JULIE H. MCLEAN, PHD

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SUMMARY

Hands-on mechanical design engineer with 10 years experience in designing, implementing, and problem solving in the telecom arena. Demonstrated ability to combine mechanical and material expertise with manufacturing quality process solutions to meet design, schedule and cost objectives. Highly organized, results-oriented individual, who excels in team building and communications. Expertise includes: thermal design and analysis, electronics packaging, manufacturing material and process selection, and supplier management.

EXPERIENCE

ALCATEL-LUCENT, Westford, MA **2000 – 2009**

Mechanical Engineer

Responsible for designing, documenting, and prototype testing with Pro/E:

- Engaged in new product development from conceptual design through environmental testing. Worked with cross-function team to identify system requirements.
- Applied knowledge of material behaviors (metals and plastics) from graduate studies to product design and development to ensure product manufacturability.
- Worked with suppliers to ensure most cost effective manufacturing methods were applied based on product volume (machining vs. extrusion vs. die casting). Modified product design based on manufacturing methods.
- Designed Sheet metal and plastic parts used as mounting brackets for shelves, heat spreader, faceplates.
- Created necessary drawings and documentations for design transfer to CM and supported product engineers to troubleshoot any manufacturing issues.
- Managed vendors to meet cost and delivery schedule during new product introduction stage.
- Generated ECOs for change control.

Responsible for thermal design and packaging of optical system enclosures and circuit card assemblies:

- Developed and conducted thermal analysis (FEA and experimental mock-up models) for system and sub-system design to find optimum solutions.
- Architected and implemented unconventional circuit card packaging along with high performance fan tray design to increase system cooling capacity by 20%. Negotiated with fan tray vendors to achieve optimum pricing.
- Resolved challenging SFP (Small Form Pluggable) optics thermal issues with creative and inexpensive solution. Temperature was reduced by 5 degrees with added cost of $0.75.
- Designed heat sinks and specified heat sink performance requirements to vendors. Worked with vendors closely to meet cost, and schedule targets and resolved any manufacturing issues.
- Managed thermal verification testing with electrical and functional test engineers to ensure all critical components were within design specifications with margin.

LUCENT TECHNOLOGIES, Japan **1998 – 2000**

Mechanical Engineer

Responsible for thermal design and verification for ONU (Optical Network Unit) outdoor enclosure at Lucent Technologies Japan R&D Center. Tasks including: thermal design and simulation with Flotherm, experimental analysis with inferred camera to identify hot spots and heat sink design verification.

- Modified Pro/E 3D solid models and create documentation for customers (NTT, OKI) and vendors (CMs in Taiwan and US).
- Worked as project manager to coordinate and track project development schedule.
- Planned, coordinated and performed Bellcore GR-63 (NEBS) and UL compliance testing.

EDUCATION

PhD, Mechanical Engineering, Northwestern University, Evanston, IL, USA, 1998
Research Focus: Computer simulation on the formation of manufacturing processes related defects in light metal alloys
Dissertation Title: "Modeling of Microporosity Evolution during Solidification Processes"
Research Objective:

To develop a unified life-cycle engineering (ULCE) environment that integrates NDE and NDE-based reliability and life-cycle cost considerations into the early design process.
Selected Publications:

1. J. Huang, T. Mori and J.G. Conley, "Simulation of Microporosity Formation in Modified and Unmodified A356 Alloy Castings", accepted for publication in Metallurgical and Materials Transactions B, in press
2. J. Huang and J.G. Conley, "Computer Simulation of Pore Size and Shape for Equiaxed Aluminum Alloy Castings," the Transactions of the American Foundry Society, volume 106, 1998

MS, Mechanical Engineering, Overall GPA: 3.87/4.00, Northwestern University, Evanston, IL, USA, 1995
Thesis Title: "Study of Criteria Functions for Porosity Prediction in Aluminum Alloy A356 Castings"

BS, Applied Mechanics / System and Control Engineering, Overall GPA: 3.41/4.00, University of California, San Diego, La Jolla, CA, USA, 1992

COMPUTER SKILLS

Extensive user level with Pro/E, Flotherm and Agile
Experience with Solidworks, C++, FORTRAN, Matlab

ADDITIONAL INFORMATION

Naturalized US citizen
Willing to obtain security clearance
Fluent (native level) in Taiwanese and Mandarin Chinese languages
Conversational level in Japanese language