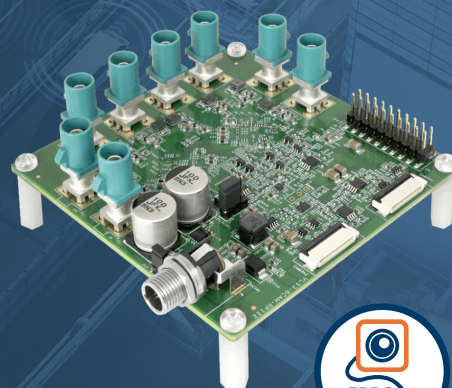


# VL-FPD3-8CAM-RPI22

**TechNexion**  
INNOVATORS OF TECHNOLOGY

- Easily connect up-to 8 FPD-Link III cameras to Nvidia Orin, NXP i.MX95 or Renesas platforms
- Supports Frame-sync / Time-Sync protocol
- Readily available Software driver + VizionSDK
- Ideal for AMR, Robotics, UAV, and automotive applications



## Information

|                    |                                   |
|--------------------|-----------------------------------|
| Deserializer       | DS90UB962                         |
| Frame Sync Support | Sync mode / non-Sync mode support |

## Interface

|                         |                                                   |
|-------------------------|---------------------------------------------------|
| Support Camera Quantity | Up to 8 Cameras                                   |
| Camera Connector        | FAKRA SMB Jack Z-Code                             |
| DIO Connector           | 22 Pin Standardized Connector<br>20-Pin Expansion |

## Power Specifications

|                   |                            |
|-------------------|----------------------------|
| Power Connector   | DC Jack                    |
| Power Input       | 10V~30V DC                 |
| Power Consumption | Depending on Configuration |

## Software Support

|                   |                              |
|-------------------|------------------------------|
| Platform Support  | NVIDIA Jetson Orin Nano / NX |
| Operation Systems | Linux                        |
| SDK               | VizionViewer™ / VizionSDK    |

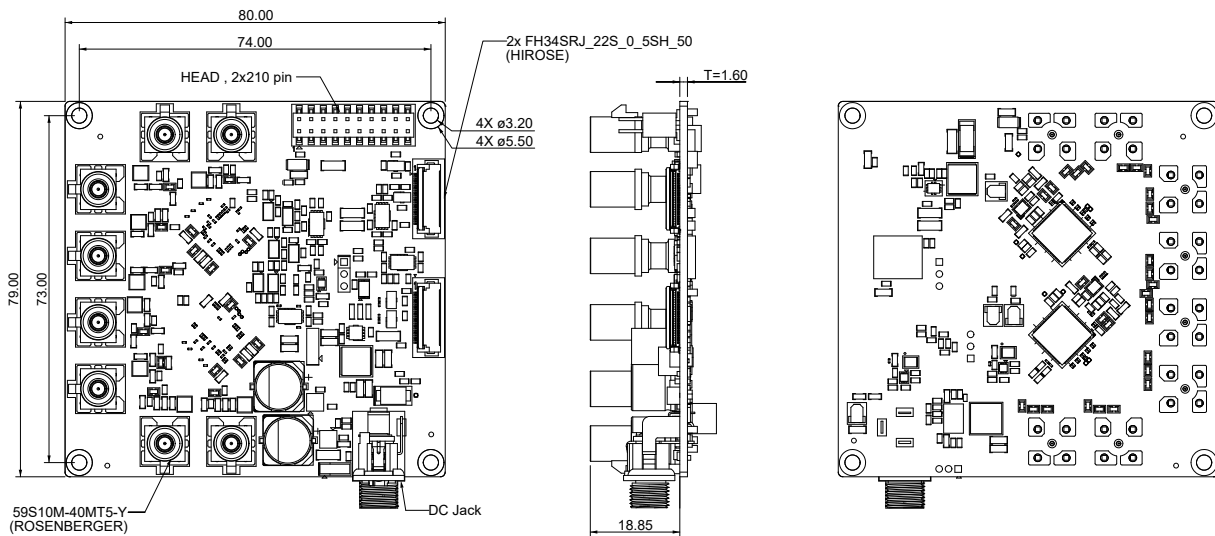
## Environmental and Mechanical

|                       |                |
|-----------------------|----------------|
| Dimension             | 79 x 80 mm     |
| Weight                | 64 grams       |
| Operating Temperature | -30°C to +70°C |

