scan Kit for inspection in transmission mode** to acquire the complete sample-volume in a single image

### **KSI custom sample stages:**

- Through-Transmission
- Multi JEDEC tray
- IGBT
- PCB boards
- Multi wafers
- Universal vacuum stage



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