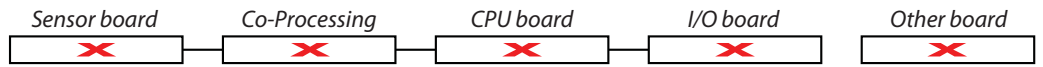




World first modular architecture based on DaVinci™
World highest embedded video processing power
(TI's best DSP/HDVICP + best FPGA based pre-processor)



H264 AVC
Full HD | X-HD™



CAM SMOOV+

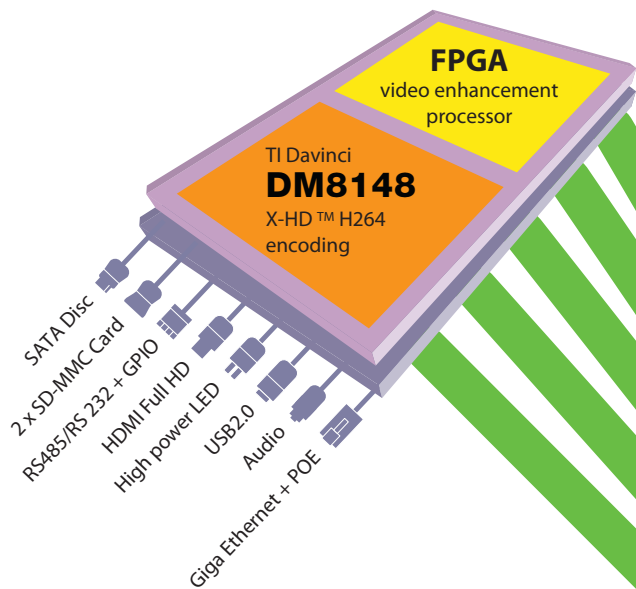
Network Camera

MODULAR ARCHITECTURE

Reference Design

OVERVIEW

- All these boards can be connected to our "CAMSMOOV" platform based TI media system on chip (MSOC) DM8148 (aka "centaurus") from the DaVinci family. We use the same physical link for all boards : "NVHD" that is configurable using a FPGA. This interface is a 30 pin FPC connector, for flex flat cable, with 20 GPIOs or 10 LVDS pairs + power 5.0 and 3.3VDC and configurable IO level



VIDEO SENSOR BOARDS

VIDEO INPUT BOARDS

DISPLAY BOARDS

INTERFACE BOARDS

PROCESS BOARDS

REFERENCE DESIGN PROCESS

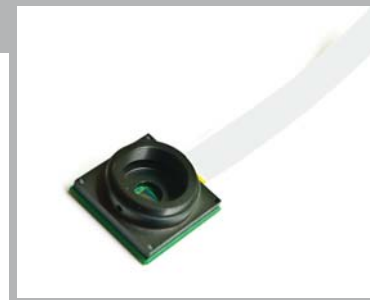
1 Order a Nexvision Reference Design

2 Update your Specifications

3 Get your camera Ready to sell

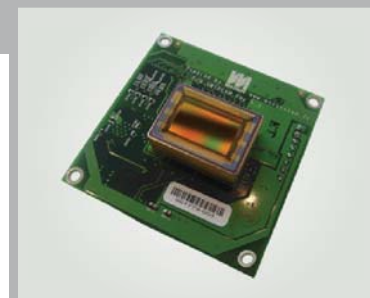
IMA2M_OV2715

FullHD (1080p30), native resolution image sensor board based on consumer type image sensor, 1/3inch : OV2715 from OmniVision



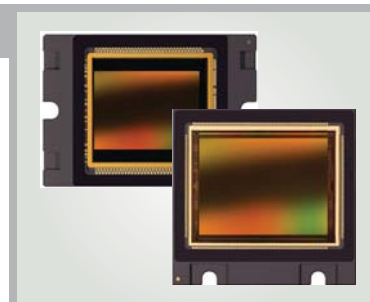
IMA2M_CMV & IMA4M_CMV

FullHD (1080p120) HDR native resolution sensor with global shutter for professional applications (broadcast TV, machine vision/inspection, defense/police, border surveillance, etc...)
based on 2/3 inch high quality image sensor :
CMV2000 from CMOSIS
(as an option we also have the same board with a 4Mpixels sensor, CMV4000. Reference is then IM4M-CMV)
<http://www.nexvision.fr/pdf/IMA2MCv1-3.pdf>



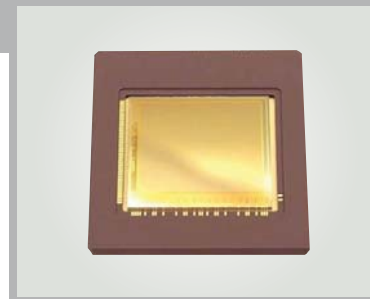
IMA12M_CMV & IMA20M_CMV

12Mpixel (4096 x 3072) "4K" sensor with global shutter for professional applications (cinema, broadcast TV, machine vision/inspection, seashore/border surveillance, etc...)
based on APS-C/35mm format, 10 (300FPS) or 12bit (180FPS), high quality image sensor :
CMV12000 from CMOSIS
(full FPS requires to use our "PIXTERA" front end co-processing board, or a go for a lower framerate using CAMSMOOV (16 of 64 LVDS links used))
(as an option we also have the same board with a 20Mpixels sensor, CMV20000. Reference is then IM20M-CMV)