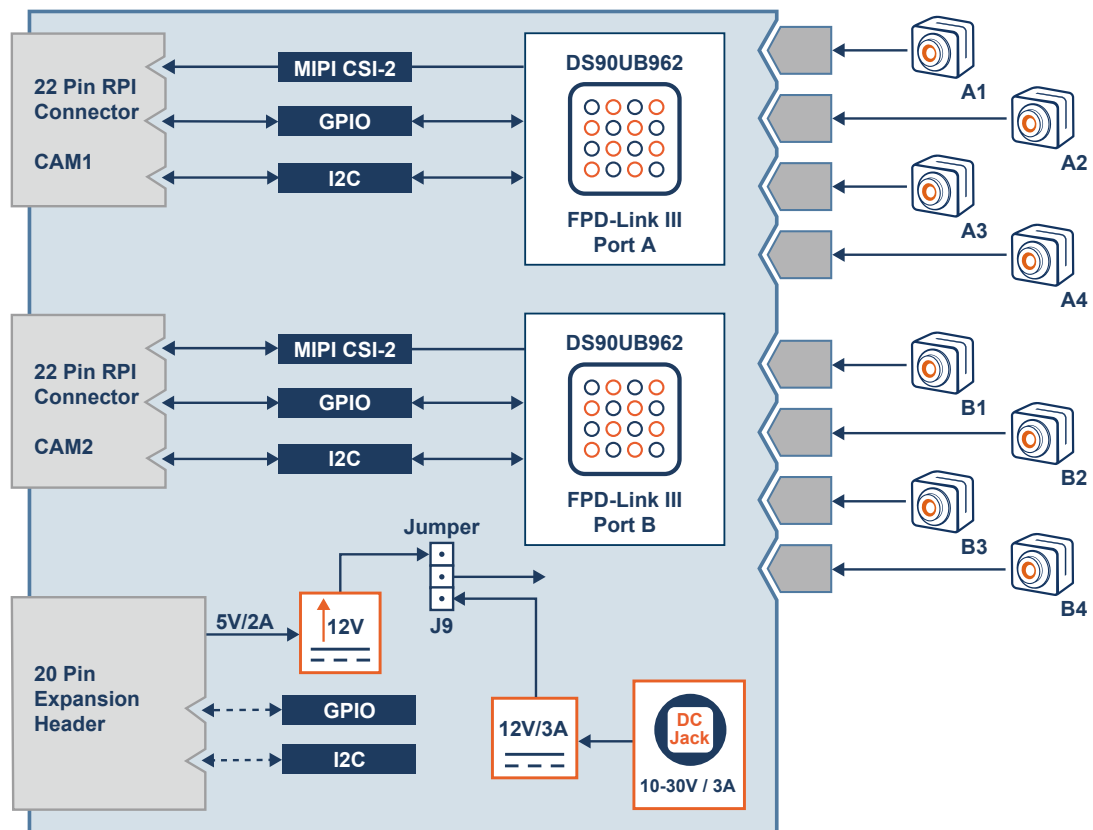
## Commercial Information

|                   |              |
|-------------------|--------------|
| Brand             | TechNexion   |
| Country of Origin | Taiwan       |
| HTSN              | 8473.30.1180 |
| ECCN              | EAR99        |
| REACH / RoHS      | YES          |

