

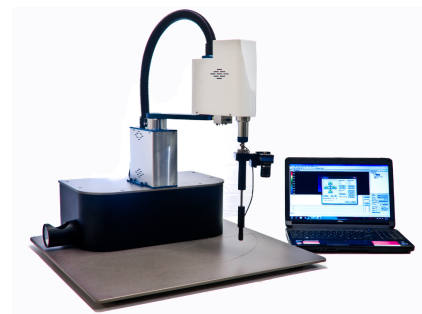


## SmartScan Susceptibility / EMI Scanners

Susceptibility scanning is a new and innovative method for performing root cause analysis of EMC immunity problems at the system level. Scanning itself isn't new: there are commercial scanners for detecting near field radiation to analyze the radiation from a board or system or understand the way currents are flowing in a system. Even crude methods of scanning to localize sensitive circuits has been done and advocated for some time, but what *is* new is the ability to perform susceptibility scanning in a controlled, quantifiable and repeatable way.

**SmartScan** is the only commercially available system *specifically* designed for susceptibility scanning and is available in three configurations:

- **SmartScan BASIC** – A manual system providing basic scanning capabilities
- **SmartScan AUTOSCAN 300 / 600** – An automated robotic tester with 300mm or 600mm 4-axis scara robot including software analysis



**SmartScan Basic** is a manual system with manual data record capability. The user can take the DUT picture and probe position pictures to add comments to each failing location.

**SmartScan** is also available as the **SmartScan EMI 300 / 600**, an automated stand-alone EMI test system for boards and systems. **SmartScan EMI 300/600** includes complete EMI analysis software and is unique in that it can be configured with very large scan tables to accommodate products such as large LCD or Plasma displays. **SmartScan EMI300/600** can be expanded at a later date to include fully automatic susceptibility scanning as test requirements expand.

All three susceptibility scanners use a pulse generator specifically designed to produce a fast rising pulse simulating the E and H fields produced by an ESD (Electrostatic Discharge) event. The pulse is coupled via E and H field probes and either manually or automatically scanned over the surface of a suspect circuit. Once the susceptibility effect is localized, direct injection probes and software analysis can be used to identify specific IC pins or nodes that are the root cause of a susceptibility problem.

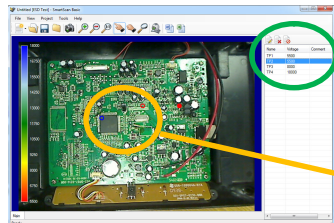
## SmartScan **BASIC**

The **BASIC** is manually operated system for performing susceptibility scanning at the system level with minimal data storage capability. This system includes:

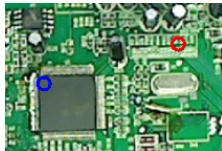
- 6kV pulse generator for ESD susceptibility testing
  - Camera and camera shutter to take DUT pictures and failing spots
  - Manual input of failing location and failing condition over the DUT and separate table
  - Control computer
- 6kV Probes
  - 1mm Hx/y Field Probe
  - 5mm Hx/y Field Probe
  - D=8mm Hz Field Probe
  - D=8mm Ez Field Probe
  - Contact API for custom design probes

Available Options for the **BASIC** include:

- 2<sup>nd</sup> camera to zoom in failure locations and probe positions

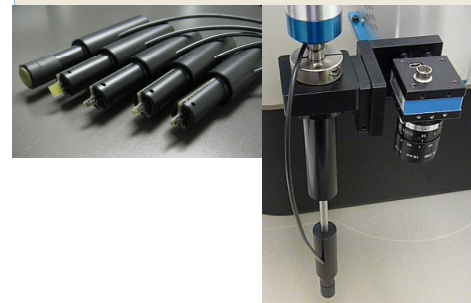
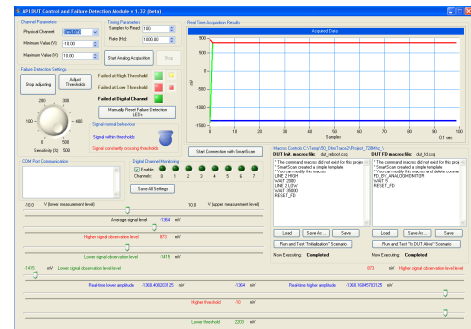
Name	Voltage	Comment
TP1	5500	
TP2	5500	
TP3	8000	
TP4	18000	



