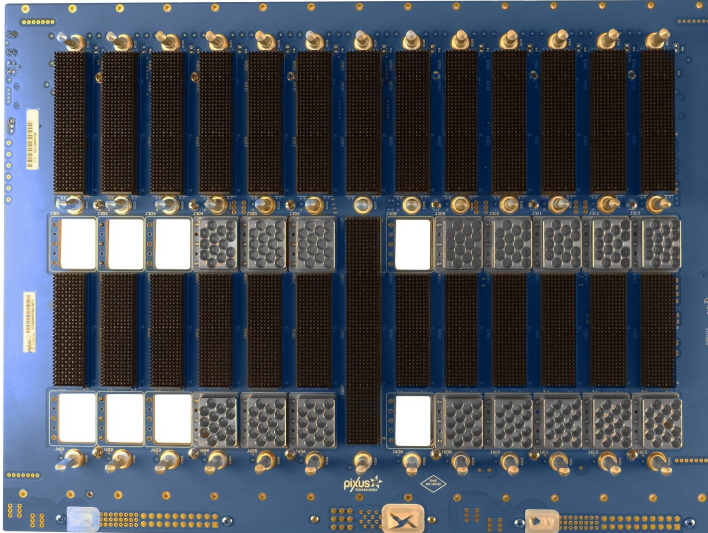


OpenVPX Backplanes—6U VITA 66, VITA 67,  
SOSA Aligned



## VPX606, 607 Backplanes



### VPX60X KEY FEATURES

- Compliant to latest VITA 65, VITA 66.x, and VITA 67.x specifications
- Various OpenVPX & SOSA aligned slot profiles—contact Pixus for details
- Various slot sizes and configurations available
- 6U backplane design
- 1.0” slot pitch standard, customized sizes available
- Data rate options up to 100GbB using RT-3 high speed connectors
- Selectable rear IO options
- Fast turnaround, superior performance
- Customization available
- Conformal coating optional

**SOSA**  
Sensor Open Systems Architecture

**OpenVPX**<sup>™</sup>

OpenVPX is a process that defines system level VPX interoperability for multi-vendor, multi-module, integrated systems environment. The OpenVPX process defines clear interoperability points necessary for integration between Module to Module, Module to Backplane and Chassis. VITA 67 adds RF capability to the backplane with multi-position blind mate connectors.

Pixus has an experienced team of OpenVPX experts and can help you find or create the OpenVPX backplane profile for your application. We offer various data signal speed options and have optional testing services. Pixus is ISO9001:2015 and ITAR registered.

The backplanes are typically 1.0” pitch, but 0.8” pitch is available in some configurations. Contact Pixus for details.

*Pixus Technologies can modify this product to meet special customer requirements without NRE (minimum order placement is required).*



## Specifications

Architecture		
Physical	Dimensions	Height: 6U
		Width: Depending on slot # Pitch: 1.0" standard (0.8" optional)
	Connectors	MultiGig RT-2 or RT-3 (for above 40GbE), VITA 67.x coax, VITA 66.x optical
	Layers	18-24 layers typical
Standards		
VITA	Type	VITA 65, VITA 46 for OpenVPX
	Type	VITA 66 for Optical, VITA 67 for RF over OpenVPX
Configuration		
Power		3.3V_AUX, 5V, +/- 12V, +/- 12V_AUX
Environmental	Temperature	Operating temperature: up to -40° to +85°C options Storage temperature: up to -55° to +90°C options
		PCB
	PCB traces	0.5 oz. copper standard
Conformal coating		Upon request (See page 5 selection "J" for available options)
Other		
MTBF	MIL Handbook 217-F @ TBD Hrs.	
Certifications	Designed to meet FCC, CE and EN/UL/TUV certifications where applicable	
Warranty	Two years	
Trademarks and logos	The Pixus Logo is a registered trademark of Pixus Technologies Inc. other registered trademarks are the property of their respective owners. Specs. subject to change without notice.	

## Connectors & Signals

### Connector Ratings

Multi-Gig RT-2 (contact factory for RT-3 specs):

Operating Voltage: 50 Volts AC peak or DC

Current: 1 Ampere at <30°C (single circuit, free air)

Temperature: -55 to 105°C

Low level contact resistance, circuit: 80 milliohms maximum initial

5 milliohms maximum average increase

10 milliohms maximum individual increase

Low level contact resistance, compliant pin: 1 milliohm maximum initial

1 milliohm maximum change

Insulation resistance: 1000 megohms minimum

Withstanding voltage: 1 minute hold with no breakdown or flashover

Temperature rise vs. current: 30°C maximum temperature at 1 Ampere load, single circuit in free air using thermography

Mechanical Vibration, sinusoidal:

Mechanical Vibration: No discontinuities of 1 microsecond or longer duration

Mechanical Shock: No discontinuities of 1 microsecond or longer duration

Mating Force: 0.75 N [2.7 ozf] maximum per contact. Average for entire connector.