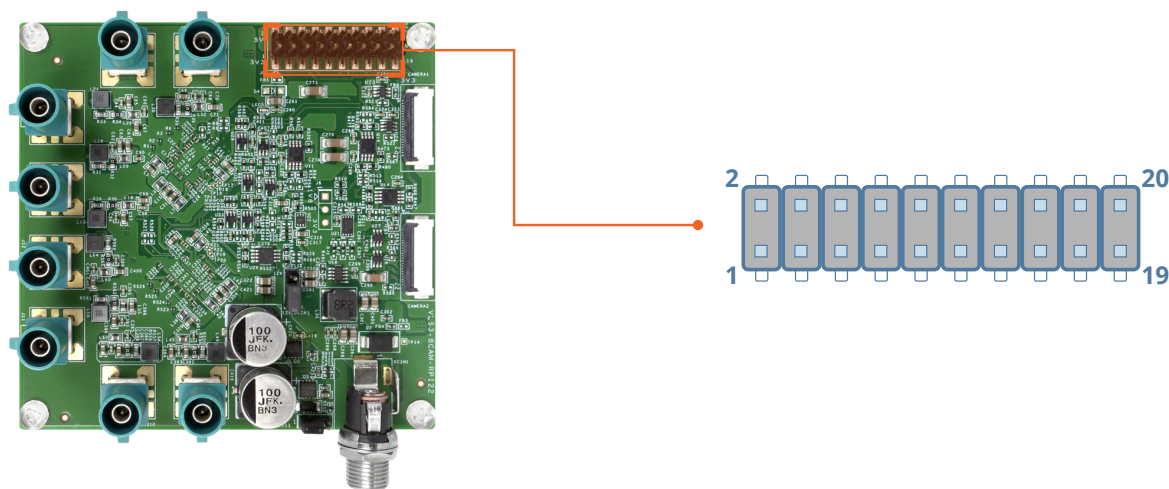
## Dimensions (units in mm)



## Block Diagram



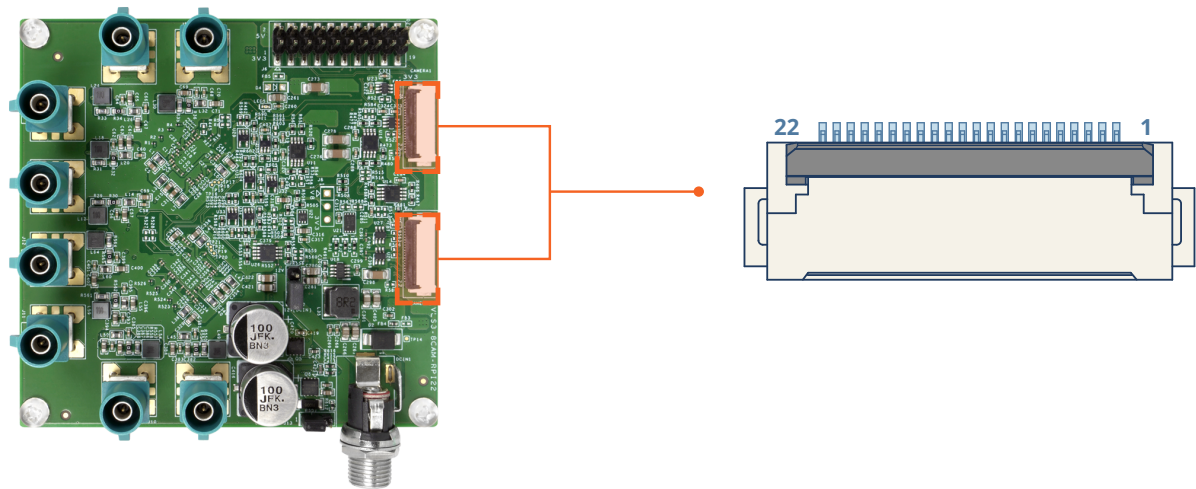
# 20 Pin Expansion Header Pinout



| No. | Name        | Voltage | Description                              |
|-----|-------------|---------|------------------------------------------|
| 01  | NC          | NC      | Reserved                                 |
| 02  | 5V0         | 5V0     | 5V power input *Note 1                   |
| 03  | NC          | NC      | Reserved                                 |
| 04  | 5V0         | 5V0     | 5V power input *Note 1                   |
| 05  | NC          | NC      | Reserved                                 |
| 06  | GND         | GND     | Ground                                   |
| 07  | EVK_PDB1    | 3V3     | GPIO, Active low, device is powered down |
| 08  | NC          | NC      | Reserved                                 |
| 09  | GND         | GND     | Ground                                   |
| 10  | NC          | NC      | Reserved                                 |
| 11  | EVK_INTB1   | 3V3     | GPIO, Activelow, Interrupt Output pin    |
| 12  | EVK_INTB2   | 3V3     | GPIO, Active-low, Interrupt Output pin   |
| 13  | EVK_PDB2    | 3V3     | GPIO, Active low, device is powered down |
| 14  | GND         | GND     | Ground                                   |
| 15  | CSI_VIO_SEL | 3V3     | GPIO, Default High                       |
| 16  | NC          | NC      | Reserved                                 |
| 17  | NC          | NC      | Reserved                                 |
| 18  | NC          | NC      | Reserved                                 |
| 19  | FRAME_SYNC  | 3V3     | GPIO, FRAME SYNC (PWM)                   |
| 20  | GND         | GND     | Ground                                   |

\*Note 1: Power can be supplied by the header or the DC jack by setting the power selection jumper correctly.

