

LED Hardware & Firmware Development Engineer

Megapixel's ecosystem of LED processing and LED tile technology products is the gold standard for visual technology and video processing, serving entertainment/film/TV and top-tier brands. Our technology turns imagination into awe. Our nimble team includes renowned technologists, engineers, and systems experts who create cutting-edge technology that continually pushes the industry forward. Megapixel was founded in 2017 and is headquartered in Valencia, California, with R&D staff located around the world.

About the role

We are seeking an LED Hardware & Firmware Development Engineer to join our growing team. This position will report to the Senior Field Application Engineer, based in Shenzhen, China. Megapixel co-develops LED tiles with third-party tile manufacturers, enabling their products to operate seamlessly with Megapixel's HELIOS® LED processing platform and PX1 tile-side processing cards. In this role, you will serve as a key technical partner to LED tile manufacturers throughout the integration process.

You will review customer schematic drawings and PCB layouts, identify design issues or improvements, and provide clear, actionable guidance to help customers successfully integrate Megapixel technology into their LED tile designs.

This position requires close collaboration with Megapixel's engineering team and regular communication with customer engineering teams. You will work directly with factory staff engineers to guide schematic design and PCB layout, assist with onsite debugging, troubleshooting, and LED calibration, and help translate product requirements into practical design recommendations. You will also resolve hardware and firmware issues and ensure that integrated LED tiles meet Megapixel's performance, reliability, and image-quality standards. Previous experience in the LED display industry is strongly preferred; experience with LED driver tuning and display calibration processes is a strong plus. We're looking for a proactive, client-focused problem solver with strong technical aptitude, clear communication, and reliable follow-through who thrives in a fast-paced team environment.

Key Responsibilities

- Guide clients in the hardware design integration of our tile-side PX1 processing card into their LED tile designs.
- Review client schematics and provide actionable design corrections.
- Review client PCB routing and guide them through corrections, with a focus on high speed Ethernet design and signal integrity.
- Analyze direct-view LED display tile designs, including expected performance simulations for both internal and external client projects.
- Develop and debug C++ tile firmware and add new LED display tiles to the existing code base.
- Develop and debug C++ firmware to add new peripheral hardware support.
- Recommend design approaches to achieve performance requirements without sacrificing image quality, reliability, or product performance.
- Manage multiple client projects in different development stages and help prioritize work across competing deadlines.

- Conduct regular client meetings to track requirements, deliverables, risks, and schedules.
- Perform prototype hardware testing, debugging, and root-cause analysis.
- Perform LED driver visual and performance tuning.
- Create and maintain both internal and external engineering documents.
- Assist clients with onsite debugging, troubleshooting, and LED calibration.

Qualifications

- 4+ years experience in the direct-view LED market.
- 2+ years experience in direct-view LED display product development.
- 2+ years experience in embedded C/C++ and assembly programming.
- 2+ years experience in development and tuning with drivers from at least 2 of the following companies: MBI, ChipOne, XM, SiliconCore.
- 3 years combined experience in hardware development, testing, or verification.
- 2+ years experience in PCB and schematic design.
- Experience in LED calibration is preferred.
- Excellent communication skills (written, oral, and listening), with an ability to summarize and share relevant information in a clear and easy-to-understand way, across all levels. You skillfully communicate complex technical concepts in a clear and concise manner.
- Strong organizational, time, and schedule management skills, with the ability to prioritize and manage multiple tasks simultaneously.
- Must be self-motivated—a strong self-starter, with high standards, attention to detail, and a drive to get great results.
- Able to work independently and complete tasks with minimal supervision.
- A passion for quality and pursuing root-cause analysis.
- Experience writing and reviewing technical documentation.
- BSEE degree or higher or equivalent experience.
- Mandarin proficiency with excellent spoken and written English for communication with our US-based engineering team.
- Ability to lift 22kg.

Travel

- This is a remote (work-from-home role), with travel requirements. Travel could be up to 30% of your time for client visits and includes regular travel to client factories, vendor sites, and partner locations across the Greater China region.

Work location

- Work location in the following country / region
 - Hsinchu, Taiwan or Taipei, Taiwan are preferred locations.
 - We will also consider candidates based in the Shenzhen, China area.

Employment

- This position will be employed through Megapixel's Employer of Record (EOR) in Asia.