D315
Carrier Board built with NVIDIA® Jetson AGX Orin™ module

Suggested Vertical Markets
AMRs/Smart Security/Smart Inspection

Enterprise-Leading Features
- 120-pin high speed connector for MIPI SerDes cameras, such as GMSL2/FPD-link III/V-by-One® HS, to deploy in AMRs application
- 1x GbE & 1x 10G RJ-45 ethernet for dozens of IP cameras streaming simultaneously in smart security application
- 10GigE Vision camera connector for smart inspection and 1x PCIe slot for multi-function expansion.
- 1x M.2 E key for Wi-Fi 6E, 1x mPCIe for 4G & 5G with adapter card, and 1x M.2 M key for SSD and capture
- Operating temperature: -25°C ~ 85°C (TBD)
- Dimension: 141.5mm(W) x 133.5mm(L) x 29mm(H)

Expandability
In addition to the default selection of interfaces, frame grabbers can be added for expanded functionality.

<table>
<thead>
<tr>
<th>Model</th>
<th>Host Interface</th>
<th>Video Interface</th>
<th>Max Input Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN312MW</td>
<td>M.2 M key 2280</td>
<td>1x SDI; 1x HDMI</td>
<td>2Kp60 in (SDI) 1920 x 1200p60 in (HDMI) 1080p out</td>
</tr>
<tr>
<td>CN312SW</td>
<td>M.2 M key 2280</td>
<td>2x SDI</td>
<td>2Kp60 in - 1080p out</td>
</tr>
<tr>
<td>CN311-H</td>
<td>M.2 M key 2280</td>
<td>1x HDMI</td>
<td>4096 x 2160p30</td>
</tr>
<tr>
<td>CL312H1</td>
<td>HDMI Type A</td>
<td>2 x HDMI</td>
<td>4096 x 2160p30</td>
</tr>
</tbody>
</table>

Interface

- 1 x SIM Slot
- 1 x mPCIe
- 1 x M.2 2280 M Key
- 1 x 120-pin
- 40-pin Expansion Header
- 1 x HDMI 2.0
- 1 x GbE RJ-45
- 2 x USB 3.0
- 2 x USB 2.0
- 1 x M.2 2230 E Key
- 1 x CAN Bus
- 1 x Micro SD
- 1 x PCIe x16 for multi function and 3x10G
- Recovery
- Power Button
- DC- IN ATX 4-pin 12-54V
- DC-IN

Datasheet v3.r1
MIPI/SerDes Cameras Compatibility

<table>
<thead>
<tr>
<th>MIPI Camera</th>
<th>SerDes Camera</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raspberry Pi (2Lane/15-pin)</td>
<td>e-con (GMSL2)</td>
</tr>
<tr>
<td>APPRO (2Lane/15-pin)</td>
<td>STURDeCAM20 2 STURDeCAM25 3.NileCAM21</td>
</tr>
<tr>
<td>e-con (2 Lane/1-pin)</td>
<td>oToBrite (FPD-link III) oToCAM250/ oToCAM206</td>
</tr>
<tr>
<td>APPRO (4 Lane/36-pin)</td>
<td>APPRO (V-by-One® HS)</td>
</tr>
</tbody>
</table>

Specifications

- **NVIDIA Jetson SoM**: NVIDIA® Jetson AGX Orin™ module (32GB or 64GB)
- **Networking**
  - 1x GbE RJ-45
  - 1x 10G RJ-45
- **Display Output**: 1x HDMI 2.0 (3840x2160 at 60Hz)
- **Temperature**: Operating temperature -25°C~85°C (TBD)
  Storage temperature -40°C ~ 85°C
  Relative humidity 40 ℃ @ 95%, Non-Condensing
- **MIPI & SerDes Camera (120-pin)**: GMSL2/FPD-link III/V-by-One® HS (optional)
- **USB**
  - 1x USB 2.0 Micro-B for recovery
  - 2x USB 2.0 Type-A
  - 2x USB 3.2 Type-A
- **Audio**: Intel HD Audio analog connector
- **Storage**: 1x micro-SD card slot
- **Expansion Header**
  - 40-pin (UART, SPI, CAN, I2C, I2S, GPIOs )
  - 1x M.2 E key (for Wi-Fi 6E)
  - 1x M.2 M key (for SSD or AVerMedia capture card: CL312H1, CN311-H, CN312SW, CN312MW)
  - 1x Micro SIM socket
  - 1x mPCIe (for 4G LTE module or 5G module via adapter card)
  - 1x PCIe x16
  - 1x CAN bus with transceiver
  - 120-pin (for MIPI SerDes)
- **Input Power**: DC in jack on board & ATX 4-pin (54V/2.78A, 12V~54V is recommended)
- **Power Cord**: US/JP/EU/UK/TW/AU/CN
- **Thermal Solution**: Fan (optional)
- **Buttons**: Power and Recovery
- **RTC Battery**: Support RTC Battery and Battery Life Monitoring by MCU
- **Dimensions**: 141.5mm (W) x 133.5mm (L) x 29mm (H)
  Weight: 200g
- **Certifications**: CE, FCC, KC (To be applied)