

# 6U OpenVPX 16-Slot BKP6-CEN16-11.2.2-n Backplane



**OpenVPX**

\*Photo shown is of 6U, 5-slot backplane.

## Description

The Elma Bustronic BKP6-CEN16-11.2.2-3 6U OpenVPX backplane comes in a Dual Star centralized routing topology with two switch slots with fat pipes to each slots. The control plane is also a Dual Star topology with ultra thin pipes to each slots. The expansion plane is a direct connection of all of the payload slots in a double fat pipe topology. The data plane has fat pipes available and the control plane has thin pipes and ultra thin pipes that can be assessed from an RTM or via cables.

The backplane offers 3.125 to 6.250 Gbauds/performance in one PCB. This design provides maximum performance while saving you money.

## Features

- Compliant to ANSI/VITA 65-2010
- Compliant to the latest VITA 46 Specifications
- High-speed Multi-gig connector
- Rugged Eurocard form factor in 6U height
- Provides built in ESD ground protection in every slot
- Signal integrity analysis report available upon request

## Board Specifications

- 28 layer stripline design
- 2 oz. power and ground
- PCB FR-4 or equivalent
- PCB .213" thick

## Mechanical Specifications

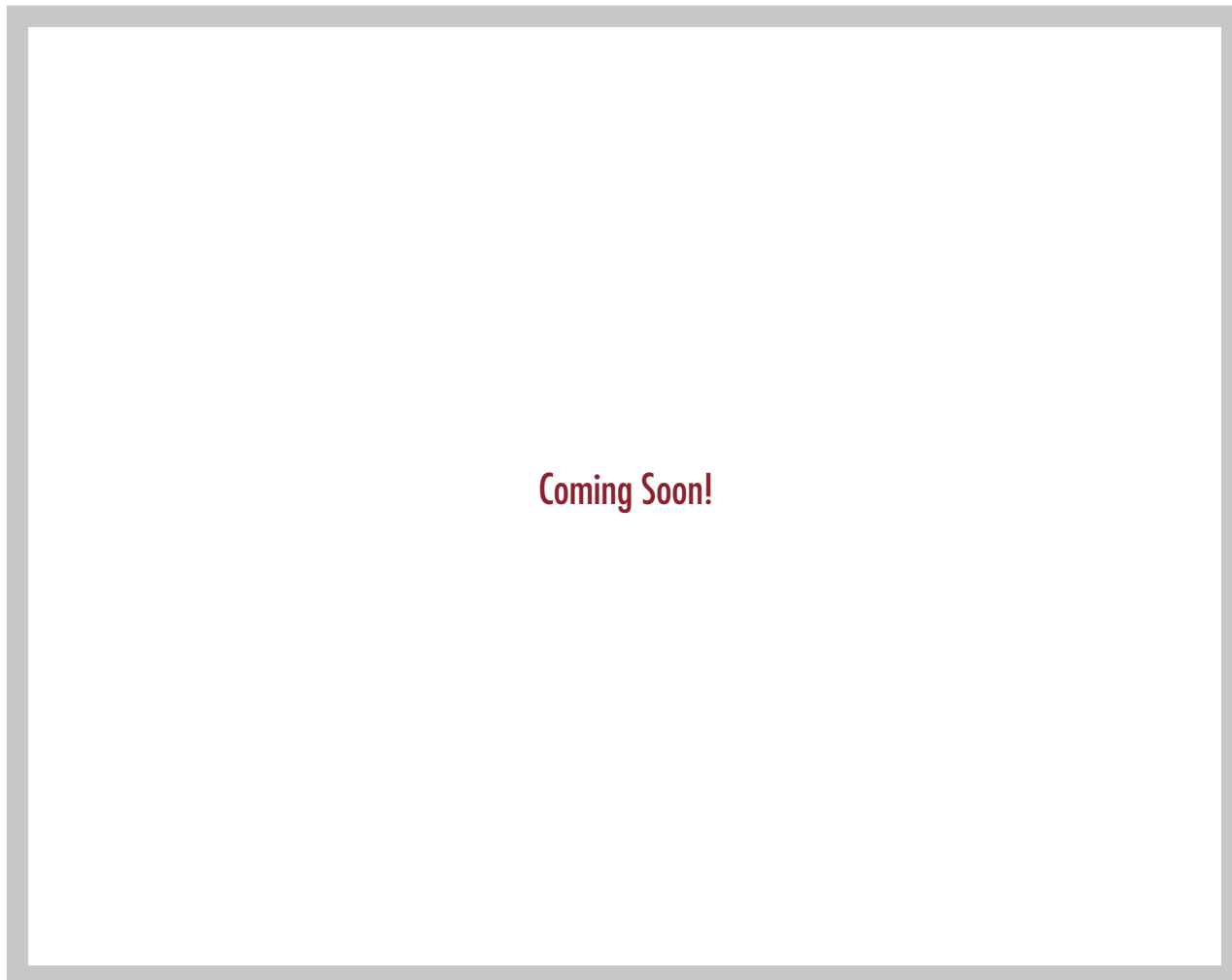
- 6U height
- 16 slots
- MultiGig RT-2 connectors