## SmartScan 300 / 600 Series

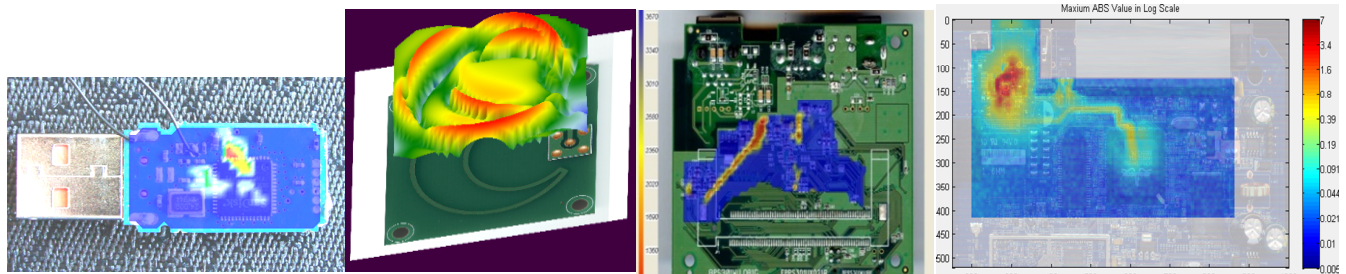
The **SmartScan 300/600 series** are automated scanners providing both control and analysis capability to identify susceptibility problems and includes:

- 6KV pulse generator for ESD susceptibility testing
- Full 3 dimensional scanner table under software control
  - 300 series – 310mm 4-axis scara robot
  - 600 series – 600mm 4-axis scara robot
- Automatic failure detection
  - Fully automated DUT failure detection and power cycle by software control. Any digital or analog signal is monitored in real time
- DUT location camera
  - The scan area is edited directly on the DUT picture taken by the camera. The software figures out the coordinates, and moves the probe to the defined scan points
- Probes
  - 1mm and 5mm Hx/y Field Probes
  - D=8mm Hz Field Probe
  - D=8mm Ez Field Probe
  - Contact API for custom design probes



Available Options **300/600 Series** include:

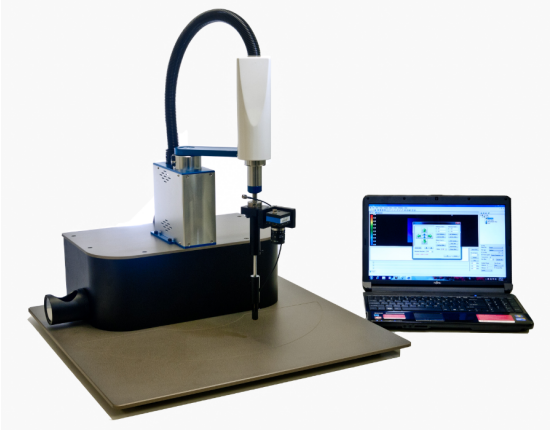
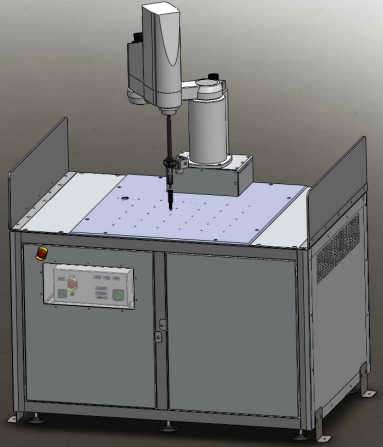
- **EMI Scanning**<sup>1</sup>
- Current Spreading Scan<sup>2</sup>
- Resonance Scanning
- Phase measurement<sup>2</sup>
- Phi<sup>3</sup> axis control
- On-site installation and training
- Contact API for other custom design probes



<sup>1</sup> Requires a Spectrum Analyzer

<sup>2</sup> Requires an oscilloscope

<sup>3</sup> Phi axis control adds the ability to control the probe orientation during scanning for optimal resolution.

Items	SmartScan 300 Series			SmartScan 600 Series		
Probe positioning system description	Probe positioning: 4-axis scara robot Max. scan area: 720 cm <sup>2</sup> Largest square scan size: 17cm X 17cm Phi control: 360° Positioning accuracy: 15um Scan table foot print: 64cm X 66cm			Probe positioning: 4-axis scara robot Max. scan area: 3000 cm <sup>2</sup> Largest square scan size: 35cm X 35cm Phi control: 360° Positioning accuracy: 15um Scan table foot print: 150cm X 93cm		
						
Model	300 EMI	300 ESD	300 EMC	600 EMI	600 ESD	600 EMC
TLP	NA	6KV max. dual supply	6KV max. dual supply	NA	6KV max. dual supply	6KV max. dual supply
ESD analysis software	NA	included	included	NA	included	included
EMI analysis software	included	NA	included	included	NA	included