

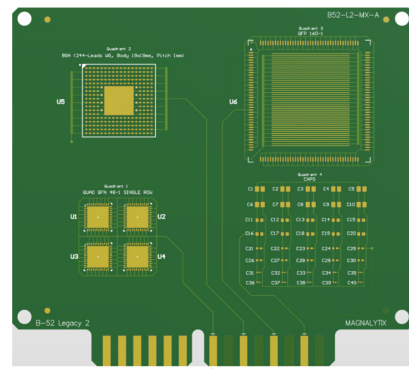
MAGNALTIX[®]

OBJECTIVE EVIDENCE IN A BOX SMT ESSENTIALS

The OE in a Box - SMT Essentials kit is the entry point for SMT-only manufacturers and price-sensitive customers who need IPC J-STD-001 compliant Objective Evidence without the scope of a full mixed-technology evaluation. If your production line is focused on surface-mount assembly, this is your kit. One purchase delivers everything you need to run IPC-compliant SIR testing through your real process and receive a third-party Certificate of Compliance, no in-house SIR infrastructure required.

This Kit Enables Qualification of:

- SMT assembly
- SMT rework
- No-clean process validation
- Flux and solder paste characterization
- Conformal Coating (where applied as part of the standard production process)



The B-52 Legacy 2 card is one of the most widely used SIR test vehicles in the industry. It includes realistic component geometries and entrapment sites: bottom-terminated components (BTCs), fine-pitch structures, and I/O terminations, making it more representative of actual SMT assemblies than bare board coupons. Flux residue activity at I/O and under component terminations is evaluated across all 4 SIR channels on this single-sided PCBA.

How Objective Evidence in a Box Uses the B-52 Legacy 2 Cards:

Magnalytix's OE in a Box - SMT Essentials kit provides a complete, standardized workflow for generating objective evidence. When using the B-52 Legacy 2 test cards, the process typically includes:

1. Assemble the boards using your actual production process

The test structures undergo all real manufacturing steps, materials, equipment, reflow, cleaning, and conformal coating, so that objective evidence reflects the true process.

2. Submit Boards for SIR Testing - SIR testing follows IPC-9202A methodology:

- 40°C / 90% RH environmental stress
- 5V DC bias across comb patterns
- 168-hour test duration with continuous monitoring

How Objective Evidence Is Generated

When used with IPC-9202A methodology, the B-52 Legacy 2 test card supports a complete electrochemical reliability assessment:

- Visual inspection of assembled boards
- SIR testing under controlled temperature/humidity for at least 168 hours post test inspection and residue correlation
- Acceptance criteria: SIR ≥ 100 M Ω after 24 hours of chamber stabilization
- Third Party Reporting, including a Certificate of Compliance to IPC J-STD-001 Section 8

Qualification Scope:

- Solder paste characterization
- Flux residue activity assessment
- No clean soldering validation
- Cleaning effectiveness under BTCs (bottom terminated components)
- Rinse effectiveness and wash bath life studies
- Conformal coating compatibility
- Electrochemical migration risk evaluation
- Process change requalification (new flux, paste, cleaning chemistry, or equipment)

Key elements included in Objective Evidence in a Box:

- 10 B-52 Legacy 2 test cards
- Components (tape & reel) for full assembly
- A dedicated stencil will be provided
- ESD return bags
- Quick start process parameters
- Return shipping for third party analysis
- SIR testing on the 10 Boards
- Data reporting
- Certificate of Compliance to IPC J-STD-001 Section 8 (issued on passing results)

This kit is specifically built to produce defensible, audit ready, objective evidence for J-STD-001 and related cleanliness requirements. Manufacturers simply assemble the boards using their normal process, ship them back, and receive a certified report.

For lines that also run through-hole, selective soldering, or rework, the Full Process kit provides complete mixed-technology coverage.



For more information contact us at: www.magnalytix.com/GetTheBox