Close-up of Multi-Gig connector

# 6U OpenVPX 16-Slot BKP6-CEN16-11.2.2-n Backplane

Line Drawing



## Order Information

Height	Total Slots	Description	Profile Number	Part Number
6U	16	VPX Dual Star central switches with expansion and control planes, channel Gbaud rate up to 6.25	BKP6-CEN16-11.2.2-3	10VX616GX6-1X11R
6U	16	VPX Dual Star central switches with expansion and control planes, channel Gbaud rate up to 6.25, no RTMs connectors	BKP6-CEN16-11.2.2-3	10VX616GX6-1X10R

# 6U OpenVPX 16-Slot BKP6-CEN16-11.2.2-n Backplane

## J0 Signal Assignments

	Row I	Row H	Row G	Row F	Row E	Row D	Row C	Row B	Row A
1	Vs1	Vs1	Vs1	Vs1	No Pad	Vs2	Vs2	Vs2	Vs2
2	Vs1	Vs1	Vs1	Vs1	No Pad	Vs2	Vs2	Vs2	Vs2
3	Vs3	Vs3	Vs3	Vs3	No Pad	Vs3	Vs3	Vs3	Vs3
4	GND	SM2	SM3	GND	-12V_Aux	GND	SYSRESET*	NVMRO	GND
5	GND	GAP*	GA4*	GND	3.3V_Aux	GND	SM0	SM1	GND
6	GND	GA3*	GA2*	GND	+12V_Aux	GND	GA1*	GA0*	GND
7	TCK	GND	GND	TDO	TDI	GND	GND	TMS	TRST*
8	GND	REF_CLK-	REF_CLK+	GND	GND	AUX_CLK-	AUX_CLK+	GND	GND

## J1/P1 Payload Slot Signal Assignments

Plug-In Module P1	Row G	Row F	Row E		Row D	Row C	Row B		Row A
	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	GDiscrete1	GND	GND-J1	DP01-T0-	DP01-T0+	GND	GND-J1	DP01-R0-	DP01-R0+
2	GND	DP01-T1-	DP01-T1+	GND-J1	GND	DP01-R1-	DP01-R1+	GND-J1	GND
3	P1-VBAT	GND	GND-J1	DP01-T2-	DP01-T2+	GND	GND-J1	DP01-R2-	DP01-R2+
4	GND	DP01-T3-	DP01-T3+	GND-J1	GND	DP01-R3-	DP01-R3+	GND-J1	GND
5	SYS_CON*	GND	GND-J1	DP02-T0-	DP02-T0+	GND	GND-J1	DP02-R0-	DP02-R0+
6	GND	DP02-T1-	DP02-T1+	GND-J1	GND	DP02-R1-	DP02-R1+	GND-J1	GND
7	Reserved	GND	GND-J1	DP02-T2-	DP02-T2+	GND	GND-J1	DP02-R2-	DP02-R2+
8	GND	DP02-T3-	DP02-T3+	GND-J1	GND	DP02-R3-	DP02-R3+	GND-J1	GND
9	UD	GND	GND-J1	DP03-T0-	DP03-T0+	GND	GND-J1	DP03-R0-	DP03-R0+
10	GND	DP03-T1-	DP03-T1+	GND-J1	GND	DP03-R1-	DP03-R1+	GND-J1	GND
11	UD	GND	GND-J1	DP03-T2-	DP03-T2+	GND	GND-J1	DP03-R2-	DP03-R2+
12	GND	DP03-T3-	DP03-T3+	GND-J1	GND	DP03-R3-	DP03-R3+	GND-J1	GND
13	UD	GND	GND-J1	DP04-T0-	DP04-T0+	GND	GND-J1	DP04-R0-	DP04-R0+
14	GND	DP04-T1-	DP04-T1+	GND-J1	GND	DP04-R1-	DP04-R1+	GND-J1	GND
15	Maskable Reset*	GND	GND-J1	DP04-T2-	DP04-T2+	GND	GND-J1	DP04-R2-	DP04-R2+
16	GND	DP04-T3-	DP04-T3+	GND-J1	GND	DP04-R3-	DP04-R3+	GND-J1	GND

