

Multi-Mode Dual-Side Probing

4060

6X MULTI-FUNCTION FLYING PROBE TESTER

IDEAL FOR **VOLUME PRODUCTION, BACKPLANES,
LOAD BOARDS, PROBE CARDS ... & MORE**



Dual-side probing: full accessibility & parallel test

Large boards testing: 1000 x 610mm (39.4 x 24")

Able to load boards weighing up to 20Kg

Full coverage with multi-function test

Micro-SMD & flexible circuit probing

4060 S2

Probing without limits

Multi-Mode Dual-Side Probing

4060 S2 combines the advantages of dual-side flying probing, with the possibility to use additional tools such as fixed probes, planarity supports, mini bed-of-nails fixtures, and more.

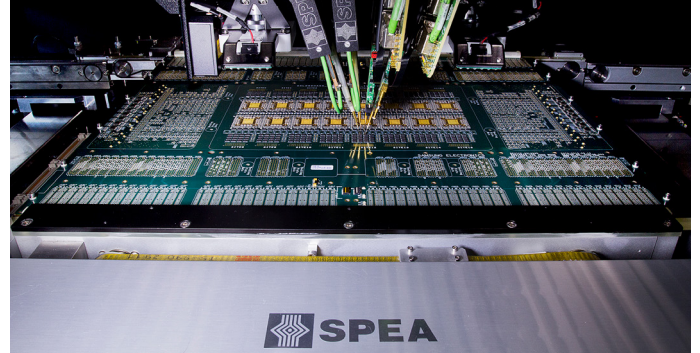
DUAL-SIDE FLYING PROBING. Four top-side and two bottom-side moving heads make **4060 S2** able to perform flying probe test on both sides of the board simultaneously, increasing **throughput** and **test capabilities**.

- Reduced **test time**
- Increased **test coverage**
- **Single test program** for the 2 sides of the board

Each flying probe can be used for in-circuit test, power-on test, sink/source analog, digital D/S, flashing via on-board programming, boundary scan, prescaler.

BOTTOM MULTI-PROBE FLYING HEADS. In addition to electrical probes for electrical tests, the two **bottom multi-probe flying heads** can move high-speed power probes, support rods, hi-res cameras, multi-probes, laser & LED probes and electro scan probes, covering the most comprehensive test needs.

MULTI-MODE PROBING. While using the 4 top-side probes to perform flying probe test, 2 bottom moving platforms can be used for bed-of-nails fixtures, multiple high-current power supplies, digital I/O, high-speed signals. The **dynamic planarity supports** allow you to **reliably test large and thin boards**, avoiding PCB vibrations due to probe strokes.



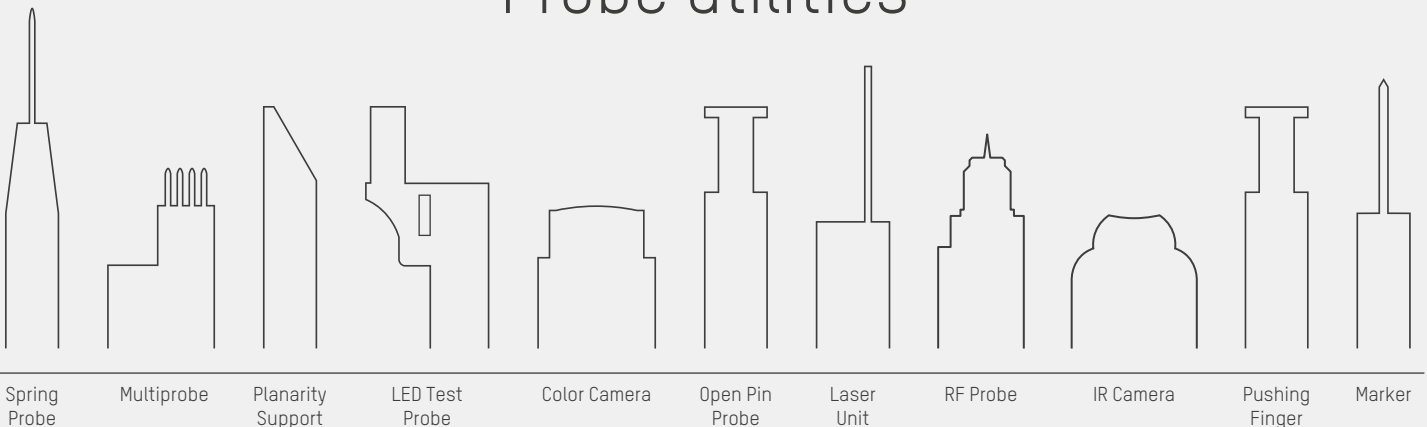
Test even the biggest ones.

