SPEA

The Hi-End of Productivity

4050 S2

MULTI-CORE FLYING PROBE TESTER

- Maximum productivity. Replace Bed-of-nails
- Real Parallel Test
- LED Color & Intensity Test
- Flexibility in use: In Line / Automatic / Manual
- 008004 case contactable. Ready for future needs

4050 S2

Cut the cost of test

+ PRODUCTIVITY

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. This provides **True Parallel Test**.

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.

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 flip the board, no additional equipment or handling operation required, small footprint.

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**.

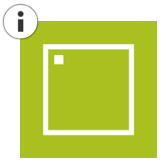
Variable Speed Map

4050 S2 can enhance its speed and productivity **up to 40%** with the new exclusive **Variable Speed Map**. The system is now able to choose among different speed levels, according to the touch point characteristics.

+ ACCURACY

Instruments on the Probe Technology

A new, compact **forcing & measurement board** has been installed on **the 4 flying probes**, 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.

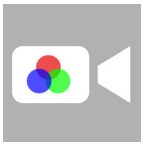
Ultra Soft Touch Technology

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

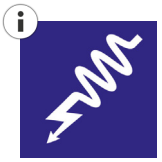
LED Color & Intensity Test

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.



2 High-Resolution Flying Color Cameras

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.



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 S2 In Line** bed-of-nails tester. Minimize the cost of test with the **Multi-Core Flexible Operatorless Test Cell**.

3D Optimized Fly: up to 20% test time reduction

Up to 20% test time reduction compared to previous generation Flying Probe, with the new **3D Optimized Fly**. No operator's intervention is needed: **4050 S2** automatically spots the height of components, defines no-fly areas and optimizes the probe quote, providing a substantial **increase in throughput**.

Auto-calibration

No need of manual operations means no human errors. Probes and functions are **automatically calibrated** by the system.

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

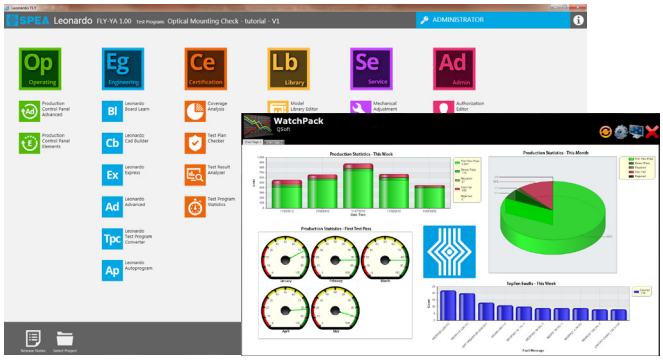
Optimize test & resources. Avoid redundancy.
A single equipment to get full coverage

In-Circuit Test
Short Test
Nodal Impedance Test 3.0
Open Pin Scan
Power On & Functional Test
LED Color & Intensity Test
4x Parallel On Board Programming
Optical Test
Boundary Scan
Built-in Self-Test (BIST)

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 graphic 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 test

Optical Test	Optional
2D Code Reading	Optional
Optical Character Verify	Optional
Optical Character Recognition	Optional
LED Color & Intensity Test	Optional

CERMET SISTEMA DI GESTIONE CERTIFICATO
ISO 9001:2008
ISO 14001:2004

ISO 17025 ASSESSMENT

semi

SILICON SAXONY MY FAVORITE PLACE

SPEA

info@spea.com - www.spea.com

Code: 82130251.082 V4 - Designed by: Umberto Zola, Davide Zannella