

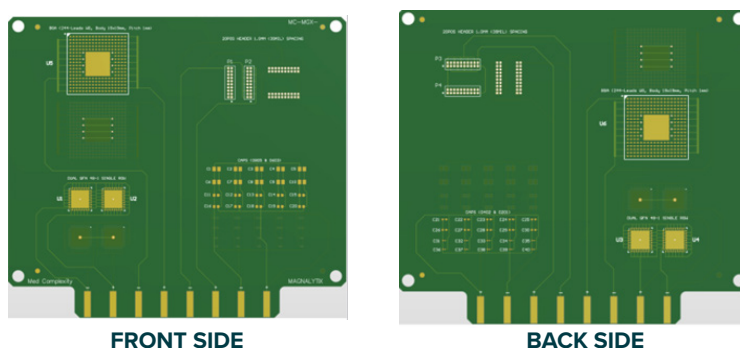
MAGNALTIX[®]

OBJECTIVE EVIDENCE IN A BOX FULL PROCESS

The OE in a Box - Full Process kit is the standard starting point for most contract manufacturers and OEMs concerned with IPC J-STD-001 electrochemical reliability requirements. If your line runs any combination of SMT, through-hole, selective soldering, or rework, 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:

- Top-side SMT Assembly
- Bottom-side SMT Assembly
- Selective Soldering
- Through-hole and manual soldering
- Rework soldering
- Conformal Coating (where applied as part of the standard production process)



The Mixed Technology card includes realistic component geometries and entrapment sites: bottom-terminated components (BTCs), through-hole components, and fine-pitch structures, making it more representative of actual production assemblies than bare board coupons. Flux residue activity at I/O and under component terminations is captured across all 8 SIR channels (4 front, 4 back).

How Objective Evidence in a Box Uses the Mixed Technology Cards:

Magnalytix's OE in a Box - Full Process kits provide a complete, standardized workflow for generating objective evidence. When using the Mixed Technology 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 Mixed Technology cards support 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 $\geq 100 \text{ M}\Omega$ 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 include in Objective Evidence in a Box:

- 10 Mixed Technology 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 more information contact us at: www.magnalytix.com/GetTheBox