J2, J3, J5-J6 Payload Signal Assignments = User Defined

## J4/P4 Payload Slot Signal Assignments

Plug-In Mod P4	Row G	Row F	Row E		Row D	Row C	Row B		Row A
	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	UD	GND	GND-J4	UD	UD	GND	GND-J4	UD	UD
2	GND	UD	UD	GND-J4	GND	UD	UD	GND-J4	GND
3	UD	GND	GND-J4	UD	UD	GND	GND-J4	UD	UD
4	GND	UD	UD	GND-J4	GND	UD	UD	GND-J4	GND
5	UD	GND	GND-J4	UD	UD	GND	GND-J4	UD	UD
6	GND	UD	UD	GND-J4	GND	UD	UD	GND-J4	GND
7	UD	GND	GND-J4	UD	UD	GND	GND-J4	UD	UD
8	GND	UD	UD	GND-J4	GND	UD	UD	GND-J4	GND
9	UD	GND	GND-J4	UD	UD	GND	GND-J4	UD	UD
10	GND	UD	UD	GND-J4	GND	UD	UD	GND-J4	GND
11	UD	GND	GND-J4	CPUTp02-T-	CPUTp02-T+	GND	GND-J4	CPUTp02-R-	CPUTp02-R+
12	GND	CPUTp01-T-	CPUTp01-T+	GND-J4	GND	CPUTp01-R-	CPUTp01-R+	GND-J4	GND
13	UD	GND	GND-J4	CPTp02-DB-	CPTp02-DB+	GND	GND-J4	CPTp02-DA-	CPTp02-DA+
14	GND	CPTp02-DD-	CPTp02-DD+	GND-J4	GND	CPTp02-DC-	CPTp02-DC+	GND-J4	GND
15	UD	GND	GND-J4	CPTp01-DB-	CPTp01-DB+	GND	GND-J4	CPTp01-DA-	CPTp01-DA+
16	GND	CPTp01-DD-	CPTp01-DD+	GND-J4	GND	CPTp01-DC-	CPTp01-DC+	GND-J4	GND

