

AEP Networks Ltd

Job Specification

JOB TITLE:	Hardware Design Engineer
BUSINESS UNIT:	Engineering

Overview of Role:

AEP Networks is a leading supplier of data, voice, secure communications, network security and cryptographic accelerator products that are used by government, enterprise and carriers.

AEP designs the hardware and software for these products in-house and requires talented hardware engineers to undertake hardware design and development which meets the very highest standard in terms of reliability and performance.

It should be noted that the successful candidate would be required to undergo security clearances by the UK government.

The candidate will be required to work on either of the two sites, Ascot and Hemel Hempstead that AEP has and will not be permanently based in any one.

Main Duties and Responsibilities

Working within small development teams, you will be involved in the full life-cycle of hardware development from the initial requirements capture to post-development support and may be involved in any of the following:

- Producing product/functional specifications.
- Development of innovative and reliable analogue and digital designs, to satisfy the product/functional specifications.
- Developing the hardware solutions to the agreed timescales and carry out hardware testing, minimising the number of PCB iterations by being diligent in the early phases of the design.
- Take full responsibility for your designs but work on more complex designs in conjunction with other hardware engineers.
- Liaison with local and off-shore manufacturers as and when required.
- Producing documentation in line with formal procedures.
- Keeping abreast of technical advances and sharing your knowledge.
- Providing design support for reported problems on existing and new products.

Candidate Specification

ESSENTIAL SKILLS:

- Good understanding of analogue and digital fundamentals and demonstrable product design experience.
- Familiarity with microcontroller and microprocessor designs.
- Memory system design (SRAM, DRAM, SDRAM) and timing.
- Designing with programmable logic and using hardware description languages, particularly has to be fluent in VHDL or Verilog and must be able to take over previous VHDL based designs and enhance or modify as required.
- Design for reliability – taking into account worst case timing, noise, cross-talk, transmission line effects etc.
- Schematic capture (eg using OrCAD or Mentor Graphics tools).

- Experience of PCB layouts, and ensuring that sufficient information and guidance is provided to the PCB layout engineers for the PCB to be fit for purpose without unnecessary iterations.
- Testing and de-bugging of hardware using the right tools such as oscilloscopes and logic analysers.
- Specification and documentation of hardware designs to enable others to understand review and test them.
- Producing documentation to release to Manufacturing (BoMs, GAs, Schematics etc).
- Experience of design for EMC/ESD compliance.
- Strong IT skills, proficient in Word, Excel and PowerPoint or a technical drawing package such as Visio or EasyCAD.
- Effective communicator at all levels – both written and verbal.
- Ability to work in a well planned and structured manner without supervision.
- Ensuring ideally that the design is right first time, but not requiring more than one respin of the PCB or mechanics in any case.

DESIRABLE SKILLS:

- High-speed design knowledge, especially layout for high-speed.
- Knowledge of networking and protocols including ISDN, VoIP, Ethernet, Bridges, Routers, Switches, X.25, Serial Interfaces etc.
- Working to formal quality assurance procedures.
- Knowledge of Freescale processors, PowerPC, Ethernet controllers.
- Simulation experience, such analogue simulation using SPICE and digital simulation using VHDL and IBIS models.

EXPERIENCE:

- You must have at least 5 years experience in hardware development for volume manufacture, on time, to cost and to the required quality.

QUALIFICATIONS:

- Candidates should have a technical background, ideally educated to degree level in Electrical/Electronics Engineering but an Engineering degree with a proven track record demonstrating relevant experience will be considered.

ADDITIONAL SKILLS/ATTRIBUTES:

- Professional and diligent
- Good initiative problem solving skills
- Good team working skills
- Results orientated
- Car driver with full licence
- Willing to undertake local and international travel if required