

Bi-i™ V401X-FP5500 Fusion-Analytics Module



Embedded Multi-channel Video Fusion and Analytics on Reference Design

The Bi-i™ V401X - FP5500 Fusion-Analytics Module Reference Design combines two breakthrough technologies into the most advanced embedded image processing solution for video analytics available on the market. With truly outstanding measures in size, weight and power (SWaP), the Bi-i™ V401X - FP5500 FA module takes embedded multi-channel video content analysis to a new level, bringing customers numerous benefits over current solutions.

The FP5500^[1] Video Sensor Fusion Engine is capable of fusing two high-definition video channels - usually one visible and one thermal - to create a single, reliable video stream under a wide range of illumination and environmental conditions. This video stream is enhanced for display, and is well suited to video analytics, which is performed by Eutecus' Multi-core Video Analytics Engine (MVE™) embedded in the Bi-i™ V401X Video Analytics subsystem.

MVE™ implements high-performance, fully configurable, video analytics on a single low-cost Xilinx® FPGA using Eutecus' Cellular Multi-core Video Analytics (C-MVA™) processor for radically enhanced performance gains over DSP based solutions.

The Bi-i™ V401X - FP5500 Fusion-Analytics Module also includes, as reference design, a component board for Input/Output. All three elements are small form-factor PCBs with extremely low resource requirements.

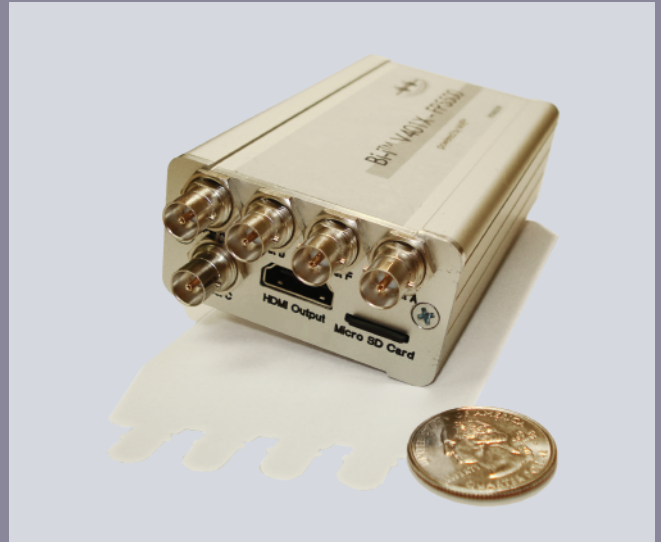
Using the Bi-i™ V401X - FP5500 FA module, customers can quickly set up video event detection functions such as people counting, recognizing vehicles moving in the wrong direction, detection of abandoned/stolen objects, perimeter or forbidden zone protection, identification of loitering, and so on. The system can also be deployed in defense and homeland security applications like missile detection, tracking and discrimination, aerial surveillance and reconnaissance as well as 24-hour outdoor security monitoring. Development and integration effort of complete solutions are greatly reduced by using ready-made hardware and firmware components of the reference design, significantly shortening time-to-market.

The Bi-i™ V401X - FP5500 Fusion-Analytics Module Reference Design is available in the Eutecus Fusion-Tracking System (FTS) Evaluation Kit 2.0. The FTS Evaluation Kit allows the rapid design and evaluation of video analytics functions running on the Bi-i™ V401X - FP5500 FA module.

^[1] Product of Imagize LLC

Please contact Eutecus, Inc. about ordering the Bi-i™ V401X-FP5500 FA module for evaluation.

NEW:



Key Bi-i™ V401X - FP5500 FA Module Features:

- Fused dual video stream increases performance and reliability over single-sensor solutions
- Outstanding image quality in a wide range of visual conditions (day and night, inclement weather, object occlusion, etc.)
- Stand-alone configurable multi-channel Video Analytics Engine on a single PCB
- Stand-alone configurable multi-channel Video Fusion Engine on a single PCB
- Fully configurable video analytics (VA) functions for specific application areas (missile defense, aerial surveillance, reconnaissance and 24-hour outdoor security monitoring)
- High number of events detected fully in parallel
- Available as reference design and in fully-functional FTS Evaluation Kit 2.0

*Bi-i V401X Datasheet: www.eutecus.com/bi-i_v401x_vam
FP5500 Datasheet: www.imagizellc.com*

On the reverse side:

Bi-i™ V401X - FP5500 FA Module
Technical Specification

Example application areas of the
Fusion-Tracking System

Bi-i™ V401X - FP5500 FA Module Technical Specification

Video Analytics Subsystem:

- Video Analytics Engine:
MVE™ SoC v1.1 (Core v1.3)
(in Xilinx Spartan XC3SD3400A FPGA)
- 8/16 MB Flash Memory
- 256 MB DDR2 Memory
- 2 GB microSD card for FPGA content

Video Fusion Subsystem:

- FP5500 [1] Video Sensor Fusion Engine
- 2 MB Flash Memory
- 32 MB Mobile DDR2 Memory

Video I/O Subsystem:

- Input A, B, C:
NTSC/PAL Video (Analog) Input (VGA)
- Output A (Analytics), F (Fusion):
NTSC/PAL Video (Analog) Output (VGA)
- HDMI Video (Digital) Output (VGA, HD 720p)

Communication and Control:

- High-speed Serial/Parallel Digital I/O
- RS232 Control I/O
- 10/100/1000 MB Ethernet

Size, Weight & Power (SWaP):

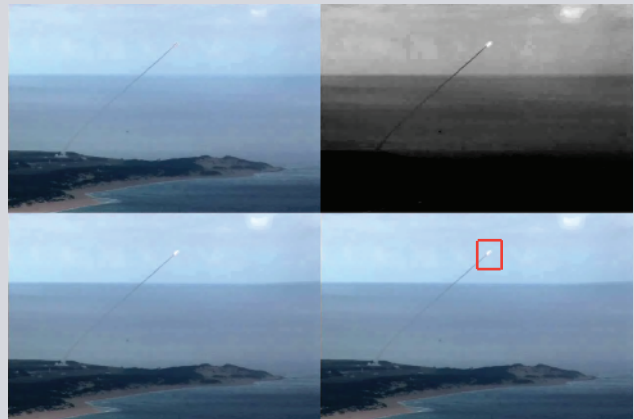
- Size of housing:
98x59x31mm (3.85x2.32x1.22in),
size of the Bi-i™ V401X - FP5500
three-board FA platform:
77x36x25mm (3.03x1.42x0.98in)
- Weight of module: ~200g,
weight of the Bi-i™ V401X - FP5500
three-board FA platform: ~25g
- Power consumption: 5 - 7.5W (for
SD/HD video formats)

[1] Product of Imagize LLC

Contact Eutecus, Inc.
for more information and ordering.

Example application areas of the Fusion-Tracking System

Missile Detection, Tracking and Discrimination



Aerial Surveillance and Reconnaissance



24-hour Outdoor Security Monitoring



Eutecus develops and delivers firmware and software capabilities in the area of improved high-speed image flow analytics for commercial and military applications. The core IP of Eutecus is based on its proprietary Cellular Visual Technology (CVT™) enabling real time, bio-inspired and massively parallel visual computing. Mimicking the operation of the human eye, CVT™ yields significant improvements beyond the current state of the art in applications primarily in the areas of Security, Surveillance and Reconnaissance.

Eutecus, Inc.
1936 University Avenue, Suite 360
Berkeley, CA 94704

Email: info@eutecus.com
Tel: +1 (510) 540-9603
Fax: +1 (510) 649-7808