## J1/P1 Switch Slot Signal Assignments

Plug-In Module P1	Row G	Row F	Row E		Row D	Row C	Row B		Row A
	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	GDiscrete1	GND	GND-J1	CStup01-T-	CStup01-T+	GND	GND-J1	CStup01-R-	CStup01-R+
2	GND	CStup02-T-	CStup02-T+	GND-J1	GND	CStup02-R-	CStup02-R+	GND-J1	GND
3	P1-VBAT	GND	GND-J1	CStup03-T-	CStup03-T+	GND	GND-J1	CStup03-R-	CStup03-R+
4	GND	CStup04-T-	CStup04-T+	GND-J1	GND	CStup04-R-	CStup04-R+	GND-J1	GND
5	SYS_CON*	GND	GND-J1	CPUTp01-T-	CPUTp01-T+	GND	GND-J1	CPUTp01-R-	CPUTp01-R+
6	GND	CPUTp02-T-	CPUTp02-T+	GND-J1	GND	CPUTp02-R-	CPUTp02-R+	GND-J1	GND
7	Reserved	GND	GND-J1	CPUTp03-T-	CPUTp03-T+	GND	GND-J1	CPUTp03-R-	CPUTp03-R+
8	GND	CPUTp04-T-	CPUTp04-T+	GND-J1	GND	CPUTp04-R-	CPUTp04-R+	GND-J1	GND
9	UD	GND	GND-J1	CPUTp05-T-	CPUTp05-T+	GND	GND-J1	CPUTp05-R-	CPUTp05-R+
10	GND	CPUTp06-T-	CPUTp06-T+	GND-J1	GND	CPUTp06-R-	CPUTp06-R+	GND-J1	GND
11	UD	GND	GND-J1	CPUTp07-T-	CPUTp07-T+	GND	GND-J1	CPUTp07-R-	CPUTp07-R+
12	GND	CPUTp08-T-	CPUTp08-T+	GND-J1	GND	CPUTp08-R-	CPUTp08-R+	GND-J1	GND
13	UD	GND	GND-J1	CPUTp09-T-	CPUTp09-T+	GND	GND-J1	CPUTp09-R-	CPUTp09-R+
14	GND	CPUTp10-T-	CPUTp10-T+	GND-J1	GND	CPUTp10-R-	CPUTp10-R+	GND-J1	GND
15	Maskable Reset*	GND	GND-J1	CPUTp11-T-	CPUTp11-T+	GND	GND-J1	CPUTp11-R-	CPUTp11-R+
16	GND	CPUTp12-T-	CPUTp12-T+	GND-J1	GND	CPUTp12-R-	CPUTp12-R+	GND-J1	GND

# 6U OpenVPX 16-Slot BKP6-CEN16-11.2.2-n Backplane

## J2/P2 Switch Slot Signal Assignments

Plug-In Module P2	Row G	Row F	Row E		Row D	Row C	Row B		Row A
	Row i	Row h	Even	Odd	Row e	Row d	Even	Odd	Row a
1 CPlane Pay-Load FP Ports 13 - 16	UD	GND	GND-J2	CPutp13-T-	CPutp13-T+	GND	GND-J2	CPutp13-R-	CPutp13-R+
	GND	CPutp14-T-	CPutp14-T+	GND-J2	GND	CPutp14-R-	CPutp14-R+	GND-J2	GND
	UD	GND	GND-J2	CPutp15-T-	CPutp15-T+	GND	GND-J2	CPutp15-R-	CPutp15-R+
	GND	CPutp16-T-	CPutp16-T+	GND-J2	GND	CPutp16-R-	CPutp16-R+	GND-J2	GND
5 Data Plane Pay-Load FP Port 15	UD	GND	GND-J2	DP15-T0-	DP15-T0+	GND	GND-J2	DP15-R0-	DP15-R0+
	GND	DP15-T1-	DP15-T1+	GND-J2	GND	DP15-R1-	DP15-R1+	GND-J2	GND
	UD	GND	GND-J2	DP15-T2-	DP15-T2+	GND	GND-J2	DP15-R2-	DP15-R2+
	GND	DP15-T3-	DP15-T3+	GND-J2	GND	DP15-R3-	DP15-R3+	GND-J2	GND
9 Data Plane Pay-Load FP Port 14	UD	GND	GND-J2	DP14-T0-	DP14-T0+	GND	GND-J2	DP14-R0-	DP14-R0+
	GND	DP14-T1-	DP14-T1+	GND-J2	GND	DP14-R1-	DP14-R1+	GND-J2	GND
	UD	GND	GND-J2	DP14-T2-	DP14-T2+	GND	GND-J2	DP14-R2-	DP14-R2+
	GND	DP14-T3-	DP14-T3+	GND-J2	GND	DP14-R3-	DP14-R3+	GND-J2	GND
13 Data Plane Pay-Load FP Port 13	UD	GND	GND-J2	DP13-T0-	DP13-T0+	GND	GND-J2	DP13-R0-	DP13-R0+
	GND	DP13-T1-	DP13-T1+	GND-J2	GND	DP13-R1-	DP13-R1+	GND-J2	GND
	UD	GND	GND-J2	DP13-T2-	DP13-T2+	GND	GND-J2	DP13-R2-	DP13-R2+
	GND	DP13-T3-	DP13-T3+	GND-J2	GND	DP13-R3-	DP13-R3+	GND-J2	GND

