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, CP, Buck/Boost converters etc.

Speciality work in semiconductors includes automation of highly repetitive measurements, temperature and characterisation, issues assessment and competitive analysis. Development of high-speed Forcings 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 Frameworks; 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 on a B2B basis or via a contracting partner -- freelance activities only. My vat registration number is USt-IdNr: DE259921718. Language Spoken: English

Experience Areas:

- Hardware development
  - *8/16/32 bit micros application boards*
  - *Electronics Schematics design with OrCAD, Protel (or Altium), Mentor Graphics Expedition*
  - *PLD Logic, Analogue and Digital design*
  - *Microprocessor boards and interfaces in Medical products, data communications and Scientific Instruments*
  - *RS485, V26, V29 and PCM Data Tributaries signalling circuits, Lightning protection, RS485 galvanic/opto islation etc*
  - *Industrial ruggidized computer tablets and CE, SAR, Network approvals*
  - *Battery Chargers*
  - *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*
- RF
  - *Antenna matching, tuning, Spurs*
  - *Some RF based measurements, Antenna matching and performance*
- Sensors
  - *Radar Sensors, Magnetometers, Inductive loops, Gas sensors*
- Software
  - *Python (10y), C# (10y), Teststand, LabVIEW and MATLAB/SCILAB (2y)*
  - *Some lightweight software development, e.g. Jenkins,*
  - *Some C (microchip PIC), Arduino DUE with Visual Studio and Visual Micro addin. Some VHDL mainly for PLD ccts*
- Semiconductors
  - *PMIC Chipsets and DCDC validation*
  - *3G and LTE Modem platforms verification*

Project Interests:

- Validation/Verification
  - *Component verification - DCDC, MOSFET, Battery Switches, Radar. Automotive and other Sensors*
  - *Power Semiconductor Characterization, Verification, Validation*
  - *Bench automation with Python, C# and Teststand*
  - *Battery performance testing. Power Consumptions*
  - *RF and PSU related measurements*
- Hardware Design and Development
  - *8/16/32-bit microprocessor based applications and products*
  - *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*

- *Transporation communications signaling infrastructure equipments, Communications controllers, Transponders Galvanic/opto RS485 circuits, V26, V29 modem data interfaces on 5km copper circuits*