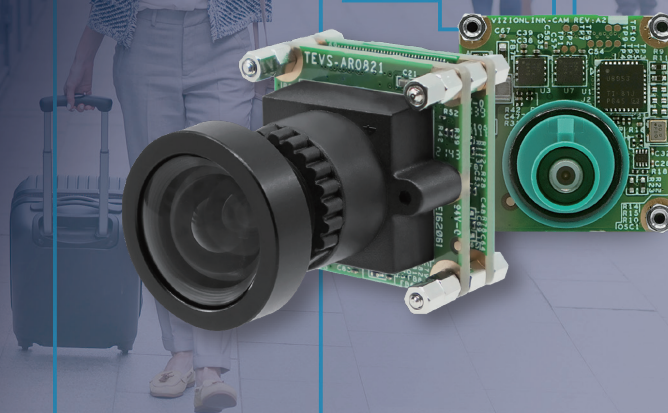


# UVLS-FPD3-AR0821

**TechNexion**  
INNOVATORS OF TECHNOLOGY

- onsemi AR0821 8MP Rolling Shutter Sensor
- 4K HDR Imaging Capabilities
- Designed for Low Light Applications
- S-Mount for Interchangeable Lenses
- FAKRA Z-Code Automotive Connector
- Plug & Play with Linux OS & Yocto
- VizionViewer™ configuration utility
- VizionSDK for custom development



## Camera Information

|                                  |                                                                                                                   |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------|
| CMOS Sensor                      | onsemi AR0821                                                                                                     |
| Active Pixels                    | 3848 (H) x 2168 (V) = 8 MP                                                                                        |
| Pixel Size                       | 2.1 $\mu\text{m}$ x 2.1 $\mu\text{m}$                                                                             |
| Illuminated Type                 | Back Side Illuminated (BSI)                                                                                       |
| Maximum S/N Ratio                | 41.8 dB                                                                                                           |
| Optical Format                   | 1/1.7" (Diagonal 9.25 mm)                                                                                         |
| Shutter Type                     | Rolling Shutter                                                                                                   |
| Chromaticity                     | Color                                                                                                             |
| HDR Support                      | Yes                                                                                                               |
| Maximum Frame Rate (YUV422-UYYV) | 3840 x 2160 @ 15 fps<br>2560 x 1440 @ 30 fps<br>1920 x 1080 @ 60 fps<br>1280 x 720 @ 60 fps<br>640 x 480 @ 60 fps |
| Output Format                    | YUV422-UYYV<br>RGB888 / RGB565<br>RAW8 / RAW10 / RAW12                                                            |

## Camera Interface

|             |                       |
|-------------|-----------------------|
| Serial Link | FPD-Link III          |
| Serializer  | TI DS90UB953          |
| Connector   | FAKRA SMB Jack Z-Code |

## Power

|                   |                                  |
|-------------------|----------------------------------|
| Power over Coax   | 10.8V - 26.4V                    |
| Power Consumption | 3840 x 2160 @ 15 fps $\leq$ 1.6W |
| Standby Power     | $\leq$ 0.1W Standby              |



VizionSDK



VizionViewer™

## Software Support

|                  |                                                                                                                                                                                |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Platform Support | NVIDIA Jetson AGX Orin<br>NVIDIA Jetson Orin Nano / NX<br>NVIDIA Jetson Xavier NX<br>NVIDIA Jetson Nano<br>NXP i.MX95<br>TI Sitara™ AM68 / AM69<br>TI Jacinto™ TDA4VM / TDA4VH |
| Operation System | Linux<br>Yocto                                                                                                                                                                 |
| Software         | VizionViewer™                                                                                                                                                                  |
| Development SDK  | VizionSDK                                                                                                                                                                      |