## J3/P3 Switch Slot Signal Assignments

Plug-In Module P3	Row G	Row F	Row E		Row D	Row C	Row B		Row A
	Row i	Row h	Even	Odd	Row e	Row d	Even	Odd	Row a
1 Data Plane Pay-Load FP Port 12	UD	GND	GND-J3	DP12-T0-	DP12-T0+	GND	GND-J3	DP12-R0-	DP12-R0+
	GND	DP12-T1-	DP12-T1+	GND-J3	GND	DP12-R1-	DP12-R1+	GND-J3	GND
	UD	GND	GND-J3	DP12-T2-	DP12-T2+	GND	GND-J3	DP12-R2-	DP12-R2+
	GND	DP12-T3-	DP12-T3+	GND-J3	GND	DP12-R3-	DP12-R3+	GND-J3	GND
5 Data Plane Pay-Load FP Port 11	UD	GND	GND-J3	DP11-T0-	DP11-T0+	GND	GND-J3	DP11-R0-	DP11-R0+
	GND	DP11-T1-	DP11-T1+	GND-J3	GND	DP11-R1-	DP11-R1+	GND-J3	GND
	UD	GND	GND-J3	DP11-T2-	DP11-T2+	GND	GND-J3	DP11-R2-	DP11-R2+
	GND	DP11-T3-	DP11-T3+	GND-J3	GND	DP11-R3-	DP11-R3+	GND-J3	GND
9 Data Plane Pay-Load FP Port 10	UD	GND	GND-J3	DP10-T0-	DP10-T0+	GND	GND-J3	DP10-R0-	DP10-R0+
	GND	DP10-T1-	DP10-T1+	GND-J3	GND	DP10-R1-	DP10-R1+	GND-J3	GND
	UD	GND	GND-J3	DP10-T2-	DP10-T2+	GND	GND-J3	DP10-R2-	DP10-R2+
	GND	DP10-T3-	DP10-T3+	GND-J3	GND	DP10-R3-	DP10-R3+	GND-J3	GND
13 Data Plane Pay-Load FP Port 9	UD	GND	GND-J3	DP09-T0-	DP09-T0+	GND	GND-J3	DP09-R0-	DP09-R0+
	GND	DP09-T1-	DP09-T1+	GND-J3	GND	DP09-R1-	DP09-R1+	GND-J3	GND
	UD	GND	GND-J3	DP09-T2-	DP09-T2+	GND	GND-J3	DP09-R2-	DP09-R2+
	GND	DP09-T3-	DP09-T3+	GND-J3	GND	DP09-R3-	DP09-R3+	GND-J3	GND

