



Single Slot VPX Packaging

VITA 48.2 Advanced Thermal Solutions 100 Series AoC3U-100

The AoC3U-100 is a rugged single slot packaging solution designed for 3U VPX and SOSA aligned payload cards supporting high speed connectivity with GbE, 10GbE, RF and optical interfaces. The compact and lightweight design addresses a wide range of EW / ISR and radar uses in ground and airborne assets where size constraints and functional performance in demanding environments are key. It is intended for sensor systems in C5ISR applications where programs mandate SOSA aligned plug in payload cards in accordance with the DoD hardware and software convergence initiative. The chassis is also ideally suited for software defined radio / RF tuner content as well as new RFSoc board designs for 3U VPX. **Secure** internal interconnections ensure the signal integrity and signal speed requirements of these sensitive and critical applications. An integrated and low profile power supply provides all necessary power requirements while reducing chassis height and weight. The AoC3U-100 is a VITA 48.2 conduction cooled chassis with air assist and incorporates a dual high cfm fan bank for optimal heat dissipation. The customizable I/O panel enables variations of connectors for application specific signal requirements.



AoC3U-100
Air-over-conduction



CC3U-100
Passive Conduction

Features

- Cooling for up to 140W of total power
- Custom backplane supporting SOSA aligned and VPX slot profiles and VITA 66 and 67 apertures
- Custom I/O panel with options for high speed RF, copper and optical signals
- Gasketing for protection against EMI and environmental ingress
- I/O panel with space for 2 x 38999 connectors plus SMA ports
- 28V input voltage MIL-STD-461 SFF power supply
- Secure internal connections ensure the signal integrity and signal speed requirements
- Designed for VITA 48.2 conduction cooled boards.
- AoC design provides high cfm air flow
- Single uni-body chassis
- Designed to meet 55C ambient temperature requirements

Benefits

- Compact light weight design for SWaP sensitive applications
- Enhanced cooling for high TDP operation
- Rugged construction for optimal performance in demanding environments



The AoC3U-100 is a robust packaging solution which be be used for sensor applications where high speed RF and optical processing payload modules are deployed in EW / ISR operations and a range of radar applications. It is also designed to enable airborne, dismounted, mounted usage for many critical defense applications.

SPECIFICATIONS

Physical

Dimensions: 2.86" H x 5.72" (W) x 12.45" (D) excluding connectors and mounting plate
 Machined aluminum alloy 6061-T6, bolt together construction
 Weight: Approximately 10lbs including payload

Backplane options

Custom single slot backplanes for 3U VPX, SOSA aligned module profiles including VITA 67.1 RF and VITA 66.4 optical apertures

Thermal

Operating: -40°C to 55°C
 2 x high cfm fans
 150W TDP at sea level
 Thermal load: Up to 140W

I/O Capabilities

Custom I/O panel supporting high speed connectivity
 High density MIL-STD 38999 circular connectors
 High speed 10GbE 38999 connectors, rugged SMA and Mighty Mouse connectors for RF and optical I/O

Environmental

Shock: 30Gs @ 11ms half sine
 Vibration: 20 to 2000Hz at 5Gs
 Designed to meet MIL-STD-810 and 461 test methods

Payload Compatibility

3U VPX and SOSA aligned payload boards supporting high speed RF, optical, GbE and 10GbE I/O requirements in defense programs that mandate SOSA aligned plug in cards

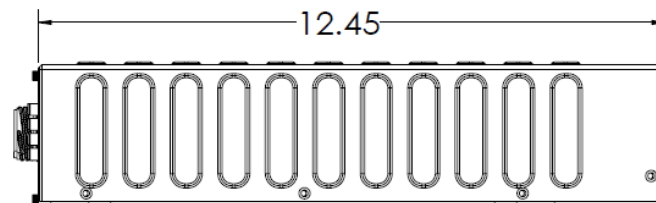
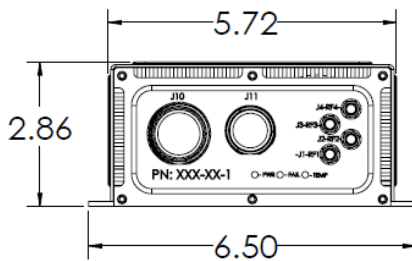
Power Supply

Custom small form factor power supply supporting MIL-STD-461, MIL-STD-704, MIL-STD-1275 requirements
 Input voltage: 9 to 36 VDC
 Voltages: VS1 12VDC, VS2 3.3V AND VS3 5VDC
 Auxiliary: 3.3 VDC, +/-12 VDC
 Output: up to 140W total

Applications

As an advanced packaging solution, the AoC3U-100 enables the deployment in demanding environments of counter ISR systems, multi-mission EW, navigational systems, air and ground surveillance radar, fire control radar, on the move radar, multi-mission radar systems and more.

Chassis Dimensions



Example I/O Panel Shown

LCR provides a full line of VPX products and services - everything you need from development to deployment including; COTS rugged application ready chassis solutions as well as custom designs, custom 3U VPX backplanes supporting the latest slot profiles plus development tools including load boards and test fixtures.

ORDER NUMBER	DESCRIPTION
Consult LCR Sales	AoC3U-100 conduction cooled chassis with air assist for 3UVPX module payloads. Part number and description based on final order configuration
Consult LCR Sales	CC3U-100 passive conduction cooled chassis for 3UVPX module payloads. Part number and description based on final order configuration