



BTL India

BTL is one of the major manufacturers of medical equipment globally. BTL's major segments include Rehabilitation & Orthopedics therapy, Cardiovascular systems and Aesthetics medicine.

BTL India focusses on the end-to-end research & development of new medical devices for global market, from idea to serial production at our manufacturing facilities in Europe.

BTL India development center is seeking a highly motivated electronics **hardware Engineer with 5 to 8 years of experience** to join our dynamic team. The successful candidate will play a key role in the design and development of innovative medical devices.

ROLES AND RESPONSIBILITIES

As part of the New Product Development (NPD) team, the candidate should be able to perform the following duties, but they are not limited to the following:

- Requirement detailing
 - Responsible for understanding the system/product requirements
 - Derive the hardware requirement specifications
 - Derive the Hardware interface specifications for software
- Hardware System / Subsystem design
 - Propose innovative hardware ideas and apply technical expertise to solve complex design challenges.
 - Take ownership and lead the conceptual studies by designing, building, testing, and troubleshooting feasibility prototypes at the module or system level.
 - Involve in component selections, draw the circuit designs (schematics entry), perform circuit simulations, BOM management, PCB design and layout reviews
 - Prepare the hardware detailed design documentations for the designs
 - Contribute to the integration of various hardware sub-systems of the product, including cables and connectors, into the mechanical assembly
 - Identify the technical risks in the design, propose / implement mitigation strategies and actively participate in DFMEA processes
- Design Qualification
 - Prepare the hardware test plans and perform necessary hands-on testing at circuit level / module level / product level to evaluate the circuit and system performance.
 - Plan and perform pre-compliance testing for EMI/EMC and safety tests
 - Identify the technical issues and work on their closures
- Collaboration
 - Work closely with project manager and other hardware engineers to deliver the assigned task/project with quality within the timelines.
 - Coordinate with cross functional teams including software and mechanical engineers, purchase team and production teams to ensure cohesive project execution.

ESSENTIAL QUALIFICATION AND EXPERIENCE

QUALIFICATION:

- BE / Btech / ME / Mtech in Electrical/Electronics/Biomedical/Instrumentation Engineering or equivalent
- 5 to 8 Years of experience in embedded hardware development.

TECHNICAL COMPETENCY:

- End-to-end experience in New Product Development – from feasibility prototype to mass production
- Strong expertise in STM32 microcontroller architecture, peripheral configuration, and application integration.
- Proficient in digital communication interfaces: SPI, I2C, RS-485, UART
- Skilled in analog circuit design using op-amps (comparators, filters), interfacing with ADC/DAC.
- Practical knowledge of DC-DC power supply design (buck converters), power sequencing, protection circuits (e.g.: over-voltage, under-voltage, short-circuit) and thermal design.
- Sound understanding of PCB layout techniques for signal integrity, high-speed routing, and EMI reduction techniques
- System-level design
 - Experience in system-level integration and HW-SW integration
 - Skilled in multi-board architecture and signal/power distribution
 - Familiar with mechanical-electrical integration and cable harness design
- Tool competency:
 - Circuit simulation tools, Schematic & Layout tools: Altium or similar
 - Requirement management and traceability tools
- Awareness of DFX principles – DFM/DFA/DFT
- Hands-on with lab equipment: oscilloscopes, DMMs, power supplies, signal generators, LCR meters, electronic loads.

BEHAVIOURAL COMPETENCY:

- Good analytical skills
- Passion for success and being proactive
- Systemic and going in-depth approach
- Be flexible, hands-on and willing to learn new technologies
- Be a good team player, with good collaboration skills.

The 2013 incepted BTL India R&D centre in Bangalore is the second largest R&D centre and an important arm of the 1993 founded established brand, BTL originally from the Czech Republic, a global innovator of Medical and Aesthetic Solutions. BTL India is a complete R&D centre focused on medical product developments in areas of Cardiology, Physiotherapy and Aesthetics. BTL boasts 50 plus unique products in the market with its in-house marketing and direct offices in more than 80 countries across the globe. BTL has five R&D centres and two manufacturing units in Europe while BTL India R&D centre was started 13 years ago to add more products under the BTL product portfolio to support its growing market demands. The philosophy of the company is to create technologically unique products with high added value, top quality and original industrial design.



ADDITIONAL COMPETENCY/EXPERIENCE

- Understanding and working knowledge of medical standards IEC60601-1
- Awareness of EMI/EMC tests and design for its compliance.
- Awareness of embedded programming is a plus.

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