Theo Hatzis, MSc

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Summary

Engineer 30y++ experience in hardware development with OrCAD, Protel (now Altium), Mentor Schematic capture etc., for micros applications and interfaces, and sensors. Recent projects include Validation and Design Verification on 3G and LTE Modems, PMU, PA, RF Transceivers and work on post silicon manual and automated testing on PMU, PMIC, DCDC, CPumps, Buck/Boost converters etc.

Speciality work in semiconductors labs includes automation of highly repetitive measurements, temperature and characterisation, issues assessment and competitive analysis. Development of high-speed Forcing's circuits e.g. programmable trapezoid pulse and triangular loads in DCDC and LDO transient validation studies. Wide DCDC measurement measurements coverage, includes register I2C and Test-mode access via C-microcontroller and VISA. Experience of bench automation with Teststand and Adapters; Python, PyVISA, Python libraries includes Pandas, Numpy, Jinja2 and YAML. Use of Test API/SDK and Frame-works; and MSOffice automation via C#/.NET and Python. Other recent work includes development of high-current battery test-loads and other forcing circuits.

I'm available directly with the client or with contracting partner freelance activities only. My vat registration number is USt-IdNr: DE259921718. Language Spoken: English

Project Interests:

- Validation/Verification
  - *Component verification, Validation - DCDC, MOSFET, Battery Switches, Radar, Automotive and other Sensors*
  - *Power Semiconductor Characterization, Verification, Validation and Temperature profiling*
  - *Bench automation with Python, C# and Teststand*
  - *Battery performance testing. Power Consumptions*
  - *RF and PSU related measurements*
  - *Competitive analysis and issues related work*
- Hardware Design and Development
  - *8/16/32-bit microprocessor based applications and products*
  - *Component technology selection, PCB floorpanning, Design reviews, PCB layout reviews*
  - *Interface design, Analog/digital data converters, Operational amplifier circuits. High speed circuits*
  - *Analogue design simulation with Spice*
  - *Battery power circuits, Switching, Power distribution and OR-ing circuits. Charging circuits*
  - *Transportation communications signalling infrastructure equipment, Communications controllers. Line interfaces.*
  - *Design to requirements, safety, environmental performance and Testing*

Experience Areas:

- Hardware development
  - *8/16/32 bit micros application boards, releated digital design, Analogue (ADC, DAC, S/H, OP-AMP)*
  - *Electronics Schematics design with OrCAD, Protel (or Altium), Mentor Graphics Expedition*
  - *Battery Chargers, Board power distribution*
  - *Microprocessor boards and specialised interfaces in Medical products, data communications and Scientific Instruments*
  - *RS485, V26, V29 and PCM Data Tributaries signalling circuits, Lightning protection, RS485 galvanic/opto islations*
  - *Industrial ruggidized computer tablets development, and approval for CE, EMI, SAR and Network performance*
  - *Design to requirements, Documentation, Test house liasion for CE, EMC and Acceptance*
  - *Medical and IT equipment approvals, saftey, UL, TUV, VDE, EMC, CE and Environmental performance*
- Sensors
  - *Radar Sensors, Magnetometers, Inductive loops, Gas sensors*
- Software and Tools
  - *Python (10y), C# (10y), Teststand, LabVIEW and MATLAB/SCILAB (2y)*
  - *Some lightweight software development and test e.g. with Docker, Jenkins, Cmake build tools and Pytest/Allure*
  - *Some C (microchip PIC), Arduino DUE with Visual Studio and with the Visual Micro addin.*
  - *VHDL design on mainly low-end logic circuits, such as PLD, EPLD and CPLD and small FPGA*
- Semiconductors
  - *PMIC Chipsets and DCDC validation*
  - *3G and LTE Modem platforms verification. RF and PA with PSU measurements*