Unmating Force: 0.15 N [.57 ozf] minimum per contact. Average for entire connector.

Compliant pin insertion: 31 N [7 lbf] maximum per pin average

Compliant pin retention: 13.35 N [3 lbf] minimum

Multi-Gig RT-3:

Speed: 25+ Gbps

Mating cycles: 500

PCB hole dimensions: 0.37 (ref)

### Signal Definitions:

**Fat Pipe:** A channel that is comprised of four links (4 Tx pairs + 4 Rx pairs) is now being referred to as a fat pipe or by use of the x4 nomenclature. 10Gbps capable 10GBase-KX4, 10GBase-BX4, 10GBase-T, PCIe-x4, sRIO-x4, Infiniband-x4

**Thin Pipe:** A channel that is comprised of two links (2 Tx pairs + 2 Rx pairs) is now being referred to as a thin pipe or by use of the x2 nomenclature. 5Gbps capable 10/100/1000Base-T, 1000Base-BX, PCIe-x2, sRIO-x2, Infiniband-x2

**Ultra-thin Pipe:** A channel that is comprised of one link (1 Tx pair + 1 Rx pair) is now being referred to as an ultra-thin pipe or by use of the x1 nomenclature. 10GBase-KR, 10GBase-KX, PCIe-x1, sRIO-x1, Infiniband-x1a

## 6U Drawing Example —2 VITA 67.3c Slots and 1 VPX Slot

## SOSA Aligned Profile Example

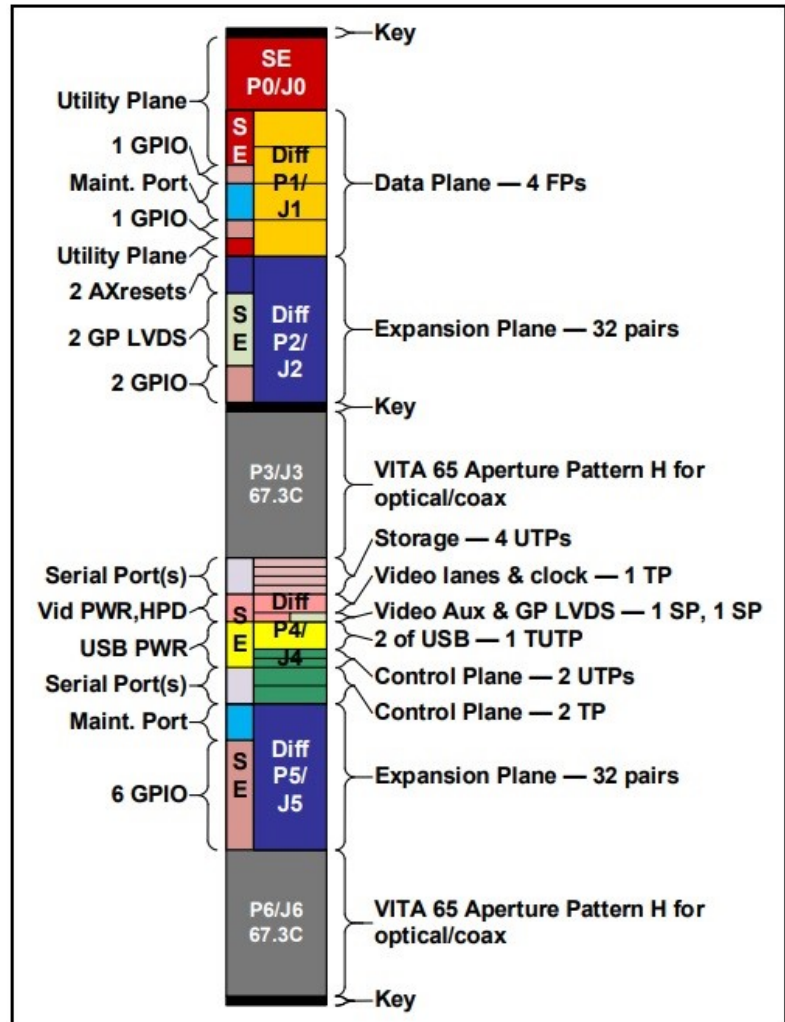
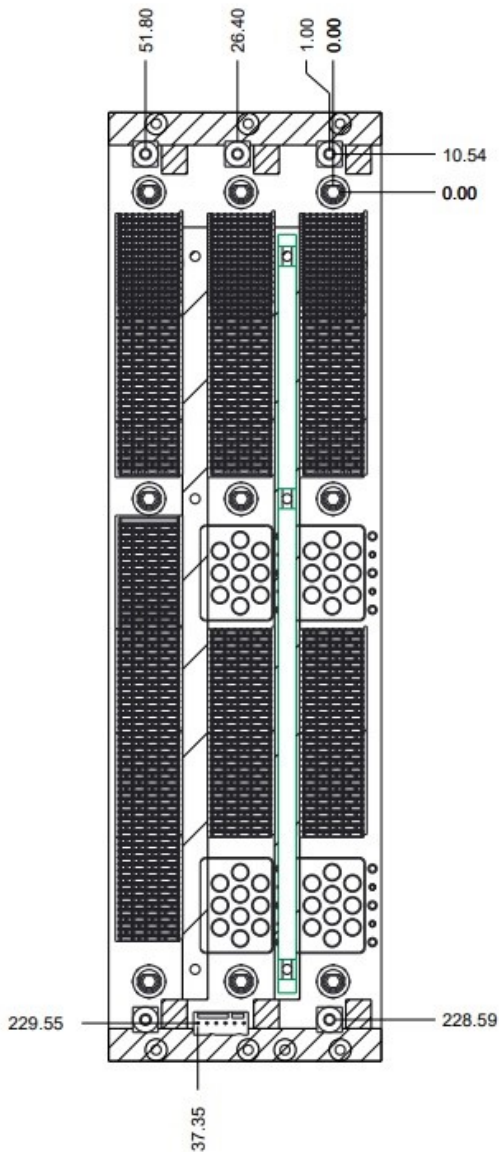


