

Alan Bayko
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Professional Experience

Member in good standing of the Association of Professional Engineers and Geologists of Saskatchewan (APEGS). Professional designation PEng issued in March 2001.

Work Experience

Radical Electronics Inc, Saskatoon, SK, Canada - Owner/Operator
Feb 1993 to Present

Custom electronic hardware and software design. Hardware design includes power, analog (audio), RF, and high speed digital. Software development includes 8 bit and 32 bit microcontrollers. Some of the projects include:

- Wireless FM microphone system
- Control and amplifier boards for audio equipment currently being sold through major retailers.
- Agricultural grain auger controller
- Off line power supplies for specific applications (conduction cooling, outdoor use).
- Tarp controller for grain trucks
- Motorcycle voltage regulator.
- Class D audio amplifiers

Major accomplishments

- Phase shift class D audio amplifier US patent number 6922101 issued on July 26, 2005.
- Published article in the April 1997 of Electronics Now “Build a 200W Digital Amplifier for your Car”. Article was presented at 1997 Consumer electronics show and started the use of class D amplifiers for wide band audio applications.

Vecima Networks Inc, Saskatoon SK – Design Engineer, Compliance Engineer
March 1996 to January 2022

Designs, manufactures, and sells products that enable broadband access to cable, wireless, and telephony networks and provides rapid and cost-effective bridge connections to end-users. Their core expertise is radio frequency (RF) technology and the development of products that incorporate sophisticated software for high

speed digital signal processing, control, and compensation functions for high-level digital modulation.

Compliance engineer duties include:

- Safety certification for products (IEC62368 standard)
- FCC certification for both unintentional radiators and wireless intentional radiators.
- CE product certification (EN55035, EN55032)
- Mobile specifications (cell phones, PACCAR standards)
- Customer driven qualification.
- Design reviews of new design for EMC, safety, functionality, and manufacturability.
- Power supply design and layout.
- Design modifications to meet the above requirements.

Design engineer duties include:

- Project management including
 - Coordinating a team of multiple engineers and software developers to complete projects.
 - External vendor interfacing.
 - Hardware and software interfaces in multi module designs.
- Board layout and design including RF, high speed digital, and power design.
- System level specifications and development.
- Some software code design/writing.
- Design reviews of new design for EMC, safety, functionality, and manufacturability.

Major accomplishments

- Set up new CAD system (Mentor Graphics PADS) for project development including libraries, processes and procedures to integrate the system into the existing manufacturing software.
- Researched and developed the necessary processes and requirements for new designs in order to meet emissions/immunity, signal integrity, and
- Formalized the design flow for change tracking in hardware.
- Helped organize the RoHS compliance changes.

IBM Canada, Don Mills, ON Canada – Industry Internship Student
May 1991 to Aug 1992

Department: Technology Product Assurance
Duties included qualification of power supplies and power sub-assemblies.
Power systems that tests were designed for include the ones used in the PS/1,
PS/2, 2521 Thinkpad, 3490 DASD storage and several other computer systems.
Testing included component stress analysis, assembly characterization, mean time
to failure, step stress to failure and environmental testing. Manufacturing support
was provided for the assemblies.

Other Employment

SaskTel, Regina, SK, Canada
May 1989 to Aug 1990
Assistant Engineer II summer student

University of Saskatchewan, Saskatoon, SK, Canada
Jan 1994 to Jan 1996
Student Marking Assistant

Education

University of Saskatchewan partial masters degree. Completed classes but not
the thesis. Focus was on VLSI design and digital signal processing.

University of Saskatchewan Bachelors degree granted May 1993 (BSc EE).

Campbell Collegiate completed grade 12 with 87% average May 1987.

References

Available on request