



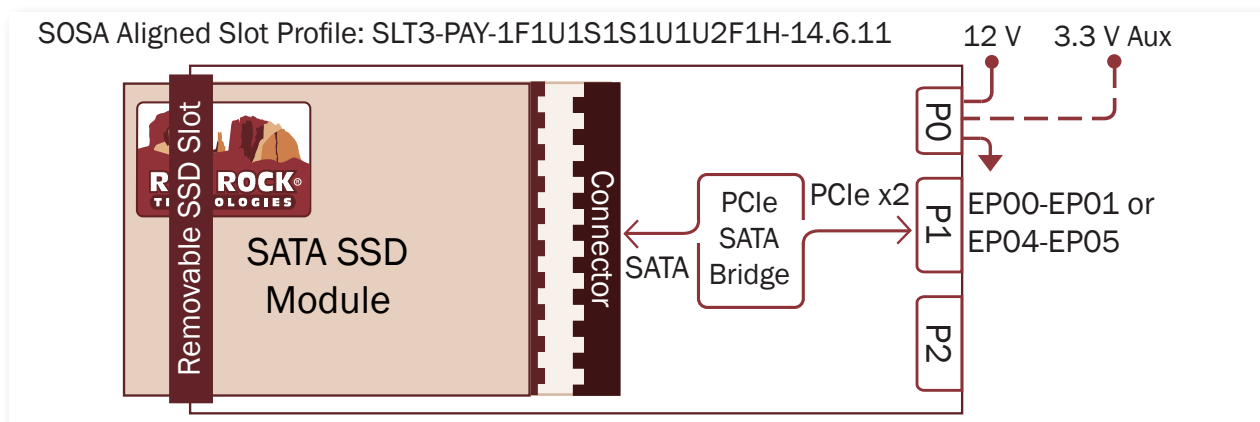
# RRT-3UVPX-PCIe-R-A 3U VPX Air Cooled Carrier with PCIe Interface and Removable SSD Module

- Capacities up to 20 TB
- 600 MB/S Transfer rates
- Removable SSD module
- OpenVPX Thin Pipe (TP) PCIe x2 interface
- 100,000 mating cycles
- VITA 65 Slot Profiles:
  - SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11
    - VPX P1 EP00-EP01 OR
    - VPX P1 EP04-EP05
  - SLT3-PER-1F-14.3.2
- VITA 46, 47, 48, 65
- Boot and/or storage disk
- Air cooled
- COTS 2.5" SATA SSDs
- SATA3 (SATA600) Interface to SSD
- Military erase, FIPS140-2, FIPS197, TCG Opal options
- Option for thumbscrews to remove drive module without tools
- IDE or AHCI Mode
- Desktop version available to connect drive module to PC
- VxWorks, Linux and Windows support



**3U VPX AIR COOLED CARRIER WITH PCIe INTERFACE AND REMOVABLE SSD MODULE** is for applications that require the frequent removal of SSD, fast transfer rates and large capacities. It consists of two components: the 3U VPX carrier board with PCI express (PCIe) interface that mounts in one slot of 3U VPX chassis and the removable SATA SSD Module. The connectors between the drive module and the carrier are rated for 100,000 mating cycles to support frequent insertions and removals.

The drive module can use any COTS 2.5" SATA Solid State Drive (SSD) providing capacities up to 20TB and transfer rates of up to 600MB/S. Options for FIPS140-2, FIPS197, TCG Opal, and military erase.



# Ordering Information

## 3U VPX Air Cooled Carrier with PCIe Interface

RRT-3UVPX-PCle-R- **A100** - **P1EP00EP01** - **UR** - **X**

### Requirements

#### Cooling

A080	Air Cooled, 0.80" Pitch
A085	Air Cooled, 0.85" Pitch
A100	Air Cooled, 1.00" Pitch

#### VPX Interface

P1EP00EP01	Payload Slot EP00-EP01 (SOSA Aligned)
P1EP04EP05	Payload Slot EP04-EP05 (SOSA Aligned)
PER	Peripheral Slot