IDEAL FOR LARGE AND HEAVY BOARDS. The large test area allows **4060 S2** to fit boards with up to **1000 x 610mm** (39.4 x 24") size, while the input conveyor module makes it easy to load the heaviest boards (e.g. load boards, power modules, telecom boards), up to **20Kg** weight, which are automatically loaded into the test area.

TALL COMPONENTS. **4060 S2** tests also PCBs with transformers, heat sinks, connectors, front panels, polarized capacitors and other **tall components up to 110mm**. **No-fly zones** and contacting quotes are **automatically defined**, while the system is able to contact points at **different heights simultaneously**.

BACKPLANES. **4060 S2** can **test backplanes** mounting **any type of connector**. The system can execute, **simultaneously on both sides** of the board, complete test of continuity, insulation, presence and orientation of connectors and components, correct assembly and mechanical check of the contact pins.

Probe utilities



In-Circuit Test



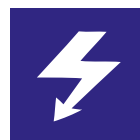
100% Short Circuit Test



Nodal Impedance Test



Open Pin Scan



Power-On Test



Functional Test



Optical Test

Fast and accurate probing. On the smallest components.

ULTRA HIGH-SPEED AXES. Full linear motion on XYZ axes brings the probes to unprecedented speed. No other motion technologies, such as rotary and planar motors, can reach this productivity level.

ACCURATE MICRO-PAD CONTACTING. Motion accuracy of linear motors is perfected by linear optical encoders, mounted on each axis and thus able to provide real feedback of probe positioning with sub-micron resolution. Benefiting from this technology, **4060 S2** is able to reliably probe micro-SMT components, as well as directly probe card contactors, or male/female contactor pins (e.g. on backplanes).

ULTRA-FAST SOFT TOUCH TECHNOLOGY. With the **Sinusoidal Motion Profile**, the probe lands on the board with near-zero energy. This allows high-productivity testing of **sticky boards** and flex circuits, or **micro SMDs** such as 01005 and 008004, leaving no visible mark on the test point.

Measurement Accuracy

The shorter the distance between probe and instruments, the faster and more accurate is the measurement. According to this simple rule, SPEA designed the concept of Flying Tester Technology. Force & measurement instruments are placed directly on each flying head, delivering unsurpassed measurement speed and performance.

