SMITH QUALITY

Our inspection process reflects our systems-based approach to quality.

We inspect, measure, verify, and test electronic components from the outer packaging inward to confirm that they meet the highest standards. This process is thoroughly documented in Smith's proprietary operational platform. Additionally, our highly trained quality inspectors stay up to date on the latest in fraud and counterfeit detection and prevention to exceed your exacting requirements.

Functionality Testing

Smith offers full functionality testing in our best-in-class in-house test laboratories. With more than 50 different functionality tests performed daily, Smith is fully equipped to manage custom testing programs for any project.

CPUs

Smith can test utilities direct from the manufacturer, and we have mirrored testing capabilities worldwide. Packaging, functionality tests, and remark tests are available, as well as server-level and burn-in tests.

Drives

Smith can perform complete diagnostic testing, including custom test mockups configured to our customers' specifications, on HDDs, SSDs, NVMe (M.2, U.2, U.3), USBs, and SDHDs. We also offer data-wiping and drive-shredding services.

Motherboards

We offer diagnosis and testing for most motherboards and computer cards. Burn-in tests are conducted in PC-Doctor Service Center or PassMark BurnInTest.

Peripherals

Complete diagnostic testing is available for a variety of drive types, including optical disk, CD-ROM/DVD, and Blu-ray. We test peripherals for read and write functionality and multimedia capabilities.

Memory Cards

We test flash media, such as SD, CompactFlash, CFast, and USB flash drives, to measure capacity and read and write speeds.

Memory

We test memory functionality within manufacturers' specifications for memory modules. We can also perform server-level, pattern, and burn-in tests.

LCDs

Smith can support all panel sizes and manufacturers with custom programmable drive and pattern capabilities. We perform diagnostic testing of LCDs using standalone benchtop test units.

GPUs

We offer comprehensive GPU and VRAM testing for various manufacturers' graphics and accelerator products. Custom test parameters and burn-in testing are available, and test reports confirming results are provided.

Audio and Video Cards

We offer testing to confirm capacity and functionality for all video and audio cards. We also check audio and video cards for quality, clarity, and stability.

Servers

Smith can perform full functionality testing on server components, as well as diagnostic testing and power-on testing for full units. Reports indicating the parent-child relationship of the commodities within are provided.

Certifications and Qualifications

Our focus on quality is backed by third-party certifications and industry affiliations. As a leader in our industry, we believe in not only meeting but exceeding industry standards for quality. We actively maintain certification requirements and reach beyond those standards to promote the highest level of quality in our products and services.

LEARN MORE:

Counterfeit Detection

Smith's counterfeit-detection test labs are the technological backbone of our quality program. Through the most advanced technology, we conduct thorough, in-house quality-control measures to verify product authenticity.

Visual Inspection Capabilities

Digital Imagery

Our high-definition microscopes can reproduce magnified views as 4K images, allowing us to inspect components with unsurpassed color rendition and no distortion, delay, or interference.

Reel Counting

Utilizing x-ray imagery and independently developed algorithm software with artificial-intelligence functionalities, our fully automatic counting machine can accurately calculate the number of parts in a reel in seconds without unpacking or transferring the reel.

Digital Microscopy

Smith's stereo and high-powered microscopes can magnify up to 6,000x to detect blacktopping, sanding, oxidation, and retinning.

Dimensional Measurement

With an integrated 2D/3D measurement system and extremely high depth of field, Smith's high-magnification HD/3D microscope can capture any area in complete focus.

SMITH Intelligent Quality Systems™

Argus™

Leveraging proprietary AI software, Smith's internally developed visual-inspection solution captures, stores, and analyzes high-resolution images of the surface of every component packaged in a reel to identify anomalies and flag parts requiring further evaluation.

Universal Scanning

Our homegrown universal scanning stations quickly scan entire trays of commodities and record key information—including serial numbers, model numbers, lot codes, date codes, and countries of origin—to verify against Smith's in-system data.

Nondestructive Testing Capabilities

XRF

Smith's XRF machine measures a component's coating thickness and identifies the material composition to verify RoHS compliance and alignment with manufacturer specifications.

Curve Tracer

Smith's curve tracer performs reliability analysis, verifies pins and electrical continuity, and analyzes anomalous characteristics.

X-Ray

X-ray images are compared against OEM parts and are also used to verify that no voids have formed and to confirm leads and bond wires.

Ultra-Fast Universal Programmer

This instrument performs read, write, and blank-check verifications for devices with up to 144 pins, supporting more than 100,000 unique part numbers from nearly 400 manufacturers.

Temperature Coefficient

This test assesses the component's electrical performance at varying temperature levels to ensure functionality, reliability, and adherence to manufacturer specifications.

C-SAM

C-SAM acoustic microscopy uses pulse-echo imaging to detect voids, cracks, and delaminations and penetrate blacktopping to expose markings.

LCR Meter

Smith's LCR meter measures the impedance, capacitance, inductance, and resistance of passive components.

Destructive Testing Capabilities

Decapsulation

Decapsulation is used to verify manufacturer logos and die markings and architecture.

Bond Pull and Die Shear

By measuring the bond-wire strength and die shear, Smith verifies the integrity of bond wires and ensures that all dies comply with manufacturer and package performance specifications.

RoHS 3 Analyzer

Per RoHS 3 directive, Smith identifies restricted substances and tests for four phthalates: bis(2-ethylhexyl) phthalate (DEHP), benzyl butyl phthalate (BBP), dibutyl phthalate (DBP), and diisobutyl phthalate (DIBP).

BGA Reflow

Smith uses a surface mount process simulation test to evaluate the solderability of BGA components and ensure proper wetting.

Heated Solvent

Heated-solvent testing exposes signs of counterfeiting by detecting sand marks, hidden markings, texture differences, and blacktopping.

Cross-Section Analysis

Cross-section analysis is used to inspect the internal structure and composition of parts and identify defects that can cause component failure.

Solderability

Smith verifies the solderability of component leads to help detect and screen common defects like oxidation and wetting issues, which pose a significant risk for parts with older date codes.

Scan or click to find a Smith location near you.

EN.FS.2604

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