# 1/2 or 1/4 ATR Chassis, Rear Loaded for 3U OpenVPX, Conduction Cooled

# ATR012/ATR014 CC

## KEY FEATURES

- Modular Rugged MIL 1/2 ATR or 1/4 ATR enclosure for 3U OpenVPX
- Designed for cold plate or natural convection options
- Versions for SOSA aligned requirements available
- Customizable enclosure based upon proven modular components & techniques
- Front or rear loaded
- Short or Long depths and Short or Tall heights
- 3U backplanes up to 5 slots of OpenVPX or other architectures, SOSA options
- Facilitates VITA 66 (optical) and/or VITA 67 (RF) cabling
- Optional pluggable PSU/VITA 62 slot PSU options, MIL 704
- 12V, 5V, and 3.3V power outputs standard
- Optional custom front panel options with filtering, MIL 38999 connectors, etc.

The ATR012 and ATR014 are modular MIL-rugged ATR enclosures, geared for 3U OpenVPX / SOSA aligned designs. The versatile design allows multiple customizable configuration based on proven components and design techniques. Pixus Technologies leverages over 20 years of superior cooling, mechanical design, and backplane innovation.

The ATR01x features a rugged, construction with dip brazing or wire EDM. The ATR enclosures are designed to meet MIL-STD-810 for shock and vibration, MIL-STD-461 for EMI, and DO-160 for avionics requirements.

The Pixus ATR01x has optional MIL-STD-704F power supplies. The ATR01x can be designed/configured with components suited for altitudes above 30,000 feet.

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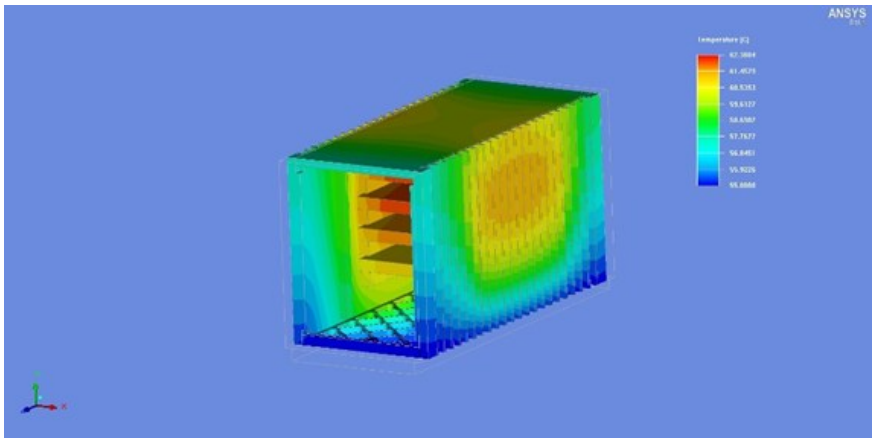
## 3+1 slot, 3U OpenVPX 1/2 ATR, rear loaded example

Specifications of 3 VPX + 1 PSU slot example:

- 6” High x 4.88” width x 10.75” long
- 3-slot OpenVPX backplane, BKP3-CEN03-15.2.9 profile is optional
- 1 VITA 62 PSU (300W-600W, 28VDC input standard), various wattage and inputs optional
- Dip-brazed or screwed versions optional
- Heat dissipation in excess of 175W
- Weight: approx. 8 lbs. for bare metal and 12 lbs including the backplane, connectors, cabling, etc

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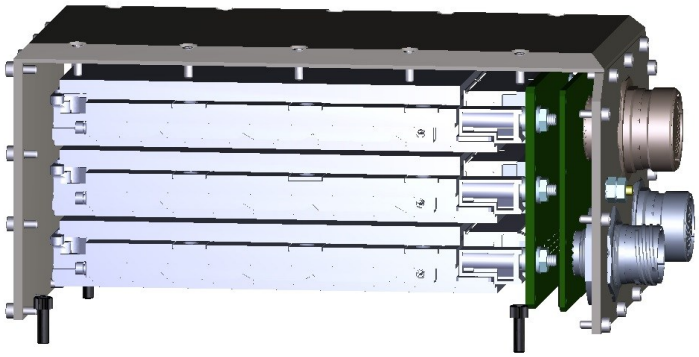
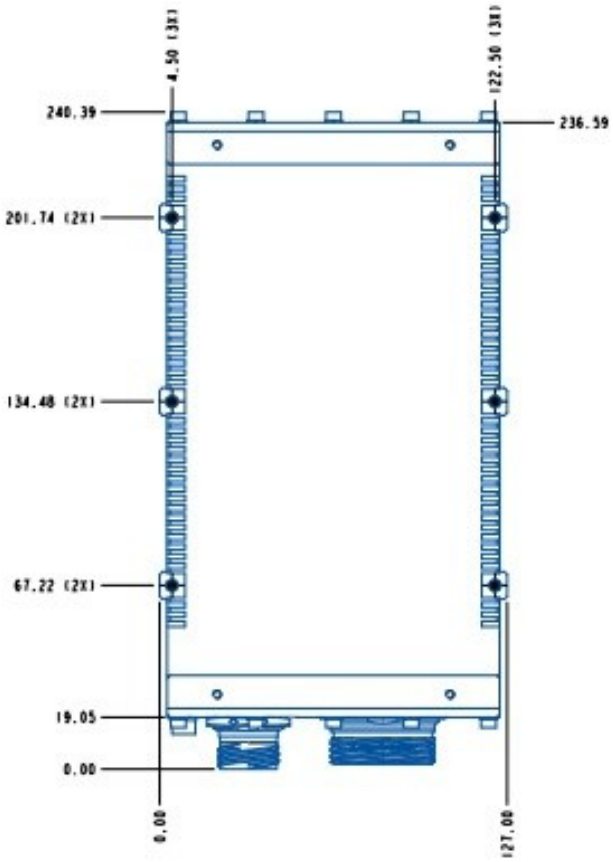
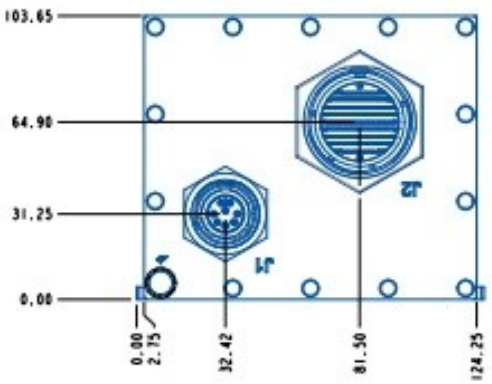
## 2+1 slot, 3U OpenVPX 1/4 ATR, rear loaded example






