

# RRT-3UVPX-NVMe-R

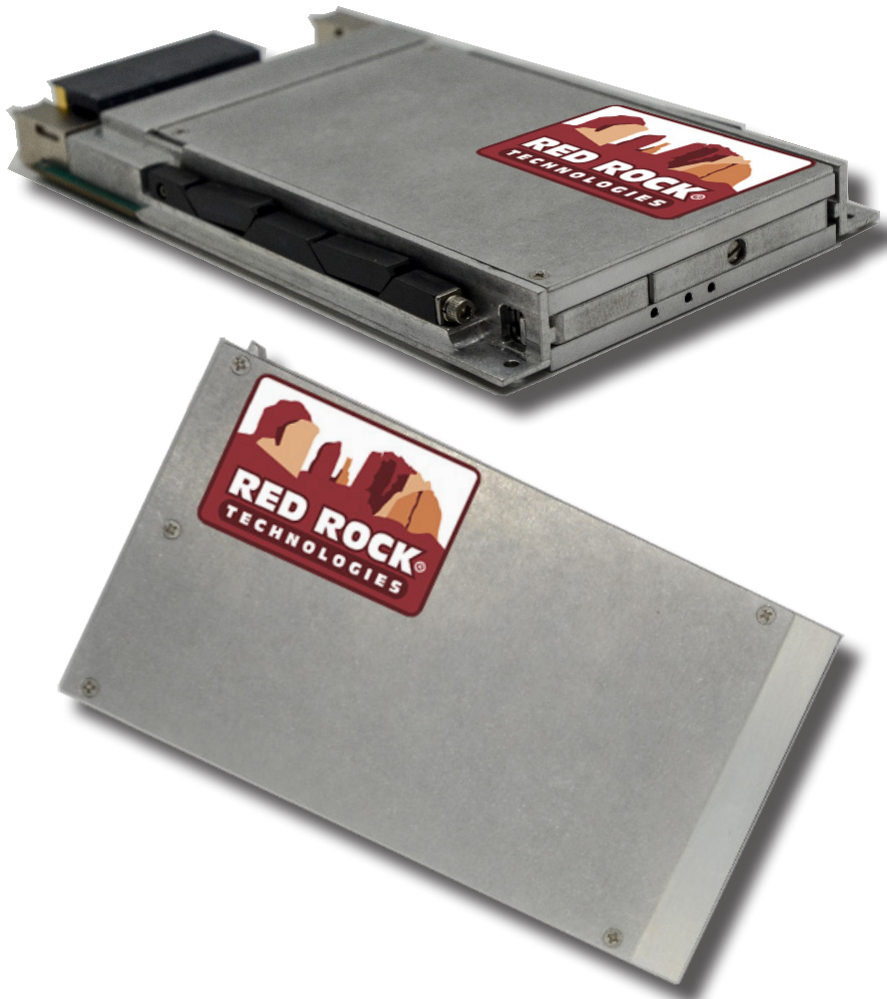
## 3U VPX NVMe Carrier with Removable Drive Module

The 3U VPX NVMe carrier with removable drive 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 NVMe drive 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 U.2 NVMe Solid State Drive (SSD) providing capacities up to 16TB and transfer rates of up to 3940 MB/S. Options for TCG opal and military erase.

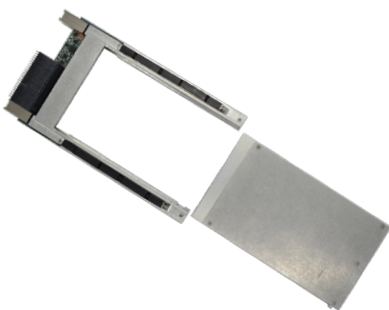
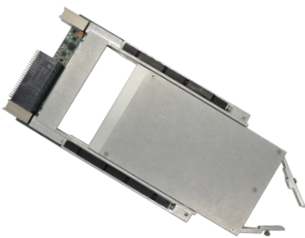
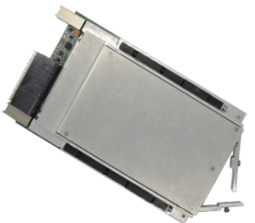
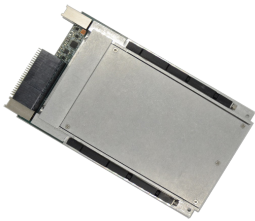
### FEATURES

- Capacities up to 16 TB
- Transfer rates up to 3940 MB/S
- Removable SSD module
- PCIe Gen 3 x 4 interface
- 100,000 mating cycles
- OpenVPX Fat Pipe (FP) MOD-3-PER-1F-16.3.2.1 or 2
- VITA 46, 47, 48, 65
- Provides boot disk and/or disk storage
- Conduction or air cooled versions
- Uses COTS U.2 NVMe SSDs
- Military erase options
- TCG Opal options
- Rugged design
- VxWorks™, Linux and Windows™ support



