SPEA

One tester. Any test

4020 S2

MULTI-CORE FLYING PROBE TESTER

- Intuitive programming
- Multi-function. Full coverage with 1 equipment
- Ultra-fast AutoDebug & AutoTuning
- 008004 case ready. Designed for future needs
- No need for CAD data

4020 S2

Small price. Limitless accuracy

4x Multi Core Architecture

The new 4020 S2 **Multi Core Architecture** provides **True Parallel Test** by 4 cores working in parallel. **Save 75%** test cost, get **4x throughput**.

Multi-Jig Bottom Moving Platform

4020 S2 **Multi-Jig Platform** provides a wide range of instruments that **enhance productivity** and **test capabilities**: fixed probe, board support, mini-fixture, cable connection and the exclusive Self-Adapting Board Support Grid.

Automated application development

4020 S2 has been designed for unskilled user: let the system to **automatically debug and tune your test program**. AutoDebug and AutoTuning are **fast and accurate** as never before.

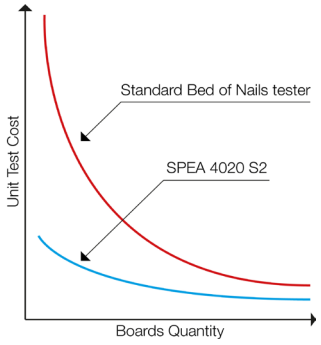
High Torque Linear Motors on X-Y-Z Axis

Each X-Y-Z axis is equipped with **High Torque Linear Motors** and **Linear Optical encoders**. These **state-of-art motion technologies** mix 10g accelerations with accurate braking and positioning.

Fast & 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. This is made possible by **High-Precision Linear Optical Encoders**, the only technology that guarantees a direct, real-time, accurate positioning of the probes at any moment, providing **real positioning feedback** and **direct drive** of the probes. That's why SPEA placed them on each **X-Y-Z** axis.

4020 S2 vs Standard Bed of Nails



- No fixture cost
- No time wasted for fixture manufacturing
- Low cost of engineering change
- Low cost of product change
- Micro SMDs testable

Dramatic cost-of-test reduction

A wide range of applications

4020 S2 has been designed to cut cost of test for a wide range of applications.

- **NPI**: prototype design and new product introduction is faster and cost-efficient with 4020 S2 fixtureless tester. The test program generation just takes minutes, thus allowing to immediately report the test results to technicians for technical implementations.
- **Production**: Fast linear motors, reduced test time, horizontal architecture for in-line integration and automatic loader/unloader make 4020 S2 suitable for PCB production, guaranteeing high throughput without the accessibility limits of bed-of-nails systems.
- **Repair**: with **Leonardo OS2** the test program generation is quick and automatic, even without CAD file and board data available. Moreover **QSOFT**, the software for process control, **indicates the repairs** to be made reducing the required skills as well as the time taken by operators. That's why 4020 S2 fits ideally for repairing electronic boards.

Do you want more information? We have detailed documentation on this key feature. Please visit www.spea.com/docs

High Speed | 4x Hi-Speed Flying Probes | Multi-Jig Bottom Moving Platform | Instruments on the probe | Multifunction Probe | Soft Touch Technology | In-line Ready Architecture | 008004 Case Ready | Autodebug & Autotuning

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, 0201, RQFP, leaving no visible mark or damage on the test point.

Instruments on the Probe Technology

A new, compact **forcing and measurement board** has been connected to **every probe**. It enhances **accuracy and measurement speed** and guarantees **signal integrity** avoiding **crosstalk**. The probe can in this way measure small electrical quantities, such as **0.1 pF**, with **absolute accuracy** and reliability, and the acquisition time is almost **instantaneous**.

2 LED Color Flying Sensors

4020 S2 performs **high-speed measurement** of the **wave length** (color) and **intensity** of the light emitted by LED, compliant with the most stringent specifications.

2 High Resolution Flying Color Cameras

The new **High-Resolution Color Camera**, combined with new lighting system, provides fast, accurate and reliable Optical Test: OCR, OCV, 2D code reading, component presence, device orientation and much more.

Multifunction Probe

Each flying probe can be used for: ICT, Power On, Sink/Source analog, Digital D/S, OBP, Boundary Scan, Prescaler.

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.

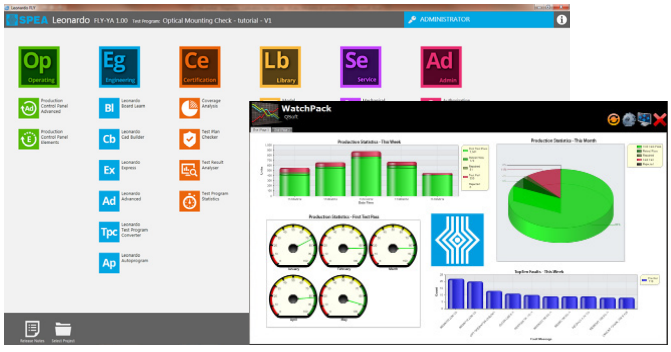
One tester. Any test

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

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

Leonardo OS2.
Easy. Fast. Self-programming

- **No need for test engineer** or expert technician to develop and debug the test program
- 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
- Automatic **board repair** software
- Fully **automatic Debug** & Tuning
- 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



Fast Lane System Control
2x Hi-Resolution Color Camera
NO LIMITS Accuracy
Limitless System Accuracy
Linear Motors with Optical Encoders
2x LED Color Test
3D Optimized Fly
Auto-calibration
Small Footprint
Low Noise

4020 S2 - Models

4020 S2 M
Manual loading

4020 S2 IL
Automatic in-line loading

4020 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

Board Testable Specification

Test area X-Y	500x400 mm
Max Board Thickness	Up to 4.8 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)
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 Test	Optional
LED Color Test	Optional

CERMET SISTEMA DI GESTIONE CERTIFICATO
ACCREDIA ENTE DI ACCREDITAMENTO
ISO 9001:2008
ISO 14001:2004

ISO 17025 ASSESSMENT

semi

SILICON SAXONY MY FAVORITE PLACE

SPEA

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