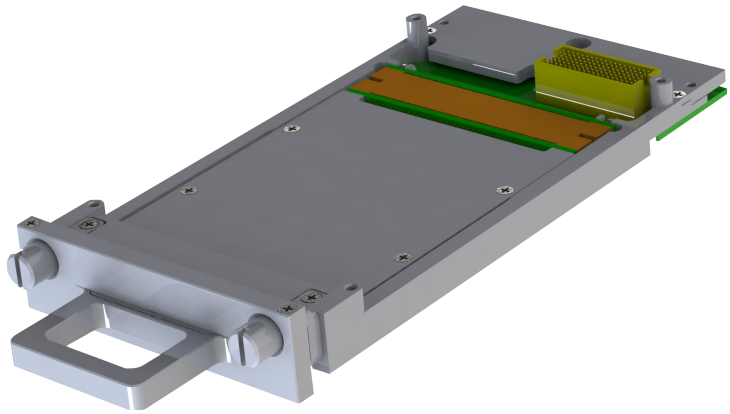
RED ROCK TECHNOLOGIES

RRT-XMC-R-A

XMC with Removable NVMe SSD Module

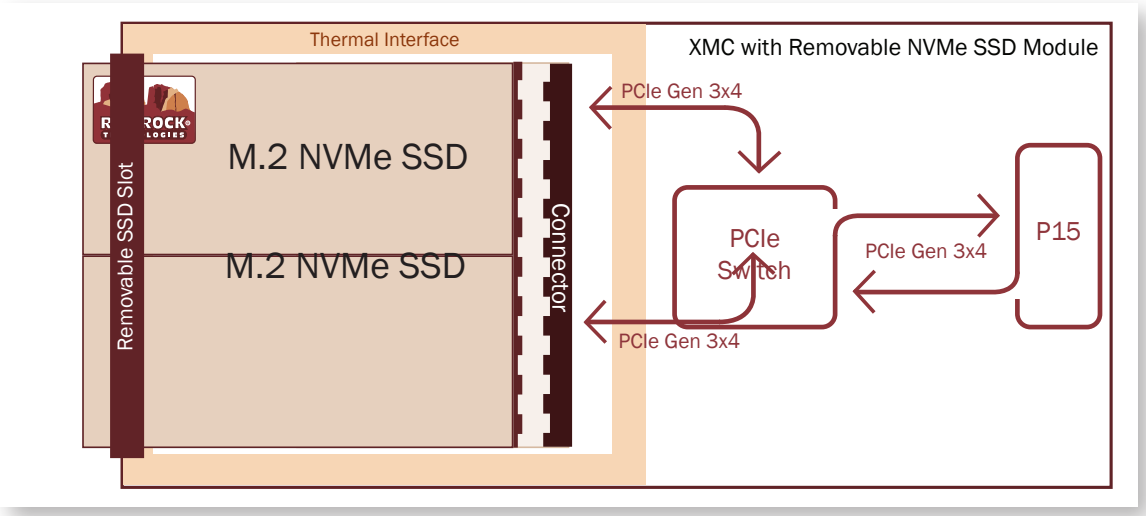
- XMC PCIe Gen 3x4 interface per VITA 42.3
- Transfer rates up to 3000 MB/s (0 to 70C), 1500MB/S (-40 to 85C)
- Capacities up to 16TB (0 to 70C) and 8TB (-40 to 85C)
- Removable SSD module connectors rated for 100,000 mating cycles
- Air cooled
- Wide range of COTS NVME M.2 SSD options
- Meets XMC VITA 42 height requirements
- –X version rated for -40°C to 85°C
- Military erase, FIPS140-2, FIPS197, TCG Opal options
- ROHS compliant



THE XMC WITH REMOVABLE NVME SSD MODULE is a mezzanine storage module that uses PCI Express interface for two M.2 NVME SSDs contained in a removable module.

Provides boot drive and/or disk storage for VPX, VME, cPCI and ATCA single board computers (SBCs) with XMC Slot.

The removable SSD module connectors are rated for 100,000 mating cycles to support frequent insertions/removals.



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Ordering Information

XMC with Removable NVMe SSD Module

RRT-XMC-R-A- [UR] - [X]

Options May be left blank

Conformal Coating

UR	Polyurethane
AR	Acrylic

Extended Temperature Range

X	-40°C to 85°C

ORDER EXAMPLES

RRT-XMC-R-A
RRT-XMC-R-A-UR-X

Removable NVMe SSD Drive Module

RRT-DM-NVME- [pSLC] - [DUAL] - [4TB] - [UR] - [X] - [FE] - [TS]

Requirements

NAND Flash Type

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

Drive Quantity

SINGLE	1 drive included
DUAL	2 drives included

Capacity

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

ORDER EXAMPLES

RRT-DM-NVMe-TLC-SINGLE-8TB-TS
RRT-DM-NVMe-TLC-DUAL-64GB-UR-X-SE1
RRT-DM-NVMe-MLC-DUAL-16TB-FIPS197
RRT-DM-NVMe-pSLC-SINGLE-1TB-UR-X-SE1

Options May be left blank

No Tools

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

Extended Temperature Range

X	-40°C to 85°C

Conformal Coating

UR	Polyurethane
AR	Acrylic

Product Specifications

XMC WITH REMOVABLE NVME SSD MODULE

PERFORMANCE XMC MODULE				
XMC INTERFACE	VITA42.3 PCIe Gen3 x4			
XMC INTERFACE SPEED	3.938GB/s			
PERFORMANCE SSD				
NAND FLASH TYPE	TLC	MLC	pSLC	TLC-X
CAPACITIES[1]	Up to 16TB (8TB x 2)	Up to 16TB (8TB x 2)	Up to 2.56TB (1.28TB x 2)	Up to 7.68TB (3.84TB x 2)
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 - SSD	1 million hours		2 million hours	
MTBF - XMC MODULE[3]	3 million hours			
DATA RETENTION	1 year		5 years	1 year
ENDURANCE (100GB) TOTAL BYTES WRITTEN	70 TBW		250 TBW	70 TBW
POWER				
VOLTAGE - PAYLOAD SLOT	VPWR +5V +/- 5% or +12V +/- 5%, +3.3+/- 0.3V			
WATTS (IDLE)	7 W	1.5 W		
WATTS (ACTIVE)	20 W	10 W		
ENVIRONMENTAL				
OPERATING TEMP., VITA 47 CLASS[4]	0° C to 55° C, AC1		0° C to 60° C, AC1	See TLC
EXT. OPERATING TEMP., VITA 47 CLASS[4]	See TLC-X	Not available	-40 °C to 85 °C, AC3	
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[5]	20g, 11 millisecond terminal sawtooth pulse, OS1		40g, 11 millisecond terminal sawtooth pulse, OS2	
VIBRATION, VITA 47 CLASS[6]	0.04 g2/Hz, 5 Hz to 100 Hz, V1		0.1 g2/Hz, 100 Hz to 1000 Hz, V3	
PHYSICAL				
FORM FACTOR	XMC			
WEIGHT	14 oz. max			

NOTES

(1) Larger capacities available as new COTS U.2 NVMe SSDs released
(2) Interface connected via compatible slot profile SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11 OR SLT3-PER-1F-14.3.2
(3) Telcordia SR-332, issue 3, operating temp (40C), electrical stress (50%), environmental factor (1.0)
(4) Thermal qualification per MIL-STD-810F, Method 501 Procedure II, and MIL-STD-810F, 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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