

# 3U OPENVPX BACKPLANE ALIGNED WITH SOSA

4 Slots with VITA 67.3c apertures

## DESCRIPTION

Designed in alignment with The Open Group® Sensor Open Systems Architecture™ Technical Standard, or SOSA™, Elma's 3U 4-Slot backplanes offer 4 PIC (Plug in Card) slots to support the defense industry's hardware and software convergence initiatives per the DoD's Modular Opens Systems Approach (MOSA) and CMOSS (C5IR/EW Modular Open Suite of Standards). They provide the foundation for high-performance mission-critical systems requiring lower life-cycle costs and rapid technology insertion. They enable complex, high speed signal processing systems with the latest optical fiber and RF connectivity as well as slot profiles for SBCs and payload expansion.

The backplanes support high-speed signals on all data paths and VITA 67.3 connectors and VITA 66.5 optical connectors.

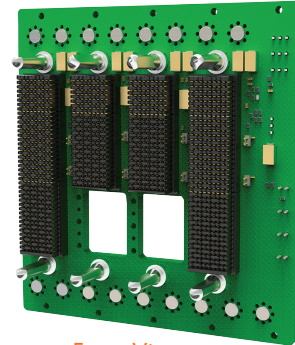
Developers can use the development backplanes as configured or work with Elma to identify your specific profile configuration needs.

## FEATURES

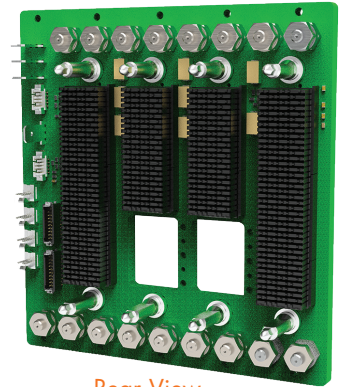
- Slot profiles in alignment with SOSA 1.0
- Four SOSA PIC slots 3U VPX backplane
- Power studs
- Supports dual domain Ethernet switch 1/10/40 & 25/100
- PNT slot profile SLT3x-TIM-2S1U22S1U2U1H-14.9.2
- Routed Expansion plane links support PCIe Gen 4 data rates
- All control and data plane links are designed for 25 Gbps data rates and support 100GBASE-KR4
- Maintenance serial ports routed to one header
- Matched length, low skew REF and AUX clocks
- IPMC header for external chassis manager
- "Thin walled" connectors on the bottom front VPX wafer connector on slots with VITA 67.3 apertures allows non VITA 67.3 boards to plug in

## BOARD SPECIFICATIONS

- 16 layers
- 1 oz and ½ oz power and ground layers
- PCB Tachyon 100G
- PCB 0.212" thick



Front View



Rear View

## MECHANICAL SPECIFICATIONS

- 3U height
- 4 PIC slots (shown on topology diagrams next page)
- 5.067" tall x 6.770" wide

## BENEFITS

- Supports DoD's Modular Open Systems Approach (MOSA) initiative
- Supports current Ethernet and PCI Express standards
- Enables the development of a common, modular architecture across critical C5ISR and EW systems
- Contributes to optimized SWaP requirements and lower life-cycle costs for rapid technology insertion

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**TOPOLOGY**

**BACKPLANE DESIGN** (These full featured backplanes have cutting edge interconnect technology and a range of OpenVPX slot profiles aligned with SOSA guidelines.)

