STI3000 Wafer Probe Test System
The STI wafer probe test system has been developed for high precision digital and analog measurements of MEMS transducers and ASICs. This system combines several functional equipment blocks from the STI suite of MEMS sensor products and test equipment. This system can be used for element and ASIC wafer-level characterization, qualification and production testing. The standard wafer probe test system consists of an industry standard or custom prober that interfaces with Solidus VXI-based hardware modules, custom probe cards and Solidus test software. Solidus Technologies can provide a complete turn-key wafer probe test system or can provide portions of the system, depending on the customers needs.

The STI wafer probe test system provides the necessary digital and analog resources necessary to test most MEMS transducers and ASICs. The digital resources include eight digital inputs and eight digital outputs. In addition, eight streaming inputs are provided to acquire analog inputs and digital inputs simultaneously. The analog resources include four DAC channels, four ADC channels and four device power supplies (DPS). The test system is compatible with low power (2.5V, 3.3V) and standard (5.0V) devices and can accept an external clock through the front panel providing testing of multiple devices of different device types simultaneously.

STI3000 System:
Prober Platform
Independent

System Configuration
- Prober (Ambient, Hot, Cold) User Defined
- STI Probe Card STI 3000A (ASIC)
- STI Probe Card STI 3000E (Element)
- PC and Communication Interface
- STI 2000 Wafer Mapping Software
- STI 9000 Test Software
- VXI Chassis
- VXI Slot 0 Control Module
- STI 9000 VXI Test Modules (2)
- STI 3000SCB Signal Conditioner Box
- VXI Main PC User Defined

Engineering Services
- Test Program Generation
- Device ASIC Validation
- Device Element Validation
- Full Service Product & S/W Training
- Extended Manufacturing Services

For more information, contact your Solidus Technologies, Inc. Representative

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STI Wafer Test System Applications Sheet

Test System Resources

- 8 Digital Outputs
- 4 Digital I/O
- 8 Streaming Inputs
  - Streaming Data at the Specified Clock Rate
  - Simultaneous Digital and Analog acquisition
  - RAM Storage
- 4 Device Power Supplies (DPS)
- 16 Static Bits
- 4 DAC Channels
- 4 ADC Channels

Test System Parameters

- 14-bit accuracy analog and digital resources
- Compatible with 2.5V device technology
- CMRR > 40dB @ 1MHz
- Cut-off frequency: 100KHz
- Sensitivity: ± 20 atto(10^-18) farads
- Determine Resonant Frequency
- Determine Spring Constant
- ASIC and Transducer test capability
- STI familiar software tools

Prober System Functional Block Diagram

VXI Chassis ATE

Main CPU

STI3000A ASIC Probe Card

STI3000E Element Probe Card

Prober System Output

- Wafer Maps
- Performance Data
- Characterization Data
- Equipment Utilization
- Screening
- Sorting

Single or Multi-site Probe Cards Available

Equipment List

1- Prober (Room, Hot, Cold) User Defined
2- VXI Main CPU User Defined
3- VXI Chassis
4- VXI Slot 0 Controller
5- STI 9000 VXI Module
6- STI 9000 VXI Module
7- STI 3000A ASIC Probe Card
8- STI 3000E Element Probe Card
9- STI 3000SCB Signal Conditioning Box
10- Cables
11- STI 9000 Software Core
12- STI 2000 Wafer Mapping Software
13- STI 1000 Equipment Monitoring System

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