

# AFE-R360DVK Series

## AFE-R360 with MIPI/GMSL Camera Solution Powered by Intel® Core™ Ultra Processor

NEW



### Features

- Intel® Core™ Ultra 125H Processor, up to 32TOPs
- Support 3x LAN, 7x USB, 4x High-speed COM, 2x CAN FD dedicated for autonomous sensors
- Power input support 12-24V DC-in, contact: 8KV, air: 15KV, ESD protection
- Built-in 4x MIPI-CSI/ 2x GMSL camera solution
- Pre-load Ubuntu22.04, APIs, camera driver, and Advantech Robotic Suite

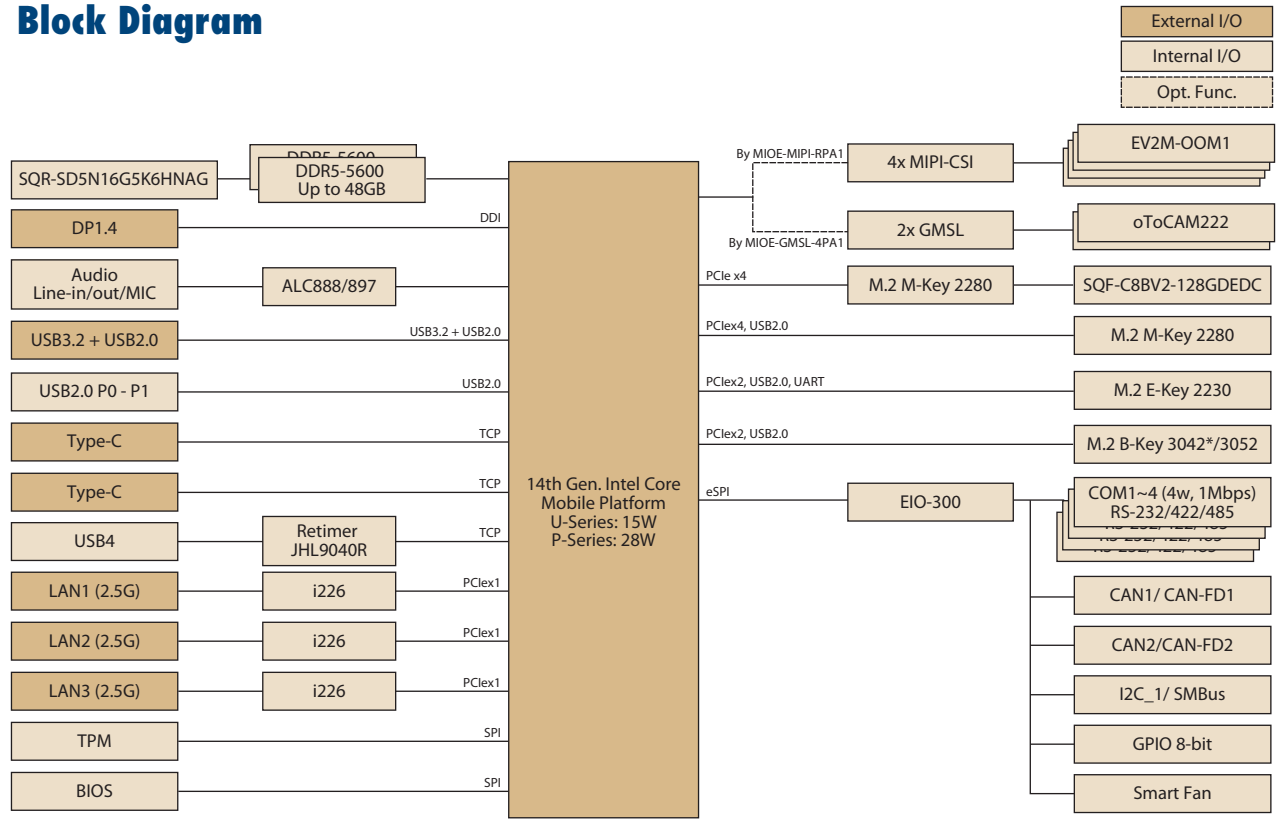
### Specifications

General	Product	AFE-R360DVK-M01	AFE-R360DVK-G02
	Description	AFE-R360, 125H, 4x MIPI (2MP) development kit	AFE-R360, 125H, 2x GMSL (2.5MP) development kit
DevKit Components	MB	AFE-R360C5P-Q5A1	AFE-R360C5P-Q5A1
	Memory	DDR5 5600 16GB onboard	DDR5 5600 16GB onboard
	Storage	M.2 2280 128G NVMe	M.2 2280 128G NVMe
	Camera IO Card	MIOE-MIPI-RPA1	MIOE-GMSL-4PA1
	Camera	4x Innodisk MIPI-CSI cameras	2x oToBrite GMSL camera
	OS	Ubuntu 22.04 (kernel: 6.6.30)*	Ubuntu 22.04 (kernel: 6.5.0-1027-oem)*
Platform	Processor	125H, Intel® Core™ Ultra processors, with iGPU and NPU total support up to 32 TOPs	
Expansion	M.2 E-Key	1 x E-Key 2230 (PCIex2, USB2.0)	
	M.2 B-Key	1 x B-Key 3042**/ 3052 (PCIex2/SATA, USB2.0) w' NanoSIM	
	M.2 M-Key	1 x M-Key 2280 (PCIex4 Gen.4 NVMe), 1x M-Key occupied by 128GB NVMe module with pre-load image	
External I/O	Connector	3 x 2.5GbE, 1 x DP1.4a, 2 x USB3.2 (Type-C), 2 x USB3.2 (Type-A), 2-pin phoenix power connector	
Internal I/O	Connector	1 x USB4 (Type-C), 2x USB2.0, 4 x RS-232/422/485 COM port, 2x CAN-FD, 1 x I2C/ SMBUS, 1x Audio, 8-bit GPIO, 1x FAN, 1x Front Panel Control	
Power	Supply Voltage	Vin: DC 12V~24V ± 10%; RTC Battery: Lithium 3V/210mAH	
	Power Management	AT (default), ATX	
	Suggest power supply	150W	150W
Camera	Module Name	EV2M-O0M1	oToCAM222-C120M
	Vendor	Innodisk	oToBrite
	Sensor	Onsemi AR0234	Sony ISX021
	Resolution (pixel)	1920*1200 (2MP), 30fps	1920*1280 (2.5MP), 30fps
	FOV (horizontal)	86°	120.6°
	Feature	Global shutter	high dynamic range, LED flicker mitigation
