

IRENE-G120

IR Cameras Cores Engines

Useful cores engines for your LWIR / MWIR and SWIR Camera, support up to 1280x1024 @60Hz full frame rate detectors. It can be also configurable to support a standard 640x512 detector, up to 240Hz full frame rate.

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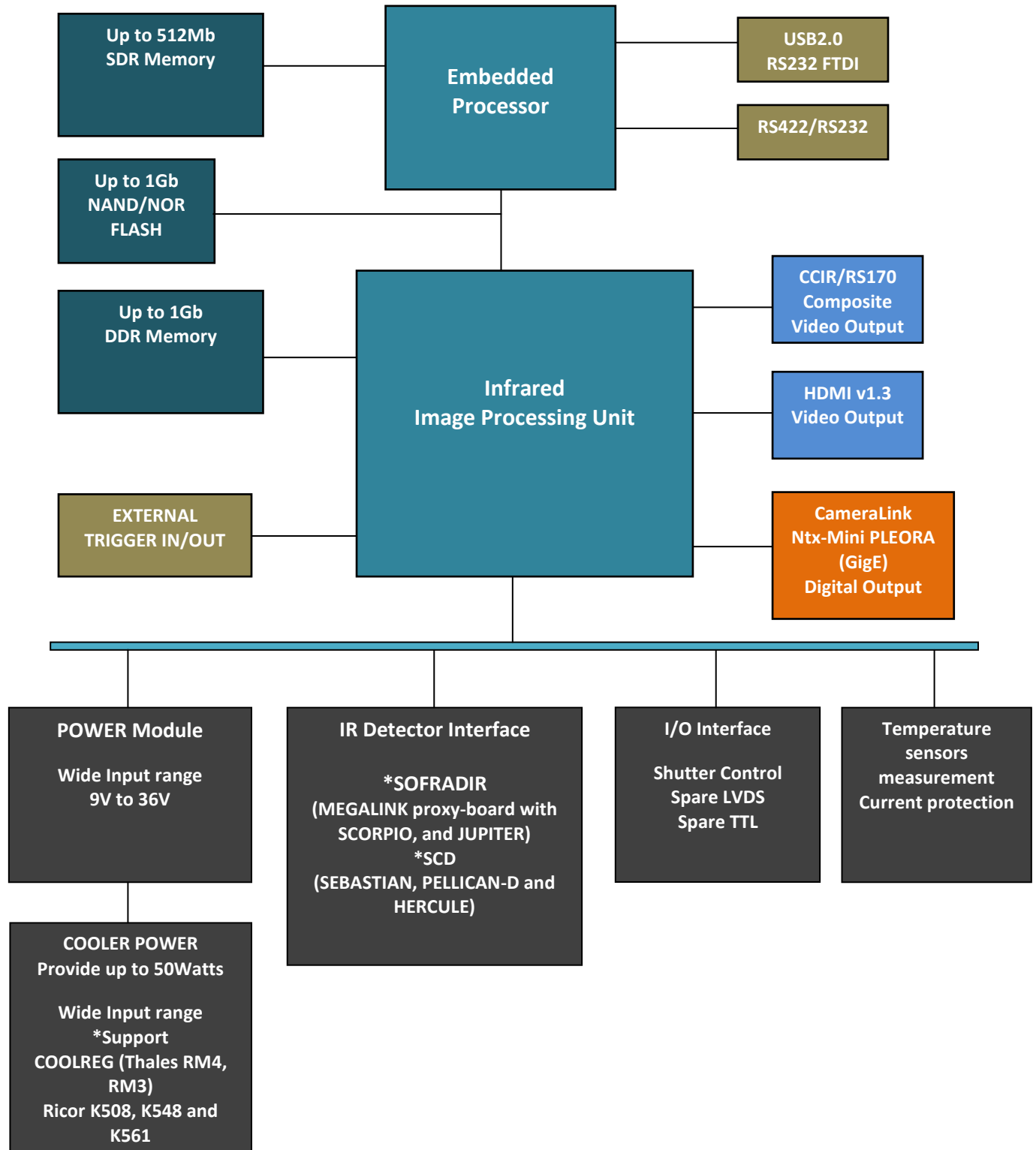
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1. BOARD ELECTRONIC ARCHITECTURE



2. TECHNICAL SPECIFICATIONS AND PERFORMANCES

On Board Memory Storage Capabilities

NOR FLASH	<ul style="list-style-type: none"> Program, NUC and Data storage up to 256Mbits (32MB)
NAND FLASH	<ul style="list-style-type: none"> Program, NUC and Data storage up to 1Gbits (128MB)
SDR Memory	<ul style="list-style-type: none"> Program and Data processing storage up to 512Mbits (64MB)
DDR Memory	<ul style="list-style-type: none"> Data processing and storage up to 1Gbits (128MB)

