**Theo Hatzis, MSc**

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USt-IdNr: DE259921718 ▫Language: English▫available start February 2023

Engineer looking for new projects in hardware design and testing or post-silicon semiconductor verification testing and validation and has experience with mobile platform design verification, post-silicon component verification, silicon validation, and schematic design capture work.

* + Engineering experience includes electronics design and development on medical devices and diagnostic equipment, scientific instruments, informatics on highways, and wireless handheld terminals. Hardware verification on 3G/4G modems; Validation and Verification on DCDC converters and PMICs; and IBJT and SiC gate drivers
  + My interests include test-related work on sensor-based systems, sensor conditioning and interfaces, component verification of power devices (DCDC/PMICs, MOSFETs, IBJTs, SiC, GaN, and gate drivers), ADC and RF blocks, and Power and Battery. Spice simulation. Automated testing with MATLAB, Python, TestStand, and LabVIEW. Analysis of test data and visualization with libraries, including Pandas, Numpy, Matplotlib, Plotly, and Spotfire
  + Industry sectors where I have worked during my career include semiconductor testing, electronics design for 3G/4G hardware, medical devices and medical diagnostics, industrial materials analysis (oils, fats, chocolate, and cements), traffic data and highway informatics subsystems, and electronics hardware design engineering with OrCAD, Mentor Graphics, and Protel CAD schematic capture tools.
  + I was a member of a consortium formed by a friend's project company to compete for EU Horizon project funding, writing technical proposals in lithium-battery formation process improvements (energy use, safety, and green) through simulation, cell testing, and HiL (digital twin) for BEV and energy storage applications. Other work proposals include helping with the review of GaN and SiC drivers and DCDC conversion technology in storage and traction power applications.

**Experience Areas**

**Semiconductors**

* + Component verification of IBJT and SiC high-voltage gate drivers
  + Validation of DCDC, Buck-Boost, Charge Pumps, PMIC Chipsets, and Modems PMU
  + Correlations between Simulation and ATE and Bench
  + Datasheets and PRQ Verification
  + Automation of test cases with MATLAB, Python/PyVISA/Pandas, Teststand, LabVIEW, C#/VISA, Test-Frameworks, and APIs
  + FMEDA
  + ADC measurements
  + Issues and investigations
  + Competitive analysis and side-by-side work

**Hardware Design and Verification**

* + Architecture and Concept design and design captures
  + Component technology selection
  + Design of 8/16/32 embedded microprocessor applications, analogue, digital, ADCs, DACs and interfaces
  + JTAG, Lauterbach Power Trace32, I2C Analyser, Logic Analyser, Clocks Jitter, SIM test, USB test
  + Multiphase, master-slave DCDC FPGA core supply design for Stratix III FPGA and Power routing
  + Schematic design capture with Mentor Graphics (Expedition), Protel SE (or Altium) and OrCAD
  + Simulation with LTSPICE and Simetrix

**Equipment, Tools and Software**

* + Python libraries, Pandas, Numpy, Plotly, MATPLOTLIB, YAML, PyVISA, Ninja2 and CV2
  + Visual Studio, VSC, PyCharm, Teststand, LabVIEW, GIT, Matlab, C# and Teststand
  + Mentor Graphics (Expedition), Protel SE (or Altium) and OrCAD
  + Bench (with VISA mainly) includes Keithley 2400, 2450 2460, 2000/2001, Agilent B2912, 335600, 34465A, N6705A, 90408A, 91600X, Tektronix 3022, Lecroy HDO8108A, Tektronix 4000/5000, Rohde Schwarz FSW8 and CMW500; Lauterbach Power-Trace and the JTAG debugger
  + Spotfire for Windows
  + JAMA, Jira with Kanban
  + MSOffice automation (C#/.NET), WinForms, PyQT
  + LTSPICE and Simetrix SPICE

**Training**

Courses in RF Circuit and System Design, TestStand, LabVIEW, EMI, ESD, Spectrum Analyzer, Allegro/Cadence, and TIBCO Spotfire. School MSc (distinction), BSc(Hons) and HNC(BTEC). Roads Signing and Guarding and Highways Safety courses

**Projects**

*Contractor customer mixed-signal*, Dialog Semiconductor GmbH, August 2022 – January 2023 [Hays]

* + Static measurements on boost DCDC converters with PXI and Python test setups and test reports

*Component Verification Engineer*, Infineon Technologies AG, PS ATV, Oct 2021 – June 2022 [Hays]

* + Component verification on high-voltage IBJT/SiC gate drivers; Test reports, verification reviews

*Test and Verification Engineer for Radar Applications*, Infineon Technologies AG, Oct 2020 – Mar 2021 [Hays]

* + Software development, 60GHz Radar Sensors SDK and GUI tests

*Validation Expert*, Texas Instruments GmbH, July 2018 – June 2020 [Hays]

* + Device characterization and Bench validation of DCDC converters

*Application Engineer*, Dialog Semiconductor GmbH, October 2017 – April 2018 [Hays]

* + Mixed-signal PMIC Chipset DCDC Buck evaluation and documentation

*Validation Engineer*, TI Deutschland GmbH, August 2014 – September 2017 [Hays]

* + Device Characterization and Bench validation of DCDC Buck, Buck-boost and Charge pump devices

*Senior Baseband Designer (Digital)*, Intel Mobile Communications GmbH, February 2011 – January 2014 [ERL]

* + Intel XMM series XGOLD 2-4G modem reference designs verification

*Senior Baseband Designer (Digital)*, Infineon Comneon GmbH, August 2010 – February 2011 [ERL]

* + Infineon XMM series XGOLD 2-4G modem reference designs verification

*Hardware Consultant*, ST Ericsson AT (Ericsson GmbH), Jan 2006 – Dec 2009 [Harvey Nash]

* + Concept design and implementation of power and distribution on early access FPGA-based boards intended for 3G+ and 4G protocol stack development, and power design for an LTE demonstration phone

*Baseband Engineer*, Texas Instruments A/S, Oct 2004 – Dec 2005 [WAC]

* + 3G Mobile platforms designs verification. Validation test documentation.