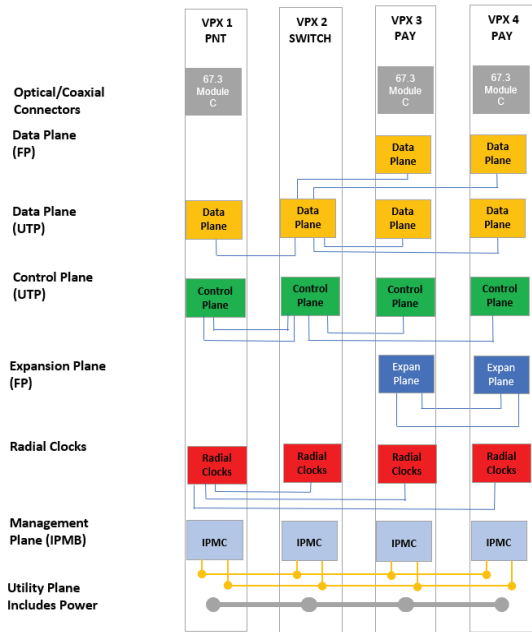
**1SVX304AJP-1X31:**

Slot 1: PNT - SLT3xTIM-2S1U22S1U2U1H-14.9.2

Slot 2: SWITCH - SLT3-SWH-6F1U7U-14.4.14

Slot 3: RF PAY - SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11

Slot 4: RF PAY - SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11

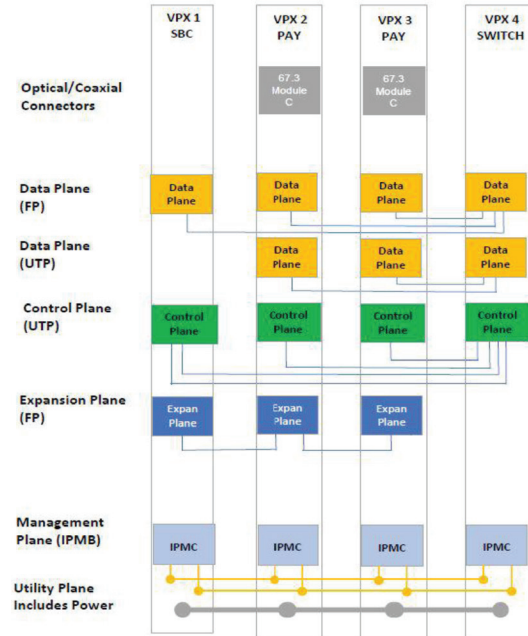
**1SVX304ALP-1X31:**

Slot 1: SBC - SLT3-PAY-1F1F2U1T1U1T-14.2.16

Slot 2: RF PAY - SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11

Slot 3: RF PAY - SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11

Slot 4: SWITCH - SLT3-SWH-6F1U7U-14.4.14

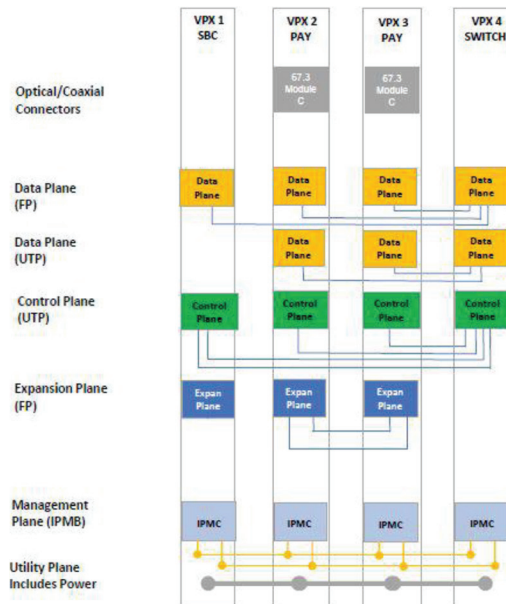
**11SVX304ANP-1X31 :**

Slot 1: SBC - SLT3-PAY-1F1F2U1T1U1T-14.2.16

Slot 2: RF PAY - SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11

Slot 3: RF PAY - SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11

Slot 4: SWITCH - SLT3-SWH-6F1U7U-14.4.14

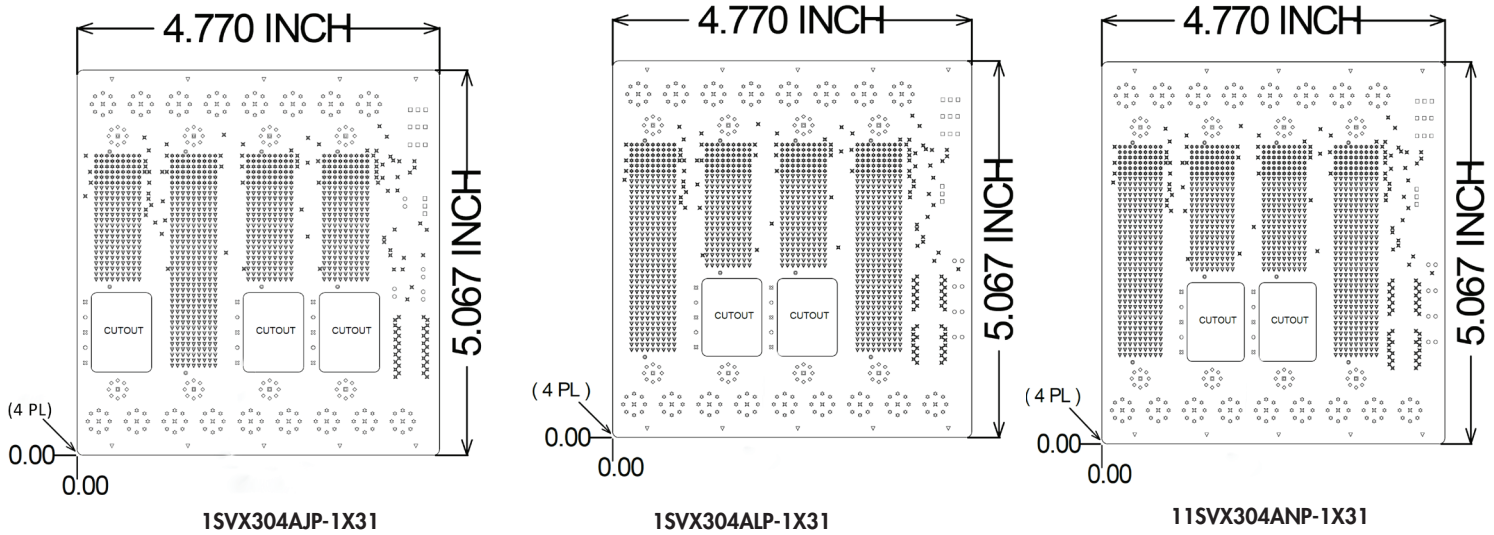


**3U OPENVPX BACKPLANE ALIGNED WITH SOSA**

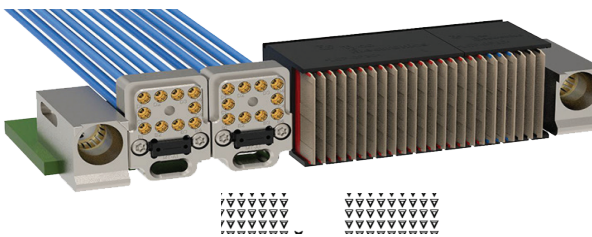
4 Slots with VITA 67.3c apertures

**LINE DRAWINGS**

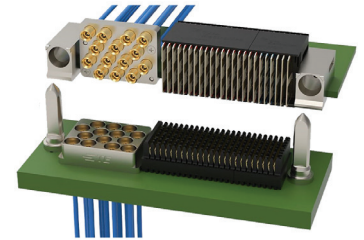
## BACKPLANE DESIGN

**VITA 66.5 OPTICAL AND 67.3 RF CONNECTOR EXAMPLES**

FOR USE IN BACKPLANE APERTURES



BACKPLANE

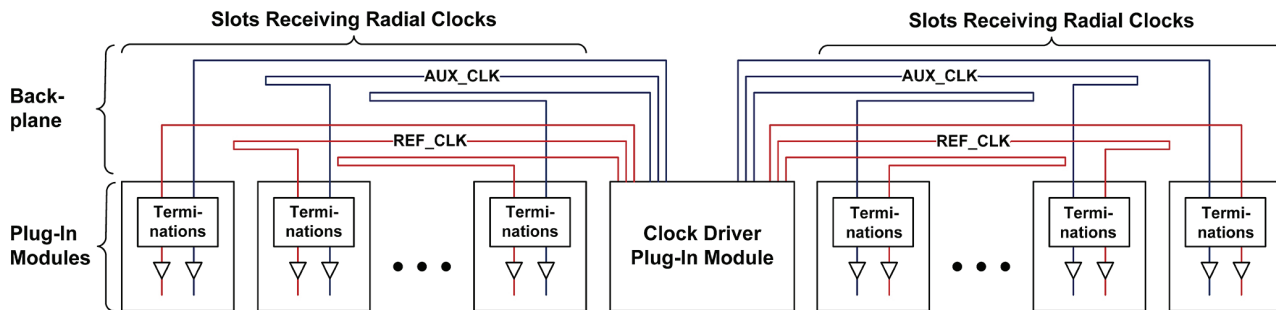


VITA67.3 C MODULE WITH 14 POS SMP

**PRECISE NETWORK TIMING**

## BACKPLANE DESIGN

The 1SVX304AJP-1X31 backplane supports a radial slot card for precision timing and synchronization.



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**EXPANSION PLANE**

## BACKPLANE DESIGN

**APPLICATIONS**

OpenVPX backplanes in embedded computing systems enable high speed data communication in critical defense and industrial applications including but not limited to:

- › Mission control
- › Sensor based systems
- › Surveillance