### Options May be left blank

<u>Extended Temperature Range</u>	
X	-40°C to 85°C

<u>Conformal Coating</u>	
UR	Polyurethane
AR	Acrylic

#### ORDER EXAMPLES

RRT-3UVPX-PCle-R-A100-P1EP00EP01-UR-X  
RRT-3UVPX-PCle-R-A080-PER

## Removable SATA SSD Drive Module

RRT-DM-SATA- **MLC** - **20TB** - **UR** - **X** - **FE** - **TS**

### Requirements

#### NAND Flash Type

HDD	Hard Disk Drive
TLC	3D NAND
MLC	Multi Level Cell
SLC	Single Level Cell

#### Capacity

1TB - 5TB	For HDD
120GB - 8TB	For TLC
60GB - 20TB	For MLC
7GB - 240GB	For SLC

### Options May be left blank

<u>No Tools</u>	
TS	Thumbscrews

#### Security

FE	Fast Erase
SE1	NSA/CSS Manual 9-12 Erase
SE2	RCC-TG IRIG 106-107 Chapter 10 Erase
OPAL	TCG Opal Compliant SSD
FIPS140-2	FIPS 140-2 Compliant SSD
FIPS197	FIPS 197 Compliant SSD

<u>Extended Temperature Range</u>	
X	-40°C to 85°C

<u>Conformal Coating</u>	
UR	Polyurethane
AR	Acrylic

#### ORDER EXAMPLES

RRT-DM-SATA-SLC-240GB-TS  
RRT-DM-SATA-MLC-20TB-UR-X-SE1  
RRT-DM-SATA-HDD-1TB-FIPS140-2

# Product Specifications

## 3U VPX AIR COOLED CARRIER WITH PCIE INTERFACE AND REMOVABLE SSD MODULE

### PERFORMANCE

NAND FLASH TYPE	HDD	SSD: TLC	SSD: MLC	SSD: MLC-X	SSD: SLC
CAPACITIES <sup>1</sup>	Up to 5TB	Up to 8TB	Up to 20TB		Up to 240GB
INTERFACE <sup>2</sup>	PCIe Gen 2 x 2				
THROUGHPUT - SUSTAINED	130 MB/S	400 MB/S			

### RELIABILITY

MTBF-DRIVE	500,000 hours	1 million hours	2 million hours		3 million hours
MTBF-DRIVE MODULE	3 million hours				
MTBF-VPX BOARD <sup>3</sup>	3 million hours				
DATA RETENTION	Not applicable	1 year			10 years
ENDURANCE (100GB) TOTAL BYTES WRITTEN	Not applicable	70 TBW			350 TBW
CARRIER/DRIVE MODULE MATING CYCLES	100,000 mating cycles				

### POWER

VOLTAGE-PAYLOAD SLOT	+12V, +3.3V Aux				
VOLTAGE-STORAGE	+5V +/- 5%				
WATTS (IDLE)	1 W	1.2 W	3.5 W	1 W	
WATTS (ACTIVE)	2.5 W	4 W	10 W	2.5 W	

### ENVIRONMENTAL

OPERATING TEMP., VITA 47 CLASS	5 °C to 55 °C	0 °C to 60 °C, AC1	0 °C to 70 °C, AC1	See MLC	0 °C to 70 °C, AC1
EXTENDED OPERATING TEMP., VITA 47 CLASS <sup>4</sup>	Not available		See MLC-X	-40 °C to 85 °C, AC3	
STORAGE TEMP.	-40 °C to 70 °C	-40 °C to 85 °C			
ALTITUDE	10,000 ft. (3,000 meters)			80,000 ft. (24,000 meters)	
RELATIVE HUMIDITY	5% to 95% non-condensing				
SHOCK, VITA 47 CLASS <sup>5</sup>	20g, 11 millisecond terminal sawtooth pulse, OS1			40g, 11 millisecond terminal sawtooth pulse, OS2	
VIBRATION, VITA 47 CLASS <sup>6</sup>	0.04 g <sup>2</sup> /Hz, 5 Hz to 100 Hz, V1			0.1 g <sup>2</sup> /Hz, 100 Hz to 1000 Hz, V3	

### PHYSICAL

FORM FACTOR	3U VPX
WEIGHT	10 oz. max
PITCH	0.8", 0.85", and 1.0" options

### NOTES

- (1) Larger capacities available as new COTS 2.5" drives released
- (2) Interface connected via compatible slot profile SLT3-PAY-1F1U1S1S1U1U2F1H-146.11 or SLT3-PER-1F-14.3.2
- (3) Telcordia SR-322, Issue 3, operating temp (40C), electrical stress (50%), environmental factor (1.0)
- (4) Thermal qualification per MIL-STD-810, Method 501, Procedure II, and MIL-STD-810, Method 502, Procedure II
- (5) Shock qualification per MIL-STD-810F, Method 516, Procedure I
- (6) Vibration qualification per MIL-STD-810F, Method 514, Procedure I



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