# ORDERING INFORMATION

**EASILY REMOVE SSD DRIVE  
MODULE FROM VPX BOARD**



**RRT-3UVPX-NVMe-R---**

COOLING	
C	CONDUCTION COOLED
A100	AIR COOLED, 1.00" PITCH
CONFORMAL COATING *	
UR	POLYURETHANE
AR	ACRYLIC
EXTENDED TEMP. RANGE *	
X	-40° C TO 85° C

**EXAMPLES:**

RRT-3UVPX-NVMe-R-C-UR-X  
RRT-3UVPX-NVMe-R-A100

**RRT-DM-NVMe-----**

SSD TYPE	
TLC	TRI LEVEL CELL
MLC	MULTI LEVEL CELL
pSLC	PSUEDO SINGLE LEVEL CELL
CAPACITY	
CAPACITIES UP TO 16 TB	
SECURITY *	
FE	FAST ERASE
OPAL	TCG OPAL COMPLIANT
SE1	NSA/CSS MANUAL 9-12 ERASE
SE2	RCC-TG IRIG 106-107 CHAPTER 10 ERASE
CONFORMAL COATING *	
UR	POLYURETHANE
AR	ACRYLIC
NO TOOLS *	
TS	THUMB SCREWS
EXTENDED TEMP. RANGE *	
X	-40° C to 85° C

**EXAMPLES:**

RRT-DM-NVMe-TLC-16TB  
RRT-DM-NVMe-pSLC-1TB-SE1-UR-X  
RRT-DM-NVMe-MLC-8TB-UR-X

**\* OPTIONS MAY BE LEFT BLANK**



PERFORMANCE			
NAND FLASH TYPE	TLC	MLC-X	pSLC-X
CAPACITIES <sup>1</sup>	UP TO 16TB	UP TO 8TB	UP TO 4TB
INTERFACE <sup>2</sup>	PCIe GEN 3 X 4	PCIe GEN 2 x 4	PCIe GEN 2 x 4
THROUGHPUT	3940 MB/S	800 MB/S	1000 MB/S
RELIABILITY			
MTBF-DRIVE	2 MILLION HOURS	2 MILLION HOURS	2 MILLION HOURS
MTBF-VPX BOARD <sup>6</sup>	3 MILLION HOURS	3 MILLION HOURS	3 MILLION HOURS
DATA RETENTION	12 MONTHS	12 MONTHS	12 MONTHS
ENDURANCE (1 TB)	100 TBW	250 TBW	2500 TBW
POWER			
VOLTAGE	12V +/- 5%, +5V +/- 5%, +3.3V +/- 5%		
WATTS (IDLE)	7 W	1.5 W	1.5 W
WATTS (ACTIVE)	20 W	10 W	10 W
ENVIRONMENTAL			
OPERATING TEMP., VITA 47 CLASS <sup>3</sup>	0 to 70C, CC1, AC1	-40 to 85C, CC4, AC3	-40 to 85C, CC4, AC3
STORAGE TEMP.	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C
ALTITUDE	80,000 FT (24,000 MTRS)	80,000 FT (24,000 MTRS)	80,000 FT (24,000 MTRS)
RELATIVE HUMIDITY	5% TO 95%	5% TO 95%	5% TO 95%
SHOCK, VITA 47 CLASS <sup>4</sup>	40 g 11 MILLISECOND HALF-SINE, OS2	40 g 11 MILLISECOND HALF-SINE, OS2	40 g 11 MILLISECOND HALF-SINE, OS2
VIBRATION, VITA 47 CLASS <sup>5</sup>	0.1 g <sup>2</sup> /HZ100 HZ TO 1000 HZ, V3	0.1 g <sup>2</sup> /HZ100 HZ TO 1000 HZ, V3	0.1 g <sup>2</sup> /HZ100 HZ TO 1000 HZ, V3
PHYSICAL			
FORM FACTOR	3U VPX		
WEIGHT	14 OZ MAX		
NOTES			
<p>(1) Larger capacities available as new COTS U.2 NVMe drives released</p> <p>(2) Interface connected via compatible slot profile MOD-3-PER-1T-16.3.3.1 or 2</p> <p>(3) Thermal qualification per MIL-STD-810F, Method 501 Procedure II, and MIL-STD-810F, Method 502, Procedure II</p> <p>(4) Shock qualification per MIL-STD-810F, Method 516, Procedure I</p> <p>(5) Vibration qualification per MIL-STD-810F, Method 514, Procedure I</p> <p>(6) Telcordia SR-332, issue 3, operating temp (40C), electrical stress (50%), environmental factor (1.0)</p> <p>(7) Based on JESD218 standard with 4KB random write workload</p>			

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