- › Radar and other beamforming applications
- › Weapons control
- › Target tracking and display
- › Navigational control
- › Threat detection
- › Process monitoring
- › Environmental monitoring

**RELATED PRODUCTS**

- › Convection or conduction cooled load boards
- › Rear Transition Modules for I/O
- › Intel and ARM based Single Board Computers (SBCs)
- › Cables, RF connectors, and optical connectors
- › 19" rackmount, rugged ATR and Small Form Factor enclosures and chassis platforms
- › Ruggedization programs
- › Cables, RF connectors, and optical connectors

**ORDERING INFORMATION**

| Height | # Slots | Description   | Switch Slot Profile | Slots Profile | Timing Slot Profile | Part Number     |
|--------|---------|---|---------------------|---------------|---------------------|-----------------|
| 3U     | 4       | 4 slots 25Gb backplane aligned to SOSA without any VITA66/67 modules installed, no timing slot, and two fat pipes on the expansion plane.           | 14.4.14             | 14.6.11-0     |                     | 1SVX304ALP-1X31 |
| 3U     | 4       | 4 slots 25Gb backplane aligned to SOSA without any VITA66/67 modules installed, no timing slot, and one double fat pipe on the expansion plane.     | 14.4.14             | 14.6.11-0     |                     | 1SVX304ANP-1X31 |
| 3U     | 4       | 4 slots 25Gb backplane aligned to SOSA without any VITA66/67 modules installed, with a timing slot, and one double fat pipe on the expansion plane. | 14.4.14             | 14.6.11-0     | 14.9.2-2            | 1SVX304AJP-1X31 |

\*RoHS-3 compliant assemblies of these part numbers are available upon request.

Upon request we can provide VITA 66/ VITA 67 connector modules installed in the backplane apertures.



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