Specifications of 2 VPX + 1 PSU slot example:

- ~ 4.08” High x 4.89” width x 8.71” long (not including I/O connectors)
- 2-slot OpenVPX backplane plus a VITA 62 PSU slot, various backplane configurations and speeds available
- Heat dissipation ~ 300W at 60C cold plate
- Customizable I/O options

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## SOSA Aligned Slot Profiles

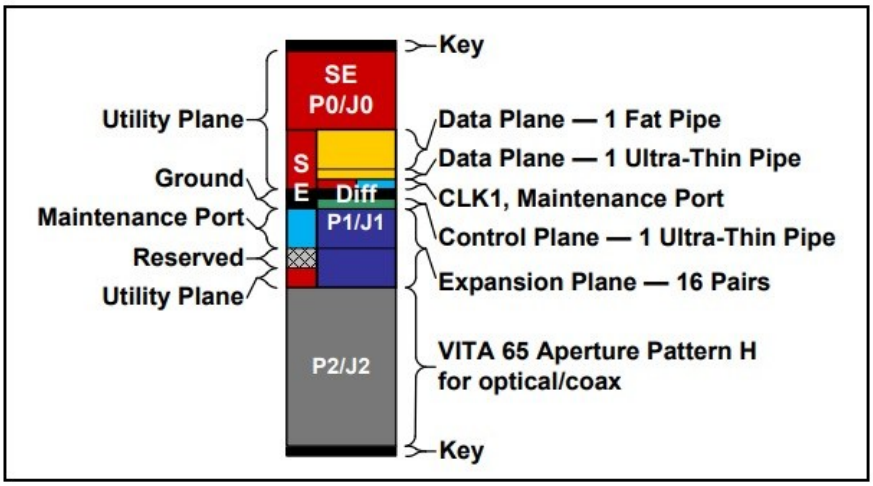


Figure 14.6.11-1 SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11-n

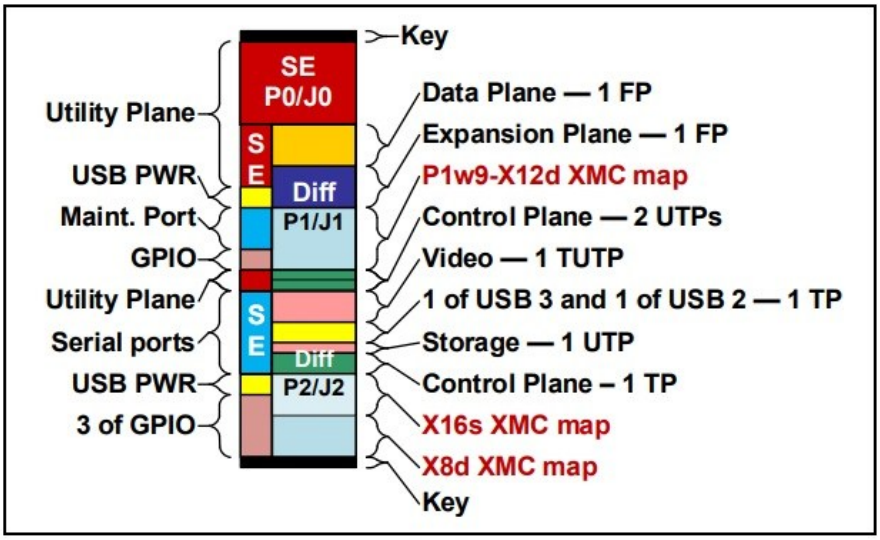


Figure 14.2.16-1 SLT3-PAY-1F1F2U1TU1T1U1T-14.2.16

Pixus has multiple backplane options that support various SOSA slot profiles. SOSA aligned systems utilize just the 12V (VS1) rail along with some 3.3 AUX. The IPMB is routed across the backplane to support the use of a SOSA aligned chassis manager and VITA 46.11 compliant versions. Visit https://pixustechnologies.com/products/enclosure-system-solutions/vpx-vme64x-chassis-2/openvpx-3u-6u-sosa/ to see Pixus' offering of SlotSaver™ mezzanine-based and pluggable SOSA aligned/VITA 46.11 chassis manager options.

