



PAM4 Test & Measurement Engineer (m/f)

We are looking for your experience and passion for developing new software products and services for multi-gigabit data communication systems using PAM4 modulation.

While data communication at more than 10 Gbits/s is just starting to become widespread, we at BitifEye are already working on test solutions for upcoming standards generations. Our software products complement the premium, high-speed electrical test instruments, e.g. oscilloscopes and data generators, of our global partner Keysight Technologies. Our combined test solutions allow in-depth product testing and characterization, a decisive step for evaluating and debugging new electronic products fresh from the drawing board. With your work, you can help international technology leaders debug and validate products with incredible new capabilities way before they are available on the market.

At our site in Böblingen, close to Stuttgart, a highly motivated R&D team develops advanced new technologies and enables innovations for leading-edge applications.

The new high-speed digital standards for data centers define 4-level PAM (PAM4) multilevel signaling as a modulation format. The move from the traditional two states non-return-to-zero (NRZ) to the new format is revolutionary, not evolutionary. PAM4 allows to double the data rate while keeping the link bandwidth identical but create designs that are far more susceptible to noise. Characterization of the PHY of such design presents a real challenge.

Conventional signal impairments such as jitter, noise, channel loss, and inter-symbol interference (ISI) behave differently in PAM4 designs. Furthermore, the new method requires new measurements to characterize impairments that were no challenge in previous NRZ designs. In order to implement state of the art test automation software for PAM4, we are searching an additional member of our network and data center team to lay the foundations for the respective test automation software. This will help our customers to create new, exciting products and to enter new markets.

Tasks:

- Operate as a full cycle SW developer: develop, document, test in the lab and support
- Work with Project Managers to define and understand the tasks to be implemented
- Work with SW architects to build the most flexible and efficient software
- Understand the implications of the PAM4 modulation scheme
- Explain the PAM4 specs and challenges to other team members
- Follow the software development quality process at BitifEye
- Collaboration with leaders of the IC and consumer electronics industries
- Occasional customer contact and international business trips

Requirements:

- MS or PhD in Physics, Electrical Engineering, Optical Science or related discipline
- Min. 5 years of professional experience in the semiconductor, telecom, consumer electronics or in related fields
- Experience in high speed Electrical test and measurement methodologies.
- Experience and knowledge in signal integrity and characterization of PHY layer components (CDR, jitter analysis and jitter tolerance)
- Experience with PAM4 encoding and specific challenges
- Experience using high speed test and measurement equipment for high speed PAM4 technologies
- Experience in Forward Error Correction (FEC)
- Familiarity with IEEE or OIF interface standards for PAM4 transceiver applications is a plus
- Fluency in a modern object-oriented programming language (C# preferred)
- Good communication skills
- Fluency in English (spoken and written)
- Passion for technology, complex systems and lab equipment's
- Open minded, result driven and agile personality
- Appreciation of working with global peers and customers, in a diverse, multi-cultural environment

BitifEye is a medium-sized company, well known throughout the industry as almost all leading consumer electronics and semiconductor manufacturers are among our customers. These technology drivers rely on BitifEye products for testing the high-speed data connections of products such as smartphones, tablets, gaming devices, and TV sets. Motivated, highly qualified, and satisfied employees are key to our success. The continuous search for the balance between the interests of our employees and our economic success is a core part of our philosophy. Within our international team, we foster a respectful, open, and casual atmosphere and offer challenging tasks to our team members.

If this appeals to you and you are keen to work with and contribute to state-of-the-art technology, please do not hesitate to send your application to hr@bitifeye.com.