

CRITICAL LINK CUSTOMER STORY: SENSEEKER ENGINEERING INC.

“The customers who come to Senseker are also often looking for other specialist electronics, and that’s where Critical Link fits in. They have a reputation for quality, and a long track record of working with complex applications. We wanted them to be part of our ecosystem,”

-- Ross Bannatyne, Senseker Director of Business Development

When Senseker approached Critical Link about partnering, Critical Link was more than interested. Senseker specializes in infrared image sensing products and services. Their state-of-the-art digital imaging sensors and readout integrated circuits for hybrid infrared image sensing arrays are used in cutting-edge security, military, and machine vision applications – the types of application where Critical Link technology is often embedded.

For Critical Link, working with Senseker would be a partnership with a twist. Critical Link’s traditional partnerships have been formed with technology providers whose hardware and software are integral to the company’s System on Modules (SOMs). With Senseker, Critical Link would be providing a key component of the Evaluation Kits for their Oxygen® RD0092, an off-the-shelf digital readout IC (DROIC) and Magnesium® MIL RP0092 digital pixel readout IC (DPROIC).

Critical Link provides key technology

Senseker’s Oxygen® RD0092 is the world’s first 8 µm pitch dual-band DROIC, providing infrared image system developers access to state-of-the-art technology without incurring the cost and risk associated with ground-up, custom designs. Used in defense and security applications such as infrared search and track and situation awareness, the Oxygen RD0092 is available to developers off-the-shelf in wafer form and is supported with an Evaluation Kit that expedites the infrared image sensing development cycle.



The Evaluation Kit includes an image acquisition support board from Critical Link, an engineering firm that develops embedded solutions for a wide range of electronic applications. The Critical Link support board captures high-speed digital data acquired from the Senseker readout IC, converts it for use, and transmits it for display to a host PC containing a commercial frame grabber card. The image acquisition support board that makes up part of the Evaluation Kit is based on Critical Link’s MitySOM-5CSx, a highly-configurable small form-factor System on Module (SOM). The MitySOM-5CSx is designed for high-throughput

Senseker
Engineering

[Senseker Engineering Inc.](#) is a U.S. owned transducer SoC semiconductor company. Specializing in state-of-the-art mixed-signal design, Senseker’s products and IP enable customers to produce industry leading infrared image sensing and transduction solutions .

Senseker’s world-class engineering team has delivered over 30 custom SoC designs for NASA, US Army, US Navy, Missile Defense Agency and almost every leading Focal Plane Array developer in the United States.

applications requiring single or dual hard-core Cortex-A9 applications processors tightly integrated with FPGA fabric. The MitySOM-5CSx combines the Altera Cyclone V System on Chip (SoC), memory subsystems and onboard power supplies, including two Camera Link ports. The MitySOM-5CSx provides a complete and flexible CPU and FPGA infrastructure for highly-integrated embedded systems.



The image acquisition support board is designed to be supplied by an external 5V supply, and provides adjustable detector bias voltages. It also includes connections for an optional external clock input, as well as numerous digital and analog test points. The board supports both room temperature (uncooled) and cryogenic (cooled) evaluation.

For Senseker, a partnership that makes sense

Ross Bannatyne is Senseker's Director of Business Development. "The customers who come to Senseker are also often looking for other specialist electronics, and that's where Critical Link fits in. They have a reputation for quality, and a long track record of working with complex applications. We wanted them to be part of our ecosystem," Bannatyne says. Senseker is currently transitioning from a pure custom-design producer to a company that offers both custom design and custom-off-the-shelf products. "When we first began talking with Critical Link, we found that, many years ago, they'd also made this type of transition, so it's an especially good match. Critical Link just gets us."

A shared set of core values

"We're excited to be partnering with Senseker," says Tom Catalino, co-Founder and Vice President of Critical Link. "Early on in our discussions, we realized that we not only shared a passion for electronics, but that our core values are in sync. We're both committed to excellence, and to making it possible for our clients to accelerate product development without having to sacrifice on quality, cost, or the ability to easily make the customizations that that make their products unique."

About Critical Link

Syracuse, NY-based Critical Link (www.criticallink.com) is an embedded systems engineering firm, offering a broad range of customizable SOMs and cameras for industrial performance applications. Critical Link's end-to-end product engineering offerings include design, development, and production services. The company's expertise in image sensor integration, system-on-chip (SoC) and field-programmable gate array (FPGA) designs, vision protocols, and signal processing has made it a leader in board-level solutions and custom designs for OEMs and embedded developers around the world.

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