An examples of the wide variety of options are shown below. Several of the Pixus power and ground and routed backplanes have cutouts for Aperture H (VITA 67.3c) or other RF/Fiber sizes (Aperture J—VITA 67.3d, etc)

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## SPECIFICATIONS

| | | |
|---|---|---|
| **Architecture** | | |
| Physical | Dimensions | Height: 152.5 mm to 254 mm (configuration dependent), ~104mm for 1/4 ATR version |
| | (from aspect of front of card cage) | Width: ~ 124mm for 1/2 ATR, ~ 108mm for 1/4 ATR |
| | | Depth: 248 mm to 352 mm for 1/2 ATR (configuration dependent), ~ 218mm for 1/4 ATR |
| Weight | ATR chassis | 1/4 ATR is ~ 5.78 lbs and 1/2 ATR 3+1 slot is ~ 10.8 lbs |
| Type | ATR chassis | |
| **Standards** | | |
| ARINC | Type | ARINC 404, options for 600 |
| MIL-STD | Type | 810 (shock, vibration), 461 (EMI), 704 (power), D0-160 (avionics) |
| VITA | Specification | VITA 48, VITA 65, VITA 66 (optional), VITA 67 (optional) |
| **Configuration** | | |
| Power | Type | 28VDC, 48VDC, 90-264VAC input @ 47-880Hz |
| | | Various output options for 3U OpenVPX (3.3V, 5V, +/- 12V, 3.3 AUX, + 12V AUX) |
| Environmental | Temperature | Operating temperature: -40° to +85°C |
| | | Storage temperature: -55° to +90°C |
| | Altitude | Application dependent, consult Pixus for details |
| | | |
| | | |
| Conformal Coating | | Upon request (See page 6 selection "J" for available options) |
| | | |
| **Other** | | |
| MTBF | MIL Handbook 217-F@ TBD Hrs. | |
| Certifications | Designed to meet FCC, CE and UL certifications where applicable | |
| Standards | ISO9001:2015 and AS9100B standards | |
| Compliance (DTM) | MIL-STD-810, MIL-STD-461, DO-160 (original configuration flight tested) | |
| Warranty | Two years | |
| Trademarks and logos | The Pixus Logo is a registered trademark of Pixus Technologies Inc. other registered trademarks are the property of their respective owners. Specs. subject to change without notice. | |

# 1/2 or 1/4 ATR Chassis, Rear Loaded for 3U OpenVPX, Conduction Cooled

## ORDERING OPTIONS

**ATR01X-ABCDD-EFG-H0J**

2 = 1/2 ATR
4 = 1/4 ATR

### A = Depth

T = Long (to 275 mm, standard)
S = Short (to 248 mm)  E = Extra Short for 1/4 ATR (to 218mm)
X = Other

### B = Height

M = Medium (to 178 mm)  T = Tall (to 254 mm)
S = Short (to 152.4 mm)  E = Extra Short for 1/4 ATR (to 104mm)  X = Other

### C = Backplane

1 = Reserved
2 = 3U OpenVPX
3 = Reserved
4 = Reserved

### DD = Payload Slots (not including PSUs)

Example 0n = n slots
01 = 1 slot
02 = 2 slots
03 = 3 slots
09 = 9 slots

### E = PSU Input

1 = 8-36 (28V nominal) DC
2 = 48V DC
3 = 85-264V AC
4 = Custom
5 = 3 phase AC (100-125V)
6 = 220-320V DC (270V nominal)

### F = PSU Output

1 = Reserved
2 = Reserved
3 = Reserved
4 = Reserved
5 = 3U OpenVPX voltages, 12V SOSA (+ 12V, 3.3 AUX, VBAT)
6 = 3U OpenVPX voltages (3.3V, 5V, +/- 12V, 3.3 AUX, + 12V AUX)
7 = Other

### G = Cooling

1 = Conduction cooled—no fans (standard)
2 = Sealed with heat exchange (customized option)

### H = Backplane Speed

0 = Reserved
1 = 6.25 GB/s
4 = Other
2 = 8 GB/s (for PCIe Gen3)
3 = 40GbE or equivalent
5 = 100GbE or equivalent

### 0 = Finish/Coating

0 (or Blank) = Clear chromate finish (standard)
1 = Painted (contact Pixus for options)
2 = Anodized (external only)

### J = Conformal Coating

0 = None
1 = Humiseal 1A33 Polyurethane
2 = Humiseal 1B31 Acrylic
3 = Other

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