SPEA

The Hi-End of Productivity

4050 S2

MULTI-CORE FLYING PROBE TESTER

- Maximum productivity. Replace Bed-of-nails
- Real Parallel Test. Cut test cost & time
- Full coverage with new LED & 3D Laser Test
- Flexibility in use: In Line / Automatic / Manual
- Micro-SMD & flexible circuit probing

4050 S2

Cut the cost of test

+ PRODUCTIVITY

4 Ultra high speed X-Y-Z Axis

High-Force Linear Motors have been placed on each **X-Y-Z axis**, bringing the probes to unprecedented speed. No other motion technologies, such as rotary and planar motors, can reach this productivity.

Multi-Jig Bottom Platform

4050 S2 Multi-Jig Platform provides a wide range of instruments that **enhance productivity** and **test capabilities**: fixed probes, board support, mini-fixture, cable connection and the exclusive Self-Adapting Board Support Grid. Moreover, thanks to the Multi-Core Architecture, the Multi-Jig can work **simultaneously with the 4 top flying probes**.

Quad-Core Parallel On Board Programming

4050 S2 simultaneously programs up to 4 components, even different, providing unmatched throughput and **erasing the cost** of programming stations.

In-Line-Ready Horizontal Architecture

Horizontal Architecture guarantees **full compatibility** with **standard production line** or **automatic loader**. Benefits: no time wasted to vertically flip the board, no additional handling equipment required, small footprint.

True Parallel Test with Multi-Core

Based on the new **Multi-Core Architecture**, **4050 S2** can be equipped with **multiple**, **independent**, **asynchronous test cores**, each one with dedicated instrumentation & resources. Cut cost with **True Parallel Test**.

+ ACCURACY

The Flying Tester Technology

A new, compact **forcing & measurement board** has been installed **on each flying head**, making **4050 S2** the first and unique **Flying Tester** on the market. Benefits of this cable-less technology are huge: **high accuracy** (0.1 pF) and **immediate** signal acquisition, **signal integrity**, no crosstalk.

Fast and reliable 008004 case testing

Miniaturization won't stop and SPEA's Flying Probe systems are **ready for the future**: **008004** case (0.25 x 0.125 mm) touch is fast and reliable. Such accurate positioning is made possible by **High-Precision Linear Optical Encoders on each X-Y-Z axis**, the only technology that provides **real positioning feedback** of the probes.

Ultra-Fast Soft Touch Technology

With the new **"S" Motion Profile** the probe lands on the board with near-zero-energy. This allows testing **sticky boards** and flex circuits, or **micro SMDs** such as future 008004 & 01005 leaving no visible mark on the test point.

+ TEST CAPABILITIES

LED Color & Intensity Test

4050 S2 is equipped with 2 flying sensors to perform **high-speed measurement** of the **color** and **intensity** of the light emitted by LED. Compliant with the most stringent specifications.

3D Laser Test

Detect **mechanical & process defects** in the **shortest time** with the new 3D Laser Test. Laser Units can be placed on top and bottom side flying heads, performing: TH & SMD soldering profile, component presence, absence & alignment, component height measurement, press-fit pin connection, tombstone and much more.

Multifunction Probe

Each flying probe can be powered up to execute Power On, Functional & Boundary Scan.

Multi-Core Flexible Test Cell

Combine the probing capabilities of **4050 S2** & the productivity of **3030 In Line** bed-of-nails tester.
Minimize the cost of test with the **Multi-Core Flexible Operatorless Test Cell**.

+ TEST CAPABILITIES

High-Resolution Color Optical Test

Two new **High-Resolution Color Cameras**, and new lighting system provide fast, accurate and reliable Optical Test: OCR, OCV, 2D code reading, component presence, device orientation.

NZT 3.0

Short circuit left undetected could cause breakages and damage when the UUT gets powered on for the first time. **Detect all short circuits** in the shortest time - just 1 touch per net - before powering on the board, with the new NZT 3.0 Nodal Impedance Test.

+ USABILITY

Automated application development

4050 S2 has been designed to minimize programming and debug activities: the system **automatically debugs and tunes your test program**. AutoDebug and AutoTuning are **fast and accurate** as never before.