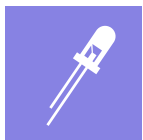
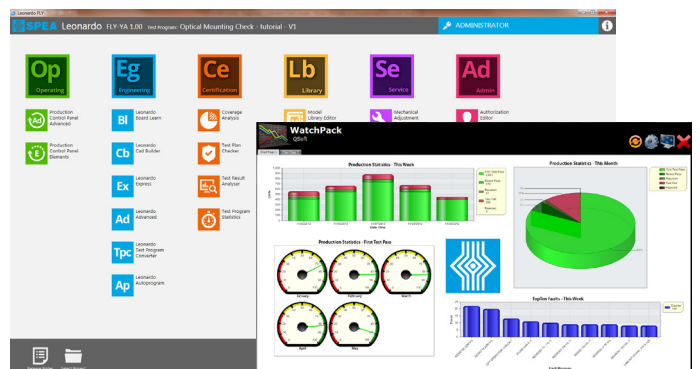
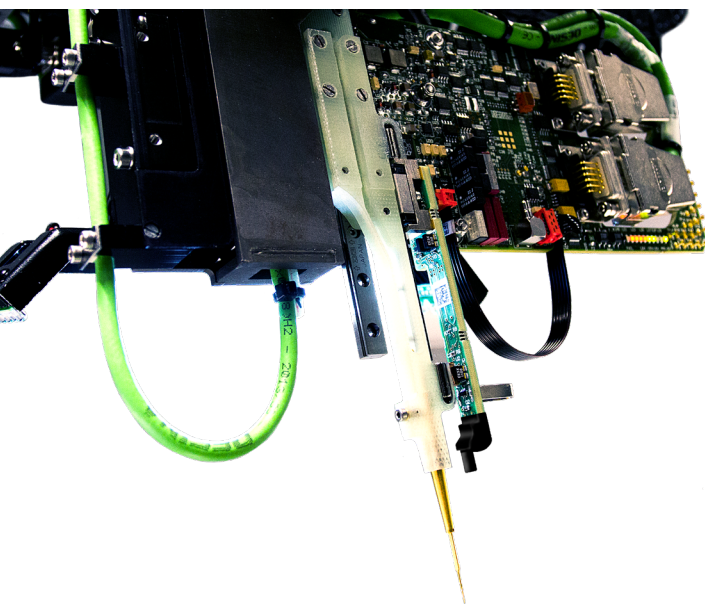
- Highest measurement performance & accuracy (0.1pF)
- Signal integrity
- No measurement degradation or interference
- Immediate signal acquisition (within hundreds of microseconds)



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 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



LED Light Test



3D Laser Test



Flashing



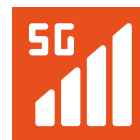
Boundary Scan



Thermal Test



Waveform Capture



5G RF Test



Built-In Self-Test

Models



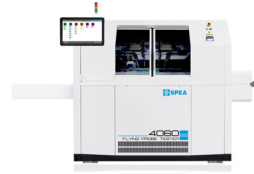
4060 S2 M
Manual Loading



4060 S2 IL
Automatic In-Line Loading



4060 S2 SL
Shuttle Loader



4060 S2 BP
Backplane



4060 S2 TC
Operatorless Test Cell

Main Specs

Min. Package Size	008004 (0.25x0.125mm)
Multi-Probe Flying Heads	6 (4 top + 2 bottom)
Tester interface	Up to 576 channels
XYZ Motion technology	Linear
XYZ Measuring encoders	Linear 10µm accuracy 0.0012µm resolution
On-axis measurement instrumentation	Included on each axis
Footprint (LxW)	1750 x 1272mm (2.2m ²) 5.7 x 4.2ft (23.9ft ²)

BOARD LOADING

Conveyor loading	Integration in SMD line or test cell with loader/unloader Left-to-Right or Right-to-Left Pass-Through or Pass-Back
Manual loading	Front and side loading

TEST AREA SPECS

Max. Board Size (L x W)	Manual: 686 x 610mm (27 x 24") In-Line: 1000 x 610mm (39.4 x 24")*
Max. Test Area (L x W)	686 x 604mm (27 x 23.8")
Max. Component Height	55mm standard 110mm optional
Max Board Thickness	14mm

Easy to use

SOFTWARE

- Operating System: Leonardo OS2
- Automatic test program generation and debug
- Automatic board repair
- Automatic variant management
- Production monitor & analysis

Test Type

ELECTRICAL TEST

- In-Circuit Test
- All-Nets Short Circuit Test
- Nodal Impedance, Voltage and Insulation Test
- Open Pin Scan
- Power-On Test
- Discharge Capacitor Test
- Voltage Spike Detection
- Power Supply Test
- Functional Test
- Flashing via On-Board Programming
- Boundary Scan
- Waveform Capture
- 5G RF Test
- Insulation Resistance Test with HV Probe

OTHER TESTS

Light Chromaticity & Intensity test	Flying LED sensor
3D Laser Test	Component height Board warpage Component alignment Component presence Tombstone ...
Optical Test	OCR, OCV, component presence, component orientation, 2D code reading ...
Thermal Test	IR camera for temperature monitoring

ADDITIONAL PROBE UTILITIES

- Multi-Probe units
- Dynamic support rods
- Pushing fingers
- Markers

* For larger boards, please contact SPEA.



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