



RRT-3UVPX-NVME-QUAD-M2-C 3U VPX Conduction Cooled Quad NVME M.2 SSD Module

- Capacities up to 16TB (4 x 4TB)
- 3940 MB/S Transfer rates per interface
- Two OpenVPX Fat Pipe (FP) PCIe x4 interfaces
- VITA 65 Slot Profiles:
 - SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11
 - VPX P1 EP00-EP03
 - VPX P1 EP04-EP07
- VITA 46, 47, 48, 65
- Boot and/or storage disk
- Conduction cooled
- COTS M.2 NVMe SSDs
- Military erase options
- FIPS140-2, FIPS197, TCG Opal options
- Rugged design

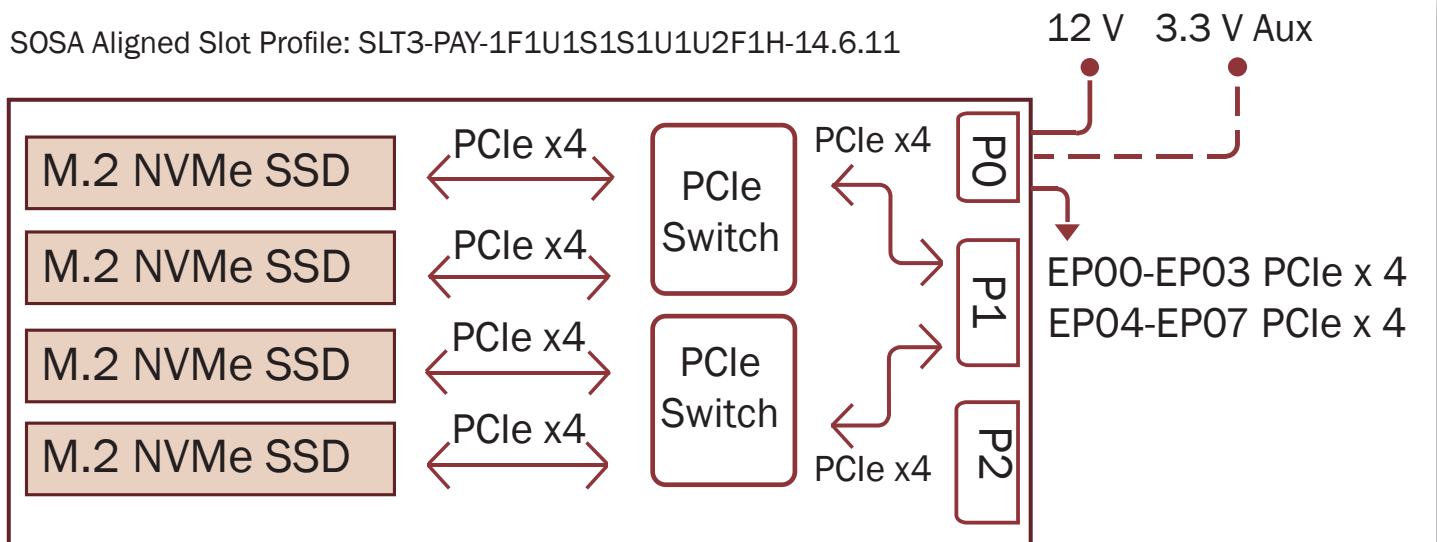


THE 3U VPX CONDUCTION COOLED QUAD NVME M.2 SSD MODULE adds 4 SSDs to a VPX system using one 3U VPX slot with COTS M.2 NVMe Solid State Drives (SSDs) providing a wide range of capacity, speed, environmental and security options.

SOSA Aligned to use standard VITA 65 3U Payload Slot Profile with two OpenVPX Fat Pipes (FP) on Expansion plane:

- VPX P1 EP00 - EP03 PCIe x4 Interface1
- VPX P1 EP04 - EP07 PCIe x4 Interface2

SOSA Aligned Slot Profile: SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11



3U VPX Conduction Cooled Quad NVME M.2 SSD Module

RRT-3UVPX-NVMe-QUAD-M2-C-**TLC** - **3.84TBx4** - **UR** - **X** - **FE**

Requirements

NAND Flash Type

TLC	3D NAND Flash
MLC	Multi Level Cell NAND Flash
pSLC	Pseudo Single Level Cell NAND Flash

Capacity

8GB - 4TB	For TLC
500GB - 4TB	For MLC
500GB - 2TB	For pSLC

Options May be left blank

Conformal Coating

UR	Polyurethane
AR	Acrylic

Extended Temperature Range

X	-40°C to 85°C
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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

ORDER EXAMPLES

RRT-3UVPX-NVME-QUAD-M2-C-TLC-4TBx4
RRT-3UVPX-NVME-QUAD-M2-C-pSLC-1TBx4-UR-X-SE1



Product Specifications

3U VPX CONDUCTION COOLED CARRIER WITH QUAD M.2 NVME SSD MODULES

PERFORMANCE				
NAND FLASH TYPE	TLC	MLC	pSLC	TLC-X
CAPACITIES ¹	Up to 16TB	Up to 16TB	Up to 4TB	Up to 15.3TB
INTERFACE ²	PCIe Gen 3 x 4	PCIe Gen 2 x 4		PCIe Gen 3 x 4
THROUGHPUT - SUSTAINED	3000MB/S (Gen3)	800 MB/S	1000 MB/S	1500MB/S
RELIABILITY				
MTBF - DRIVE	1 million hours		2 million hours	
MTBF - VPX BOARD ³	3 million hours			
DATA RETENTION	1 year		5 years	1 year
ENDURANCE (100GB) TOTAL BYTES WRITTEN	70 TBW		250 TBW	70 TBW
ENDURANCE RATING ⁴	5 years			
POWER				
VOLTAGE - PAYLOAD SLOT	+12V, +3.3V Aux			
WATTS (IDLE)	15 W			
WATTS (ACTIVE)	30 W			
ENVIRONMENTAL				
OPERATING TEMP., VITA 47 CLASS ⁵	0° C to 55° C, CC1		0° C to 60° C, CC1	See TLC
EXT. OPERATING TEMP., VITA 47 CLASS ⁵	See TLC-X	Not available	-40° C to 70° C, CC2	
STORAGE TEMP.	-40° C to 85° C			
ALTITUDE	10,000 ft. (3,000 meters)		80,000 ft. (24,000 meters)	
RELATIVE HUMIDITY	5% to 95%			
SHOCK, VITA 47 CLASS ⁶	20g, 11 millisecond terminal sawtooth pulse, OS1		40g, 11 millisecond terminal sawtooth pulse, OS2	
VIBRATION, VITA 47 CLASS ⁷	0.04 g ² /Hz, 5 Hz to 100 Hz, V1		0.1 g ² /Hz, 100 Hz to 1000 Hz, V3	
PHYSICAL				
FORM FACTOR	3U VPX			
WEIGHT	16 oz. (454 grams)			
PITCH	0.8"			
NOTES				
<p>(1) Larger capacities available as new COTS U.2 NVMe drives released</p> <p>(2) Interface connected via compatible slot profile SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11</p> <p>(3) Telcordia SR-332, issue 3, operating temp (40C), electrical stress (50%), environmental factor (1.0)</p> <p>(4) Based on JESD218 standard with 4KB random write workload</p> <p>(5) Thermal qualification per MIL-STD-810F, Method 501 Procedure II, and MIL-STD-810F, Method 502, Procedure II</p> <p>(6) Shock qualification per MIL-STD-810F, Method 516, Procedure I</p> <p>(7) Vibration qualification per MIL-STD-810F, Method 514, Procedure I</p>				



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