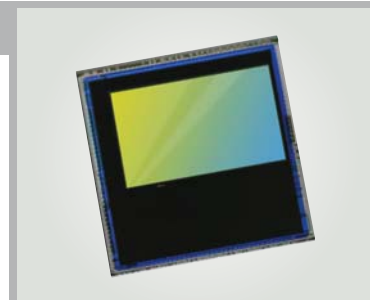
IMA1M_LYNX

HD Ready (720p60) very high sensitivity, extremely low noise native resolution sensor with rolling shutter for night vision and scientific applications.
based on 2/3 inch high quality image sensor :
"Lynx" from PHOTONIS



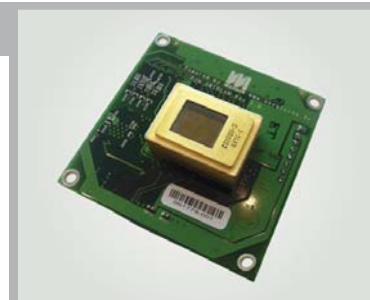
IMA1M_OV10630

HD (720p30), high dynamic range (HDR/WDR), high sensitivity, native resolution image sensor board based on , 1/3inch, consumer type image sensor :
OV10630 from OmniVision



IMASWIR_CACTUS

SWIR (short wave infrared) sensor, 1000 to 1700nm spectral band,
based on a 2/3inch high end SWIR sensor :
"Cactus" from 3-5 lab
Remark : can be associated to a double level peltier cooling board called "SWIRCOOL"
<http://www.nexvision.fr/pdf/IMASWIR.pdf>



DVR_NVHD

Analog composite
4x analog composite (PAL / NTSC) simultaneous video inputs converter
based on TI's TVP5158



HDMI_NVHD

HDMI input
based on Analog Device's HDMI ADV7441A receiver



HDADC

HD analog RGB components and Sony FCB-H11 input
A HD analog components input (RGB/YPrPb) + links to Sony FCB-H11 module LVDS and serial control
YPrPb input is based on TI's TVP7002



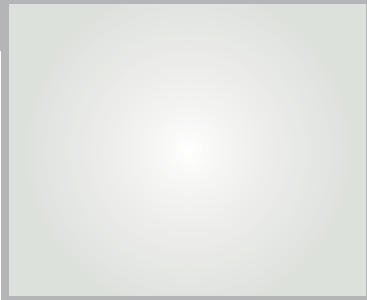
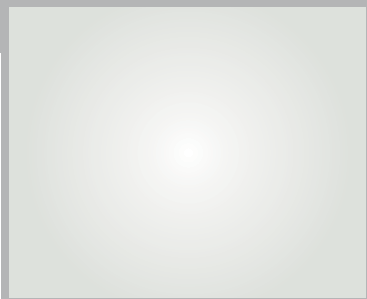
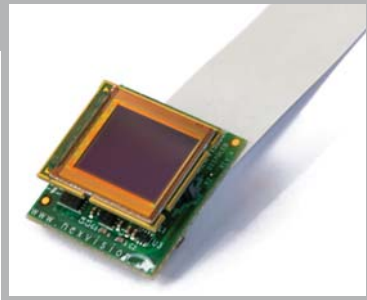
PCIe_SDI

3G-SDI input output
Dual SDI-3G input or output (can be software configured as 1x RX, 1x TX or dual RX or dual TX)



DISPOLED_5M

Microoled display module
for head mount display and viewfinders
High end 5M subpixels display (Microoled's IZUMI) , monochrome or color.
Very small size module with configurable FPGA.
<http://www.nexvision.fr/pdf/DISPOLED.pdf>



NVHD_CXP

- Dual video and IO link (NVHD type) used as input for video sensor, or output to microoled displays (see our DISPOLED module)
- Remark: dual NVHD link enables stereo video sensor capture or 3D display.
- Coaxpress receiver or transmitter (factory configured) - BNC connector
- general purpose IO (FPGA configurable as I2C, SPI, RX/TX link) : can be used to control a synchronised pulsed LED flash illuminator or any IR filter cut actuator, zoom motorization board etc...
- plugable power board, factory configurable as power receiver or generator (from or to the PowerOverCoax)
- 3.125 Gbit/s downlink from image sensor head to video recorder/streamer.
- 21 Mbit/s uplink from video recorder to image sensor head or HMD.
- Power Over Coaxial cable : 12W continuous.



CXP_PCIE

- 2 x Coaxpress receiver or transmitter (factory configured. can be one TX, one RX or dual TX or dual RX) - MCX connectors
- SERDES link to the onboard FPGA (for example : CAMSMOOV's Xilinx Spartan6 FPGA)
- 3.125 Gbit/s downlink from image sensor head to video recorder/streamer.
- 21 Mbit/s uplink from video recorder to image sensor head or HMD.
- Power Over Coaxial cable : 12W continuous.



MULTILINK

- PCIe link board
- 9 x video and IO links (NVHD type) that can used as inputs for video sensor board or output to microoled displays (see our DISPOLED module) or link to another CPU board in the video processing flow (typically CAMSMOOV)
 - one MiniPCIe link with 2x RX/TX PCI lines (can be used as any SERDES type proprietary link)
 - On board Xilinx Spartan 6 FPGA with one DDR3 16bit bus SDRAM for image pre-processing (sensor fusion, panoramic stitching, etc..) and buffering