Fast Lane System Control Technology

New System CPU S2, Intel® Core i7 processor with 64 bits Windows® 7 system controller and hi-speed communication interface are an **essential improvement** of the new **4050 S2**. Benefits: 50% faster Test Program generation, faster and accurate **AutoDebug** and **AutoTuning**, **shorter measurement time** and **faster communication** instruments/PC.

Designed to last

State-of-art mechanics. 16-bit instrumentation. 8-wire measurements. Everything has been designed to guarantee a reliable test, even after **years of intensive use**, with an always **up-to-date equipment**. An example: the test program is resident in the tester CPU S2 and runs **independently from PC timing**. You can change/update the PC at any moment, without having to re-debug the test program.

One tester. Any test

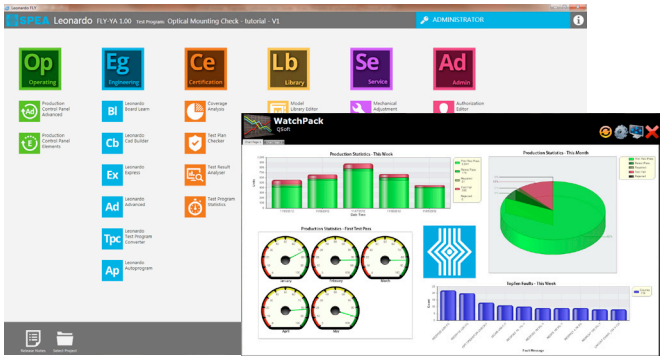
Optimize test & resources. Avoid redundancy.
A single equipment to get full coverage

In-Circuit Test
100% Short Test
Nodal Impedance Test 3.0
Open Pin Scan
3D Laser Test
Power On & Functional Test
LED Color & Intensity Test
4x Parallel On Board Programming
Hi-Resolution Color Optical Test
Boundary Scan
Built-in Self-Test (BIST)
HV Test

Leonardo OS2.

Easy. Fast. Self-programming

- Automatic test program generation in **minutes**
- Automatic test program generation with or **without CAD file**
- **- 50% test program generation time** with new S2 System Control
- Faster & fully **automatic Debug** & Tuning
- Automatic **board repair** software
- Automatic **Pick & Place X-Y file import**
- **Built-in Self-Test** (BIST) compliant
- **User-friendly** intuitive graphical interface
- **Control software** to **monitor**, **analyze & optimize** the production process



Do you want more information? We have detailed documentation on this key feature

4050 S2 - Models

4050 S2 M
Manual loading

4050 S2 IL
Automatic in-line loading

4050 S2 TC
Operatorless Test Cell

MAIN CHARACTERISTICS

Probing capability

Minimum probing package	008004 (0.25x0.125 mm)
Minimum system pitch	0 μm
Minimum probe pitch	Depending on probe
Single probe repeatability	10 μm
Flying Probes	4
On Probe Instruments	4
Multi-function Probes *(Scan, Digital, BScan, Sink/Source, OBP, Prescaler)*	4
Probe impact force	Programmable
Warpage compensation	Optional

Testable Board Specification

Test area X-Y	500x400 mm
Max Board Thickness	Up to 4.8 mm
Min Board Thickness	0.6 mm

Environment Requirements

Environmental temperature range	15°C ÷ 32°C
Humidity	≥20% ÷ ≤70%

Electrical Requirements

Input voltage range - single phase	120÷230 Vac ±10%
Input frequency range	50 ÷ 60Hz

System Controller

Operating System	Windows 7 64 bit
Monitor	22" (Touch optional)
Software	SPEA Leonardo OS2

System Specification

Body main dimensions (L x W x H)	1360x1100x1560 mm (manual system) 1600x1100x1560 (in-line system)
Weight	1000 kg

MEASURE CAPABILITY

Resistance

Range	1mΩ ÷ 1GΩ

Inductance

Range	1μH ÷ 1H

Capacitance

Range	0.5pF ÷ 1F

TEST TYPE

Electrical test

ICT - In Circuit Test	Yes
Nodal Impedance Test	Optional
Open Pin Scan	Optional
Power On Test	Optional
Functional Test	Optional
On Board Programming	Optional
Boundary Scan	Optional

Other tests

Hi-Res Color Optical Test	Optional
2D Code Reading	Optional
Optical Character Verify	Optional
Optical Character Recognition	Optional
LED Color & Intensity Test	Optional
3D Laser Test	Optional

UNI EN ISO 9001:2008 14001:2004

equipment certified

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