FUSION-1280-2560

High-Resolution Single-Chip Dual-Band Module

Overview

The highest-resolution single-chip dual-band module in the FUSION family, combining up to 1280×1024 LWIR with up to 2560×1440 visible imaging on a single 35×35 mm board. Two detector configurations let system designers prioritize either infrared or visible resolution, with CML or MIPI video interface selection for seamless integration into SoC and FPGA platforms.



1280×1024	2560×1440	CML / MIPI	35×35 mm
THERMAL	VISIBLE	INTERFACE	FOOTPRINT

At a Glance

35×35 mm	DC 5 V	CML / MIPI	4 options
FOOTPRINT	POWER	INTERFACE	LENS TYPES

Thermal Channel

Detector & Performance

Array format	Up to 1280×1024 (IR priority config)
Pixel pitch	12 µm
Spectral band	LWIR 8–14 µm
Configuration option 1	IR 1080×1024 + VIS 2560×1920 (visible priority)
Configuration option 2	IR 1280×1024 + VIS 2560×1440 (IR priority)

Lens & Optics

Compatible lenses	Fixed-focus athermalized, continuous zoom, motorized focus, dual FOV

Visible Channel

Sensor & Performance

Array format	Up to 2560×1920 (visible priority config)
Pixel pitch	2.5 µm
Spectral band	Visible 0.4–0.9 µm
Output interface	CML or MIPI (selectable)

Video Interface

CML interface	Parallel video for FPGA / SoC integration
MIPI interface	MIPI CSI-2 for application processor platforms

Dual-Spectrum Fusion

Single-chip integration

- Both LWIR and visible detectors share a single 35×35 mm board stack, eliminating the mechanical alignment and synchronization challenges of discrete dual-sensor designs.
- Factory-calibrated pixel-level registration between thermal and visible channels simplifies downstream fusion algorithms and reduces integration effort.

Dual-config architecture

- Choose between two SKUs: Visible Priority (IR 1080×1024 + VIS 2560×1920) for high-detail daytime payloads, or IR Priority (IR 1280×1024 + VIS 2560×1440) for long-range thermal detection.
- Both variants share the same mechanical footprint and pinout, allowing platform reuse across mission profiles.

Electrical & Mechanical

Electrical

Power supply	DC 5 V
Communication	RS422 control interface
Video interface	CML / MIPI (selectable per config)

Mechanical

Footprint	35×35 mm
Lens options	Fixed athermalized / continuous zoom / motorized focus / dual FOV

Specifications subject to change without notice. Lens options and performance metrics depend on the selected configuration and optics.

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