# Camera Connector Pin Description



| No. | Name        | Voltage | Description                |
|-----|-------------|---------|----------------------------|
| 01  | 3V3         | 3V3     | Power                      |
| 02  | I2C_SDA     |         | Two-Wire Serial Data       |
| 03  | I2C_SCL     |         | Two-Wire Serial Clock      |
| 04  | GND         | GND     | Ground                     |
| 05  | Reserved    |         | Reserved                   |
| 06  | CSI_RST     |         | Camera reset Input         |
| 07  | GND         | GND     | Ground                     |
| 08  | CSI_CAM_DP3 |         | MIPI Data Lane 3 Positive  |
| 09  | CSI_CAM_DN3 |         | MIPI Data Lane 3 Negative  |
| 10  | GND         | GND     | Ground                     |
| 11  | CSI_CAM_DP2 |         | MIPI Data Lane 2 Positive  |
| 12  | CSI_CAM_DN2 |         | MIPI Data Lane 2 Negative  |
| 13  | GND         | GND     | Ground                     |
| 14  | CSI_CAM_CKP |         | MIPI Clock Lane Positive   |
| 15  | CSI_CAM_CKN |         | MIPI Clock Lane Negative   |
| 16  | GND         | GND     | Ground                     |
| 17  | CSI_CAM_DP1 |         | MIPI Clock Lane 1 Positive |
| 18  | CSI_CAM_DN1 |         | MIPI Clock Lane 1 Negative |
| 19  | GND         | GND     | Ground                     |
| 20  | CSI_CAM_DP0 |         | MIPI Clock Lane 0 Positive |
| 21  | CSI_CAM_DN0 |         | MIPI Clock Lane 0 Negative |
| 22  | GND         | GND     | Ground                     |

## Order Information

### VL-FPD3-8CAM-RPI22-xxxx

| Option              | Code  | Description                           |
|---------------------|-------|---------------------------------------|
| Supported Camera    | FPD3  | FPD-Link III Camera                   |
| Max Camera Channels | 8CAM  | Supports up to 8 synchronized cameras |
| DIO Connector       | RPI22 | 22 pin Standardized Connector         |
| Custom ID           | xxxx  | Custom Part number ID                 |

For customization, please contact your TechNexion sales representative.

## Compatibility

Compatible with TechNexion FPD-Link III cameras. Easily integrates with VizionSDK for multi-camera sync, image control, and development.



| < 2 MP                                                                                                                    | 5 MP                                                                                                                       | 8 MP                                                                                                                       | 10 ~ 20 MP                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
|  <b>AR0144</b><br>Global<br>Color        |  <b>AR0521</b><br>Rolling<br>Color        |  <b>AR0821</b><br>Rolling<br>Color      |  <b>AR1335</b><br>Rolling<br>Color      |
|  <b>AR0145</b><br>Global<br>Color/Mono   |  <b>AR0522</b><br>Rolling<br>Color/Mono   |  <b>AR0822</b><br>Rolling<br>Color/Mono |  <b>AR2020</b><br>Rolling<br>Color/Mono |
|  <b>AR0234</b><br>Global<br>Color       |  <b>AR0524</b><br>Global<br>Color/Mono   |  <b>AR0830</b><br>Rolling<br>Color     |                                                                                                                            |
|  <b>AR0235</b><br>Global<br>Color/Mono |  <b>AR0544</b><br>Rolling<br>Color/Mono |                                                                                                                            |                                                                                                                            |
|  <b>AR0246</b><br>Rolling<br>Color     |                                                                                                                            |                                                                                                                            |                                                                                                                            |

## Software Support

Compatible with VizionSDK — a cross-platform C++, Python SDK for Windows and Linux.



VizionSDK



VizionViewer™



Find all Software on

<https://www.technexion.com>

# Software SDK Available

**TechNexion**  
INNOVATORS OF TECHNOLOGY

For more information:

 [www.technexion.com](https://www.technexion.com)

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