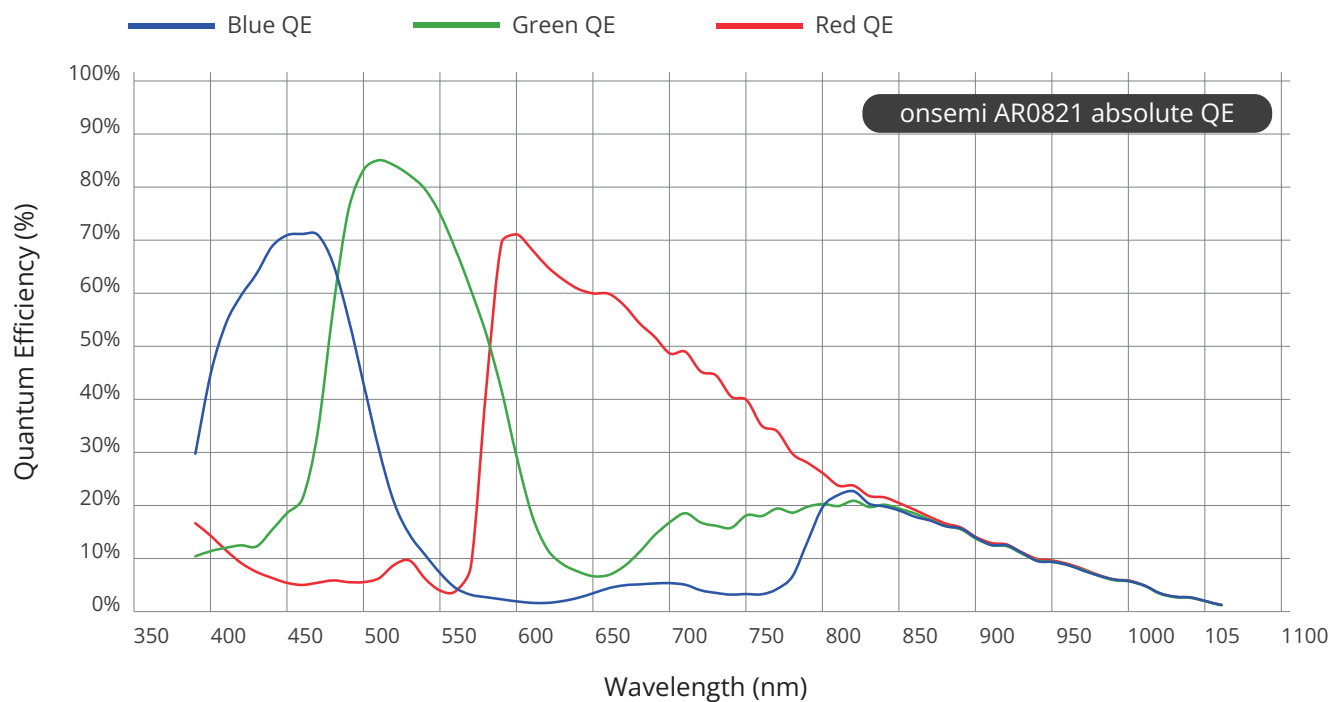
## Environmental and Mechanical

|                       |                                |
|-----------------------|--------------------------------|
| Dimensions            | 24.5(W) x 24.5(H) x 34.4(D) mm |
| Weight                | $\leq$ 25 grams                |
| Operating Temperature | -30°C to + 70°C                |

