VARISCITE LTD.

# VCAM-AR0821B / VCAM-AR0821B-SYM Datasheet
## i.MX8 Camera Extension Board V 1.x

**VARISCITE LTD.**

# VCAM-AR0821B Datasheet

# Revision History

| Revision | Date | Notes |
|----------|----------|-------|
| 1.00 | Jan 2021 | |

# Compatible Products

| PN | Compatible products |
|---|---|
| VCAM-AR0821B | DART-MX8M-PLUS<br>Add on extension board for the VAR-DT8MCustomBoard |
| VCAM-AR0821B-SYM | VAR-SOM-MX8M-PLUS<br> Add on extension board for the Symphony-Board |

# VCAM-AR0821B – Embedded Vision Kits

Development kit with a Basler dart BCON for MIPI camera module and Linux support for NXP's i.MX8M Plus SoC on a Variscite SoM.

This Basler dart BCON for MIPI Development Kit is a kit for integrating a Basler dart camera with a BCON for MIPI interface. It contains a dart camera module, a Variscite SoM with Linux drivers as well as additional accessories and thus offers a complete plug and play design-in package for dart BCON for MIPI camera modules.



# General Information

| | |
|---|---|
| Design-In Sample: | January 2021 |

| | |
|---|---|
| Components Included | **Camera model:** daA3840-30mc (S-Mount)<br>**Boards:**<br>DART-MX8M-PLUS<br>Basler BCON for MIPI to VAR M / M Plus<br>**Lens:** Evetar Lens M13B0618W F1.8 f6mm 1/3"<br>**Cables:** FFC cable, 0.2m |

**daA3840-30mc (S-Mount)**

| | |
|---|---|
| Sensor Vendor | ON Semiconductor |
| Sensor | AR0821 |
| Shutter | Rolling Shutter |
| Max. Image Circle | 1/1.8" |
| Sensor Type | CMOS |
| Resolution (HxV) | 3840 px x 2160 px |
| Resolution | 8 MP |
| Pixel Size (H x V) | 2.1 µm x 2.1 µm |
| Frame Rate | 30 fps |
| Mono/Color | Color |
| Interface | BCON for MIPI |
| Pixel Bit Depth | 20 bits |
| Synchronization | free-run<br>software trigger |
| Exposure Control | programmable via the camera API<br>automatic<br>manual |

### daA3840-30mc (S-Mount)

| | | |
|---|---|---|
| | Digital Input | 2 |
| | Digital Output | 2 |
| | Power Requirements | 5V DC (via BCON for MIPI interface) |
| | Power Consumption (typical) | 0.6 W |
| | Housing Type | Board Level |
| | Housing Size (L x W x H) | 29 mm x 29 mm x 17.5 mm |
| | Lens Mount | S-mount |
| | Weight (typical) | 15g |
| | Conformity | RoHS<br>CE<br>FCC<br>GenICam<br>MIPI CSI-2<br>UL<br>EAC |

### DART-MX8M-PLUS

| | | |
|---|---|---|
| | Accessory Type | Board |
| | Board type | Processing Board |
| | Size (L x W) | 151 mm x 90 mm x 18 mm |
| | Processor Manufacturer | NXP |
| | SoC (system on chip) | NXP i.MX 8M Plus |
| | Camera Interface | BCON for MIPI |
| | Ethernet Interface | 10/100/1000 Ethernet |
| | Other Interfaces | Wi-Fi, Bluetooth, CSI-2, USB 2.0, USB 3.0, Mini PCIe |
| | SD Card Slot | µSD card |
| | Memory | 2 GB |
| | Flash Memory | 16 GB |
| | Power Requirements | 5V DC |
| | Operating System | Linux |

### Basler BCON for MIPI to VAR M PLUS

| | | |
|---|---|---|
| | Accessory Type | Board |
| | Size (L x W) | 55 mm x 31 mm x 12 mm |
| | Camera Interface | BCON for MIPI |
| | Additional Information | Single or dual camera support, depending on SoC |

### Evetar Lens M13B0618W F1.8 f6mm 1/3"

| | | |
|---|---|---|
| | Order Number | 2000035178 |
| | Accessory Type | Lenses |
| | Accessory Developer | Evetar |
| | Focal Length | 6.0 mm |

**Evetar Lens M13B0618W F1.8 f6mm 1/3"**

| | |
|---|---|
| Lens Mount | S-mount |
| Iris | F1.8 |
| Iris Type | fixed |
| IR Cut Filter | yes |
| Max. Image Circle | 1/3" |
| Working Distance | 200 mm |

**FFC cable, 0.2m**

| | |
|---|---|
| Accessory Type | Data Cables |
| Accessory Developer | AXON' CABLE S.A.S. |
| Cable Length | 0.2 m |
| Connector Camera Side | 28 pin Hirose ZIF connector |
| Connector Host Side | 28 pin Hirose ZIF connector |
| Interface | BCON for MIPI |

# daA3840-30mci (S-Mount) - Basler dart

The Basler daA3840-30mci (S-Mount) BCON for MIPI camera module with the ON Semiconductor AR1335 CMOS sensor delivers 30 frames per second at 8 MP resolution.
This model comes with a S-mount.

# General Information

| | |
|---|---|
| Design-In Sample: | now |
| Series Production: | December 2020 |

**Sensor**

| | | |
|---|---|---|
| | Sensor Vendor | ON Semiconductor |
| | Sensor | AR0821 |
| | Shutter | Rolling Shutter |
| | Max. Image Circle | 1/1.8" |
| | Sensor Type | CMOS |
| | Sensor Size | 4.6 mm x 3.4 mm |
| | Resolution (HxV) | 3840 px x 2160 px |
| | Resolution | 8 MP |
| | Pixel Size (H x V) | 2.1 µm x 2.1 µm |
| | Frame Rate | 30 fps |
| | Mono/Color | Color |

**Camera Data**

| | | |
|---|---|---|
| | Interface | BCON for MIPI |
| | Pixel Bit Depth | 20 bits |
| | Synchronization | free-run<br>software trigger |
| | Image Processing | In-Camera Processing |
| | Exposure Control | programmable via the camera API<br>automatic<br>manual |
| | Digital Input | 2 |
| | Digital Output | 2 |
| | Power Requirements | 5V DC (via BCON for MIPI interface) |
| | Power Consumption (typical) | 0.6 W |

**Housing**

| | | |
|---|---|---|
| | Housing Type | Board Level |
| | Housing Size (L x W x H) | 29 mm x 29 mm x 17.5 mm |
| | Lens Mount | S-mount |
| | Weight (typical) | 15g |

**Conformity**

| | | |
|---|---|---|
| | Conformity | RoHS<br>CE<br>FCC<br>GenICam<br>MIPI CSI-2<br>UL<br>EAC |

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