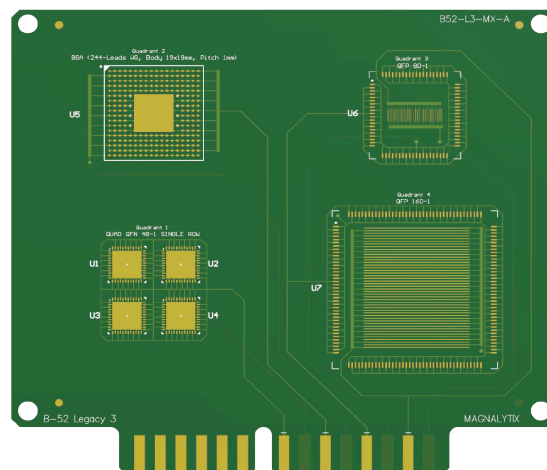


MAGNALYTIX[®]

MGX B-52 Legacy 3 SIR Test Board

Practical Uses

The Magnalytix MGX B-52 Legacy 3 test board is designed to detect inadequate rinsing and aged wash chemistry when cleaning production assemblies. The QFP 80 and QFP 160 in Quadrants 3 & 4 have SIR comb patterns located under the component termination. As the wash chemistry becomes loaded with flux and other process residues, the rinsing properties start to decline. The SIR comb patterns located under these components detect issues arising from inadequate rinsing and wash bath decline. The QFN and BGA components in Quadrant 1 & 2 round out this test board by seeing cleanliness of bottom terminated and leadless component bodies.



Primary Uses

- Cleaning Process
 - Flux and other Process Residues loaded into the Wash Chemistry
 - These soils are no longer soluble in water
 - These insoluble soils leave an oily residue under low profile components
 - These residues cause insulation resistance to decline, which leads to current leakage

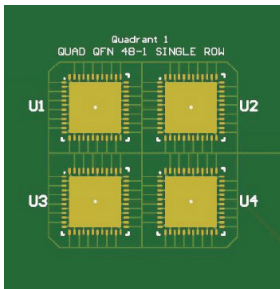
Secondary Uses

- Solder Paste Characterization
 - The activity of the Solder Paste residue
 - In the presence of moisture and humidity, the risk of the flux residue mobilizing metal oxides to cause current leakage

Test Card

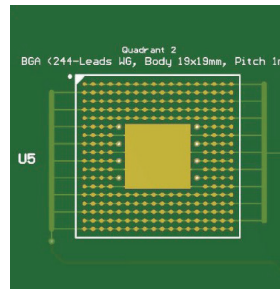
	MGX B-52 Legacy 3 SIR Test Board	IPC B-52 SIR Test Board
Quadrant 1	QFN 48 - 0.5 mm pitch	Not Included
Quadrant 2	244 I/O BGA with Ground Lug	Not Included
Quadrant 3	QFP 80 - 0.65 mm Pitch	Included
Quadrant 4	QFP 160 - 0.65 mm Pitch	Included

SIR Test Parameters



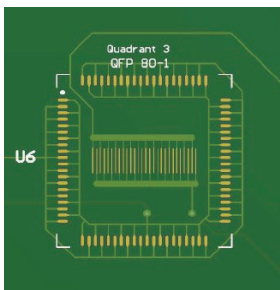
QUADRANT 1

- EDGE PIN 1 = ODD PADS
- EDGE PIN 2 = EVEN PADS + GND LUG



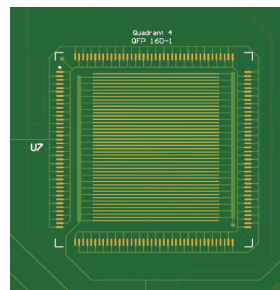
QUADRANT 2

- EDGE PIN 3 = ODD ROW PADS + GND LUG
- EDGE PIN 4 = EVEN ROW PADS



QUADRANT 3

- EDGE PIN 5 = EVEN PADS
- EDGE PIN 6 = ODD PADS
- EDGE PIN 7 = UPPER COMB BUS
- EDGE PIN 8 = LOWER COMB BUS



QUADRANT 4

- EDGE PIN 5 = EVEN PADS
- EDGE PIN 6 = ODD PADS
- EDGE PIN 7 = LEFT COMB BUS
- EDGE PIN 8 = RIGHT COMB BUS

Component Descriptions

The Magnalytix MGX B-52 Legacy 3 SIR test board finds use in Materials Characterization and Process Control.

- **QFN48** is one of the more challenging components to clean. With a standoff gap lower than 50µms, flux residues bridge the lands and thermal lug. The residues tend to be active due to poor outgassing channels.
- **BGA244** with a center lug has a high standoff gap and easier to clean. This component tends to be representative of the BGA family of components. The center lug adds some degree of complexity by obstructing flow channels.
- **QFP80 & QFP160** are challenging components due the 0.65 mm pitch on lands and SIR comb patterns. Unlike the leaded component, the lands are screen printed around the peripheral of the part. These components are excellent to detecting cleaning and rinsing issues.

MGX B-52 Legacy 3 Test Set

Each Magnalytix Test Set includes the substrates and components to build complete assemblies needed for 1 standard testing cycle and provide the objective evidence needed to meet IPC J-STD-001G-Am1.

10 Each – MGX B-52 Legacy 3 PCB | Reel of 40 – MGX QFN48 | Reel of 10 – MGX BGA244
 Reel of 10 – MGX QFP80 | Reel of 10 – MGX QFP160