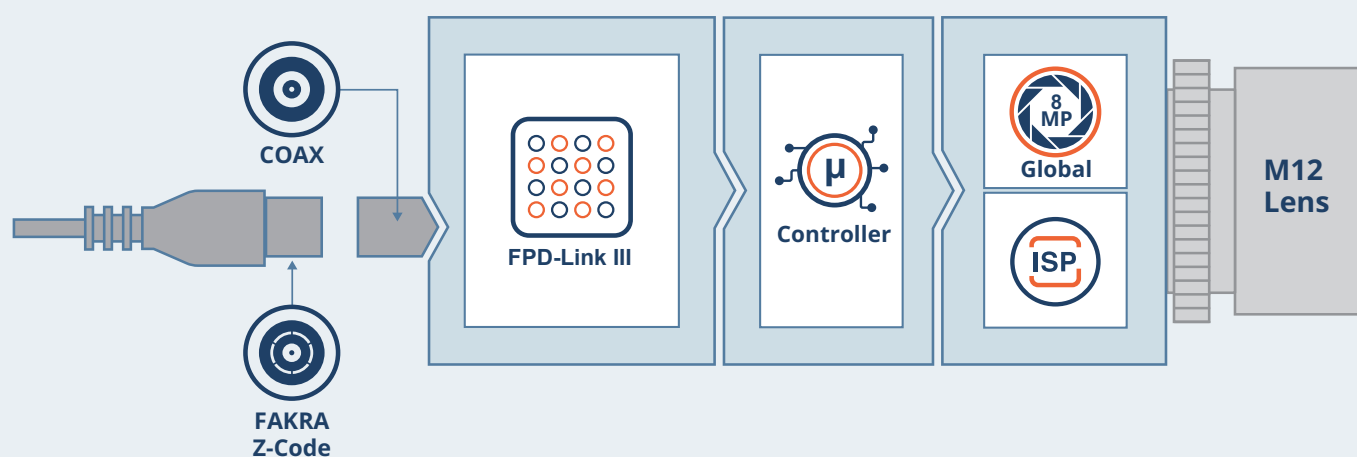
## Certification and Compliance

|               |                                                   |
|---------------|---------------------------------------------------|
| Certification | Compliant with CE / FCC / RoHS / REACH directives |
|---------------|---------------------------------------------------|