Supported IR Detectors and Performances

SOFRADIR	<ul style="list-style-type: none"> SCORPIO MW and LW 640x512, up to 240Hz full frame rate 40MHz pixel clock with MEGALINK proximity board using base configuration. Windowing capabilities: (Half, Quarter and Random) Cooler supported: Thales RM4, RM3 and Ricor K508
	<ul style="list-style-type: none"> JUPITER MW 1280x1024, up to 60Hz full frame rate 80MHz pixel clock rate with MEGALINK proximity board using base configuration. Windowing capabilities: (Half, Quarter and Random). Cooler supported: Ricor K548
SCD	<ul style="list-style-type: none"> SEBASTIAN 640x512, up to 240Hz full frame rate 40MHz pixel clock Windowing capabilities: (Half, Quarter and Random) Cooler supported: Ricor K548
	<ul style="list-style-type: none"> PELICAN-D 640x512, up to 240Hz full frame rate 40MHz pixel clock Windowing capabilities: (Half, Quarter and Random) Cooler supported: Ricor K508 and Ricor K561
	<ul style="list-style-type: none"> HERCULE 1280x1024, up to 60Hz full frame rate 80MHz pixel. Windowing capabilities: (Half, Quarter and Random) Cooler supported: Ricor K548 and Ricor K561

NUC Tables

640x512 Detectors	<ul style="list-style-type: none"> Up to 8 NUC Tables processing and saved in FLASH
1280x1024 Detectors	<ul style="list-style-type: none"> Up to 4 NUC Tables processing and saved in FLASH

External Trigger Capabilities

Trigger Input	<ul style="list-style-type: none"> Trigger IN x1, TTL(0-5V) or LVTTTL (0-3.3V)
Trigger Output	<ul style="list-style-type: none"> Trigger OUT x1, TTL(0-5V) or LVTTTL (0-3.3V)

Digital Outputs

CAMERALINK	<ul style="list-style-type: none"> 16bits Monochrome, Additional small size board for standard frame grabber Use with DALSA standard Frame Grabbers (PCI X64-CL IPRO or PCI Express X64 XCELER-A-CL PX4)
GigE (PLEORA Technologies)	<ul style="list-style-type: none"> Full Support PLEORA Ntx-Mini board for GigE Vision

Video Outputs

HDMI v1.3	<ul style="list-style-type: none"> HDMI v1.3 output x1
CCIR/RS170	<ul style="list-style-type: none"> CCIR /RS170 Composite Video 75 Ohms output x1, factory setting

Camera Control and Communication	
RS232	<ul style="list-style-type: none"> x2 com-ports up to 230Kbauds
RS422	<ul style="list-style-type: none"> x1 com-ports up to 57.6Kbauds
USB2.0	<ul style="list-style-type: none"> x1 use FTDI RS232 component up to 230Kbauds
Electrical specifications	
Input voltage	<ul style="list-style-type: none"> 9V to 36V Wide input voltage
Power consumption	<ul style="list-style-type: none"> < 5W (without detector proximity board)
Operating temperature	<ul style="list-style-type: none"> -40°C to +85°C
Storage temperature	<ul style="list-style-type: none"> -55°C to +125°C
Mechanical	
Board size	<ul style="list-style-type: none"> Stacking of 2 boards Dimensions 120mm x80mm x30mm

Main Software functions	
Integration Time	<ul style="list-style-type: none"> Programmable by 1us step. (1us to 100ms)
Frame Rate	<ul style="list-style-type: none"> Programmable from 1Hz to 1000Hz
Windowing	<ul style="list-style-type: none"> Programmable detector Full, Half, Quarter and Random window Image Flip Horizontally (FlipH) and Flip Vertically (FlipV)
NUC processing	<ul style="list-style-type: none"> Fast switching tables, Up to 8 tables in 640x512 full format. NUC 1 Point and 2 Points, Created and Updated NUC Upload and Download from host PC NUC Load from embedded FLASH NUC Save to embedded FLASH
Bad Pixels detection	<ul style="list-style-type: none"> Improved bad pixel detection algorithm (Gain, Offset and Rms noise method) Bad pixel replacement in array 7x7 neighbour.
External triggering	<ul style="list-style-type: none"> Selectable Internal/External synchronization
AGC	<ul style="list-style-type: none"> Advanced AGC algorithm Histogram equalization and enhancement
Shutter Control	<ul style="list-style-type: none"> Command Open/Close
Stirling Cooler	<ul style="list-style-type: none"> Power management ON/OFF, with current protection

3. BOARD OVERVIEW