	dimension	38 x 38 x 22 mm	28 x 28 x 32.7 mm (including FAKRA connector)
Environment	Temperature	Operating: 0 ~ 60° C (32 ~ 140° F) Storage: -40 ~ 85 °C (-40 ~ 185 °F)	
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing	
Certification	EMC	CE, FCC Class B	
Mechanical	Dimensions (L x W x H) (including cooler and standoffs)	146 x 102 x 60 mm	146 x 102 x 60 mm

\*Note: Camera driver developed by camera vendor

\*\*support by request

## Block Diagram



\*support by request

\*\*With optional MIOe-MIPI/ MIOe-GMSL module, AFE-R360 can support up to 4xMIPI-CSI or 2x GMSL cameras.

## Ordering Information

Part No.	Description	AFE-R360	Camera IO Card	Memory	Storage	Camera	Operating Temp.
AFE-R360DVK-M01	AFE-R360, 125H, 4x MIPI (2MP) development kit	AFE-R360C5P-Q5A1	MIOE-MIPI-RPA1	16GB	128GB	4x EV2M-00M1 (innodisk)	0~60°C
AFE-R360DVK-G02	AFE-R360, 125H, 2x GMSL (2.5MP) development kit	AFE-R360C5P-Q5A1	MIOE-GMSL-4PA1	MIOE-GMSL-4PA1 16GB	128GB	2x oToCAM222 (oToBrite)	0~60°C

## AFE-R360DVK-M01 Packing List

Part No.	Description	Quantity
AFE-R360C5P-Q5A1	AFE-R360 A101 MTL-H Ultra5 125H, with cooler	1
MIOE-MIPI-RPA1	MIPI-CSI Camera IO Card	1
2046R36000	Startup Manual	1
SQR-SD5N16G5K6HNAG	SODIMM DDR5 5600 16GB	1
SQF-C8BV2-128GDEDC	SQF M.2 2280 720-D 128G 3D TLC BiCS5	1
968DD00501	Innodisk MIPI camera (module name: EV2M-00M1), with camera cable	4
1700031582-01	COM port cable	4
1700030406-01	USB2.0 cable	1
9666R360010	Screw kit of AFE-R360 and MIOe-MIPI	1

## AFE-R360DVK-G01 Packing List

Part No.	Description	Quantity
AFE-R360C5P-Q5A1	AFE-R360 A101 MTL-H Ultra5 125H, with cooler	1
MIOE-GMSL-4PA1	GMSL Camera IO Card	1
2046R36010	Startup Manual	0 (download from website)
SQR-SD5N16G5K6HNAG	SODIMM DDR5 5600 16GB	1
SQF-C8BV2-128GDEDC	SQF M.2 2280 720-D 128G 3D TLC BiCS5	1
96ICAM-222	oToBrite GMSL camera (module name: oToCAM222)	2
1700031582-01	COM port cable	4
1700030406-01	USB2.0 cable	1
1700023503-01	AFE-R360 & MIOe-GMSL 2-to-1 power input cable	1
1751000759-01	GMSL cable (1M)	2