FUTURE ELECTRONICS
A WT Microelectronics Company

FUT-AR0830-MIPI-99FF

8MP Compact Camera Module

This 99-degree FOV Fixed-focus camera module contains the **onsemi** 8MP RGB AR0830 image sensor. It incorporates sophisticated on-chip camera functions such as mirroring, column and row skip modes, and snapshot mode. It uses super low power with features such as wake on motion to reduce overall system power. This camera module is compliant with onsemi's Imaging Access System (IAS) standard. The standard 34-pin connector works with onsemi's Devware software and Demo3 development platform using an IAS adapter board.

This module is customizable with very low NRE fees for changes like tail length or shape, connector change, or lens change.

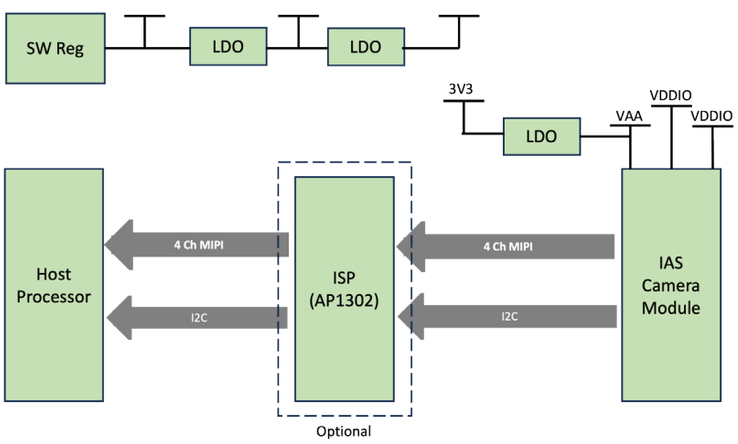
Module Features

- Small Size
  - Length: 30mm
  - Width: 9mm
  - Height: 6.26mm
- Field of View
  - DIA: 98.6
  - HOR: 90.8
  - VER: 59.4
- Lens type: Fixed-focus
- Focusing range: 77.6cm to inf
- Focusing distance 3m
- IR cut filter: 650nm
- Max image circle: 6.8mm
- F#1/2.9
- Operating Temp: -20°C – 65°C
- Storage Temp: -40°C – 85°C

Sensor Features

- Resolution: 3840 x 2160
- CFA: RGB
- CRA: 35°
- Pixel: 1.4um BSI
- LI-HDR T1/T2 Readout
- eDR – enhanced dynamic range
- Wake-on-motion/motion detection
- Support for video formats
  - 4K @ 60fps
  - HD 1080p @ 120fps
  - 720p @ 120fps
- 3D sync control for stereo capture
- VAA: 2.8V, VDD: 1.05V, VDDIO: 1.8V

Block Diagram



Applications

- Machine Vision cameras
- Surveillance and Smart Access
- Body cameras
- Drones
- Video Conferencing endpoints

Connector Pin Descriptions

Pin	Name	Pin	Name	Pin	Name	Pin	Name
1	GPIO1	10	MD4P	19	DGND	28	DGND
2	DGND	11	MD4N	20	GPIO2	29	MD2N
3	DGND	12	DGND	21	XSHUTDN	30	MD2P
4	MD1P	13	VDDIO18	22	SDA	31	DGND
5	MD1N	14	SCL	23	VDD	32	MCLK
6	DGND	15	GPIO0	24	VDD	33	DGND
7	MCP	16	DGND	25	DGND	34	GPIO3
8	MCN	17	VAA28	26	MD3N		
9	DGND	18	VAA28	27	MD3P		

Module Connector: Hirose BM20B (0.8)-34DP-0.4V(51) header

Sensor I2C ADDRESS: 0X6C(W) 0X6D(R)

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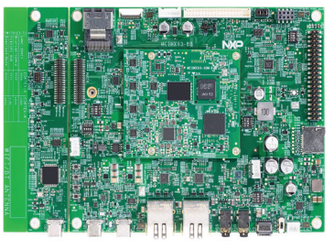
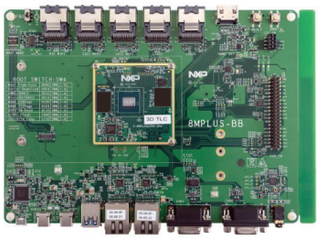
Future Ecosystem Connectivity

NXP



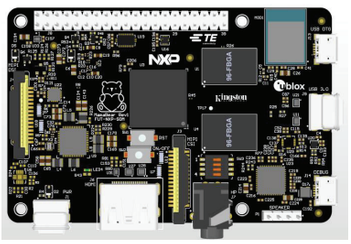
MCIMX93-EVK

Can be interfaced using Mini-SAS Cable to Cyclops-2 adapter board which includes onsemi AP1302 ISP.



8MPLUSLPD4-EVK

Can be interfaced using Mini-SAS Cable to Cyclops-2 adapter board which includes onsemi AP1302 ISP.

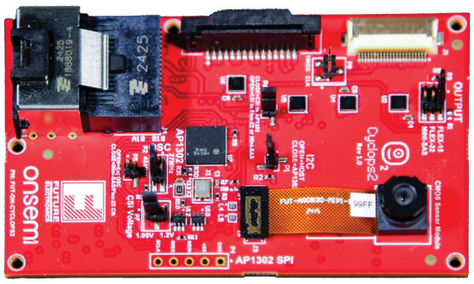


Future iMX8M Plus “Goldilocks” Mama Bear board

Can be interfaced to Future Electronics iMX8M-Plus Mama Bear board via 15 position flex to Cyclops 2 adapter board. *Only 2 lane MIPI

Cyclops II Adapter Board

onsemi



The second revision of the **Future Electronics Cyclops adapter board** provides additional functionality. It allows MIPI interface camera modules that conform to the **onsemi IAS Specification** to connect through either a standard 15 (2 channel MIPI) flex cable or 22 position (4 channel) flex cable. It also enables interface to existing **NXP** evaluation boards though the MiniSAS connector. A new feature is the addition of the **onsemi AP1302 Image Sensor Processor**. This ISP can be included to the MIPI pipeline manually via on board jumpers to facilitate the use of the host processors drivers that support the AP1302 feature set.

In partnership with:

onsemi VIKIMAGE