Figure 10.6.4-1 SLT6-PAY-4F2Q1H4U1T1S1S1TU2U2T1H-10.6.4-n

Pixus has multiple backplane options that support the various SOSA slot profiles. SOSA aligned systems utilize just the 12V (VS1) rail along with some 3.3 AUX. The IPMB is routed across the backplane to support the use of a SOSA aligned chassis manager and VITA 46.11 compliant versions. Visit <https://pixustechnologies.com/products/enclosure-system-solutions/vpx-vme64x-chassis-2/openvpx-3u-6u-sosa/> to see Pixus' offering of SlotSaver™ mezzanine-based and pluggable SOSA aligned/VITA 46.11 chassis manager options.

An examples of the wide variety of options are shown above. Several of the Pixus power and ground and routed backplanes have cutouts for Aperture H (VITA 67.3c) or other RF/Fiber sizes (Aperture J—VITA 67.3d, etc)

## Ordering Options

**VPX606=6U OpenVPX Backplane, VITA 66.1 or 66.4**

**VPX607=6U OpenVPX Backplane, VITA 67.x or Hybrid**

### VPX60X-ABCCD-EE-FGHI-J

AB = VPX Slots

= 01-16

CC = VITA 66/67 Slots

= 01-16

D = VITA 66/67 Type

0 = VITA 67.1

1 = VITA 67.3/66.5

4 = Mix of types

2 = VITA 67.2

3 = Other

5 = VITA 66.4

EE = Profile Topology

AA = SOSA Aligned

XX = Other

F = Installation

0 = RF/Optical housings/contacts/cables not installed (cutouts only)

1 = RF/Optical housings installed, contacts/cables included

2 = Partial installation (custom)

G = Rear IO

A = Full rear IO connectors

X = No rear IO connectors

C = Partially loaded or custom

H = Data Rate

1 = 16.0 Gbaud (PCIe Gen4)

3 = 6.25 Gbaud

5 = 40GbE (4 x ~10Gbps)

2 = 100GbE (4 x ~25Gbps)

4 = 8.0 Gbaud (PCIe Gen3)

6 = Other

I = Power Interface

1 = M3 threaded power element

2 = 1 x VITA 62 PSU interface

3 = Other

J = Conformal Coating

0 = None

1 = Humiseal 1A33 Polyurethane

2 = Humiseal 1B31 Acrylic