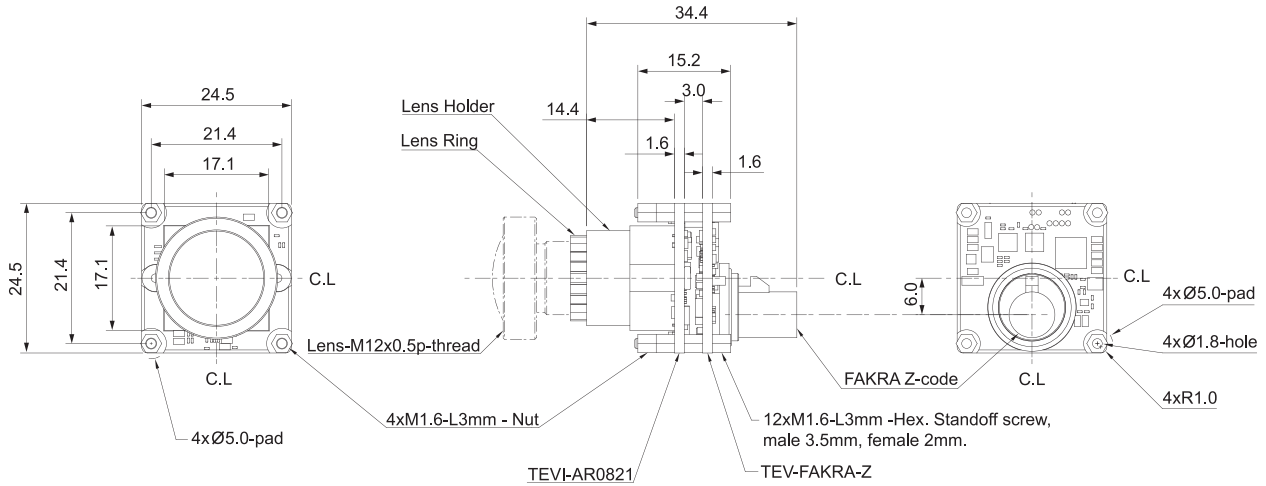
## Spectral Characteristics



## Block Diagram



## Dimensions (units in mm)



## Order Information

**UVLS-FPD3-AR0821-x-Sxx-xx-xxxx**

| Option       | Code | Description                                                                      |
|--------------|------|----------------------------------------------------------------------------------|
| Chromaticity | C    | Color                                                                            |
|              | M    | Monochrome                                                                       |
| Lens         | S44  | S-Mount Module D-FOV 44°                                                         |
|              | S74  | S-Mount Module D-FOV 74°                                                         |
|              | S119 | S-Mount Module D-FOV 119°                                                        |
|              | S156 | S-Mount Module D-FOV 156°                                                        |
| Filter       | -    | -                                                                                |
|              | IR   | IR Cut Filter 650nm                                                              |
| Custom ID    | xxxx | Custom Part number ID for customized Software loader and special component (BOM) |

For customization, please contact your TechNexion sales representative.

## Optional Accessories

An easy to attach A-Mount bracket  
for TechNexion 30mm enclosed cameras.



245-MOUNT-BRACKET



245-MOUNT-BRACKET on tripod  
(tripod not included)

## Custom Lens Solutions

|              |  |  |  |  |
|--------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|              | UVLS-FPD3-AR0821-C-S44-IR                                                         | UVLS-FPD3-AR0821-C-S74-IR                                                         | UVLS-FPD3-AR0821-C-S119-IR                                                         | UVLS-FPD3-AR0821-C-S156-IR                                                          |
| Focus Type   | Fixed Focus                                                                       | Fixed Focus                                                                       | Fixed Focus                                                                        | Fixed Focus                                                                         |
| Focal Length | 12 mm                                                                             | 6 mm                                                                              | 3 mm                                                                               | 3.2 mm                                                                              |
| Aperture     | F2.0                                                                              | F2.8                                                                              | F2.0                                                                               | F2.0                                                                                |
| Module D-FOV | 44.0° ± 5%                                                                        | 74.4° ± 5%                                                                        | 118.8° ± 5%                                                                        | 156.0° ± 5%                                                                         |
| Module H-FOV | 38.3° ± 5%                                                                        | 67.1° ± 5%                                                                        | 110.7° ± 5%                                                                        | 137.2° ± 5%                                                                         |
| Module V-FOV | 21.6° ± 5%                                                                        | 40.8° ± 5%                                                                        | 75.4° ± 5%                                                                         | 79.4° ± 5%                                                                          |
| TTL          | 23.09 mm                                                                          | 28.6 mm                                                                           | 29.56 mm                                                                           | 44.98 mm                                                                            |
| BFL          | 5.06 mm                                                                           | 8.8 mm                                                                            | 4.85 mm                                                                            | 6.14 mm                                                                             |
| MOD          | 0.15 m                                                                            | 0.1 m                                                                             | 0.3 m                                                                              | 0.3 m                                                                               |
| Distortion   | <2%                                                                               | <0.50%                                                                            | <-5%                                                                               | <-32%                                                                               |
| IR-Filter    | 650 nm                                                                            | 650 nm                                                                            | 650 nm                                                                             | 650 nm                                                                              |

## FPD-Link III Frame Grabbers

The ease of usage, benefits and integration of a FPD-Link III camera in embedded systems is often made complex by the lack of FPD-Link ports and connectors on the system. For those scenarios TechNexion developed a range of framegrabbers that easily plug into a USB port and extend the system with 1 to 4 FPD-Link interconnects.



### 1-4 Port

Connect up-to 4 FPD-Link cameras to a single USB port on your x86 or Arm based system.



### Software

Linux and Yocto systems are supported.



### UVC Compliant

Fully plug-n-play in Windows and Linux embedded systems.



### VizionViewer™

Easy to use software utility providing you with granular camera settings control.



### Autodetect

Zero configuration required to detect any specific TechNexion FPD-Link camera by the framegrabber.



### VizionSDK

Hardcode and control your cameras with C# and Python code.

