Automotive Test Equipment Sales & Support

Innovation Through Experience

High performance SoC ATE for low budget entry

2012-10-10

Frank Grossmann
Sales & Support Manager
Corporate Information update
Corporate Information

- Sales & Sales Support
- Market Research
- Market Acquisition
- Product Marketing
- Project Management
- Key Account Management
Business Objectives

- Introduce new, unique products of innovative companies
- Merge know how from Semiconductor Test, Electronic Modul Test and Board Test
- Resource sharing business network concept R&D, Production, Assembly, Support
- Project 'Total Solution Provider'
- Supported for foreign investments in Germany by http://www.gtaai.com/
Products Information update
SoC Semiconductor Testsystem

HIGH PERFORMANCE for low entry cost

- 800 Mb/s digital I/O channels
- PPMU and dynamic load
- 24Bit/ 200Ks high precision multi digitizers & awg’s
- 16Bit/ 200Ms high speed multi digitizers & awg’s
- Multi site power supply modules
- Memory realtime hardware map & analysis module
- Scalable, modular, FPGA based, compact test system
- Engineering & production test station

1. History of MuTest ATE
2. MT platform modules features overview & software
3. Application support & service network
1. History of MuTest

- Engineering team historically from Schlumberger (sentry15, ITS9k, Sapphire…)

- Following IPO of test division, acquisition, shutdown of French plant by Credence in 2008

- Company founded in 2009, close to St Etienne – France, benefiting from leading IP & know-how in FPGA based hardware & software semiconductor test

- New test platform launched end of 2011
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2. MT platform modules features overview

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<th>Electro-mechanical structures</th>
<th>Test instruments</th>
<th>Software</th>
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<td>MT5S</td>
<td>MTD864</td>
<td>MuTool</td>
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<td>MT19S</td>
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2.1 MT hardware features overview – currently available cabinets

MT19S:
- High Pin Count
- High parallelism

MT5S:
- Engineering Station
- Desktop Validation system
- 1 to 5 Instruments

100% compatibility
2.2 MT platform modules features overview – MTD864

- 64 channels @ 800Mb/s medium to high end digital data rate
  - True differential I/Os improving accuracy
- 32 Mvector / channel (optional: 256 Mvector / channel)
  - Deep memories (pattern, scan and capture) at entry level cost of test
- Capture memory with 12.5 Gb/s bandwidth
  - 8 Gb extended capture memory enables improved
  - Real time array (memories, sensors…) analysis with capture instrument
- 1.1 Gb/s dual pin electronics supporting any single or differential ended standard
- PMU per Pin & Dynamic load
- I/O Switching on the fly
- Source synchronous
- FPGA based controllers and on board reconfigurable memories allow unique client customization
- Roadmap for D 4128 400Mb/s -128 channels and
  D 1632 1.6 Gb/s - 32 Channels
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2.3 MT platform modules features overview – MTMiXW

- Mixed signal instrument
- 4 digitizers high accuracy or high frequency
  - 24 bits / 200Ksps or 16 bits / 200 Msps
- 4 AWG high accuracy or high frequency
  - 24 bits / 200Ksps or 16 bits / 200 Msps
- 32 Msamples memory depth per channel,
  - optional: 512 Msamples per channel
- Single ended or differential
- 8 independent time domains
- Programmable filters and ranges
- Trigger independent system or external
- FPGA based controllers and on board reconfigurable memories allow unique client customization
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2.4 MT platform modules features overview – DPS10

- 10 device power supply
  - 2 channels with 5 A
  - 8 channels with 800 mA
- Floating
- Programmable clamp
- Gang capability
- Current measurement
  - \( I_{ddQ} \) measurement
- Remote sense
- Power up/down sequencing
- FPGA based controllers and on board reconfigurable memories allow unique client customization
- Roadmap for DPS100, 20 x 1 A, 4 x 12 A and 1 x 50 A
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2.5 MT platform modules features overview – MTCBitmap

- Capture instrument for high speed postprocessing
- 800 Mbps capture speed
- 4 Gbits Memory map
  - Option 8 GBits
- 64 bit databus
- APG full address support
- Logical to physical scrambling memory
- Real time operation
- Digital instruments full compatibility
- Cbitmap software tools
  - Memory display, fast zoom and fail cell location
- FPGA based controllers and on board reconfigurable memories allow unique client customization
2.6 MT software concept overview - Mutools

- Standards will speed up your test development
  - ATE industry standards: STIL, STDF
  - Import data from existing STIL files: signals, timing, levels
- Macro & template software function library (re-use of test)
- Graphical development & debug tools (‘wizzard’, autofill…)
- Open software for template and source programming
- Import / Export any test parameters from/to CSV file
- Universal communication interface to fab or lab
  - Dedicated operator interface
  - Prober, handler, control & datalog
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2.7 MT hardware features overview – IP + architecture = low entry cost

32 ASICs replaced by 1 FPGA
Dramatic optimization of memory resources

**Traditional ATE architecture**

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<th>ASIC</th>
<th>Memory</th>
<th>Tester Channel</th>
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**MuTest IP and revolutionary architecture**

- System cost divided by at least 2,
- Power consumption divided by 4,
- System density increased by 2 to 4
- After 150 men year cumulated work since 2001 for development & qualification
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3. MT – Application, support and service network

- Highly experienced team committed to your support & to provide you total solutions

- Manipulators

- Docking solution

- Auxiliaries (loadboards) design & manufacturing

- Application & test programs development

- Maintenance

© 2012-04 ATEip
1. Temperature Range - 55°C … 250°C
2. Alternative to big, expensive Thermostream Equipment
3. Power consumption 600 W only (Thermostream 15 kW)
4. Extrem cost / performance ratio
Thank You!

Please, visit us for further details, demo & MT 'hands on' at booth 2050, Hall 2
WINE & CHEESE PARTY

South Europe booth 2070
Silicon Saxony booth 2050
Hall 2
Wednesday, October 10th 2012, 5 pm

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