

Customer

A leading supplier of medical devices, was looking for optical component expertise in the development of their next generation product using a high-speed wireless link between docking station and portable device. AimValley delivered a turn key solution for the optical link sub-system and software driver. This allowed the customer to focus on the development of the system applications and medical domain specific functionalities. As a result the customer reduced technical risks and could release their next generation product in a shorter time frame.



Customer Objectives

The customer wanted to achieve bidirectional data transmission at gigabit rate over a free space of a few centimeters, Short Range Optical Transmission Link, to bridge the distance between a dock and a portable device. Existing solutions based on opto-coupler components do not support the high speed data rates. Expert help was requested to develop the NextGen product. Key objective was to work with a reliable design partner that has the knowledge and takes ownership of the optical link sub-system development.

AimValley Solution

After a detailed analysis of available technologies and selection of suitable components, AimValley did evaluation, characterization and qualification at the optical component level. An automated test setup was developed to qualify optics.

AimValley worked with the customer on defining a suitable board level architecture, and various communication protocols, such as Ethernet, PCI and USB, were evaluated against customer's criteria such as supported chip sets, hot-plug capability and compatibility with other system functionalities. AimValley delivered the protocol and device drivers for the medical-grade embedded operating system, handling the unique characteristics and fault modes of the selected optical link devices.

Key Technologies

- > System architects evaluated available optical link technologies.
- > Hardware and optical expertise team delivered a detailed characterization of the optical devices.
- > Delivery of semi-automated test setup and test scripts for optical device evaluation.
- > Software driver for the optical link on medical-grade operating system.
- > Integration and support into customer product.
- > Performing Unit Test.
- > Documentation for architecture, design and test report.

Results and Added Value

 **Efficient**

Eliminated risks on the optical link development and enabled faster time-to-market.

 **Innovation**

Use of high-speed optical link, enabling fast transfer of medical data files to the portable device.

**Partnership**

Our design team worked closely together with the medical device experts of the customer to define interfaces, characterization, protocols and performance criteria.

**Successful**

Because AimValley developed a future proof, high-speed optical link, the customer is able to release their next generation product to market, within their scheduled.