## J4/P4 Switch Slot Signal Assignments

Plug-In Module P4	Row G	Row F	Row E		Row D	Row C	Row B		Row A
	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1 Data Plane Pay-Load FP Port 8	UD	GND	GND-J4	DP08-T0-	DP08-T0+	GND	GND-J4	DP08-R0-	DP08-R0+
	GND	DP08-T1-	DP08-T1+	GND-J4	GND	DP08-R1-	DP08-R1+	GND-J4	GND
	UD	GND	GND-J4	DP08-T2-	DP08-T2+	GND	GND-J4	DP08-R2-	DP08-R2+
	GND	DP08-T3-	DP08-T3+	GND-J4	GND	DP08-R3-	DP08-R3+	GND-J4	GND
5 Data Plane Pay-Load FP Port 7	UD	GND	GND-J4	DP07-T0-	DP07-T0+	GND	GND-J4	DP07-R0-	DP07-R0+
	GND	DP07-T1-	DP07-T1+	GND-J4	GND	DP07-R1-	DP07-R1+	GND-J4	GND
	UD	GND	GND-J4	DP07-T2-	DP07-T2+	GND	GND-J4	DP07-R2-	DP07-R2+
	GND	DP07-T3-	DP07-T3+	GND-J4	GND	DP07-R3-	DP07-R3+	GND-J4	GND
9 Data Plane Pay-Load FP Port 6	UD	GND	GND-J4	DP06-T0-	DP06-T0+	GND	GND-J4	DP06-R0-	DP06-R0+
	GND	DP06-T1-	DP06-T1+	GND-J4	GND	DP06-R1-	DP06-R1+	GND-J4	GND
	UD	GND	GND-J4	DP06-T2-	DP06-T2+	GND	GND-J4	DP06-R2-	DP06-R2+
	GND	DP06-T3-	DP06-T3+	GND-J4	GND	DP06-R3-	DP06-R3+	GND-J4	GND
13 Data Plane Pay-Load FP Port 5	UD	GND	GND-J4	DP05-T0-	DP05-T0+	GND	GND-J4	DP05-R0-	DP05-R0+
	GND	DP05-T1-	DP05-T1+	GND-J4	GND	DP05-R1-	DP05-R1+	GND-J4	GND
	UD	GND	GND-J4	DP05-T2-	DP05-T2+	GND	GND-J4	DP05-R2-	DP05-R2+
	GND	DP05-T3-	DP05-T3+	GND-J4	GND	DP05-R3-	DP05-R3+	GND-J4	GND

# 6U OpenVPX 16-Slot BKP6-CEN16-11.2.2-n Backplane

## J5/P5 Switch Slot Signal Assignments

Plug-In Module P5	Row G	Row F	Row E		Row D	Row C	Row B		Row A
	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1 Data Plane Pay-load PP Port 4	UD	GND	GND-J5	DP04-T0-	DP04-T0+	GND	GND-J5	DP04-R0-	DP04-R0+
	GND	DP04-T1-	DP04-T1+	GND-J5	GND	DP04-R1-	DP04-R1+	GND-J5	GND
	UD	GND	GND-J5	DP04-T2-	DP04-T2+	GND	GND-J5	DP04-R2-	DP04-R2+
	GND	DP04-T3-	DP04-T3+	GND-J5	GND	DP04-R3-	DP04-R3+	GND-J5	GND
5 Data Plane Pay-load PP Port 3	UD	GND	GND-J5	DP03-T0-	DP03-T0+	GND	GND-J5	DP03-R0-	DP03-R0+
	GND	DP03-T1-	DP03-T1+	GND-J5	GND	DP03-R1-	DP03-R1+	GND-J5	GND
	UD	GND	GND-J5	DP03-T2-	DP03-T2+	GND	GND-J5	DP03-R2-	DP03-R2+
	GND	DP03-T3-	DP03-T3+	GND-J5	GND	DP03-R3-	DP03-R3+	GND-J5	GND
9 Data Plane Pay-load PP Port 2	UD	GND	GND-J5	DP02-T0-	DP02-T0+	GND	GND-J5	DP02-R0-	DP02-R0+
	GND	DP02-T1-	DP02-T1+	GND-J5	GND	DP02-R1-	DP02-R1+	GND-J5	GND
	UD	GND	GND-J5	DP02-T2-	DP02-T2+	GND	GND-J5	DP02-R2-	DP02-R2+
	GND	DP02-T3-	DP02-T3+	GND-J5	GND	DP02-R3-	DP02-R3+	GND-J5	GND
13 Data Plane Pay-load PP Port 1	UD	GND	GND-J5	DP01-T0-	DP01-T0+	GND	GND-J5	DP01-R0-	DP01-R0+
	GND	DP01-T1-	DP01-T1+	GND-J5	GND	DP01-R1-	DP01-R1+	GND-J5	GND
	UD	GND	GND-J5	DP01-T2-	DP01-T2+	GND	GND-J5	DP01-R2-	DP01-R2+
	GND	DP01-T3-	DP01-T3+	GND-J5	GND	DP01-R3-	DP01-R3+	GND-J5	GND

## J6/P6 Switch Slot Signal Assignments

Plug-In Module P6	Row G	Row F	Row E		Row D	Row C	Row B		Row A
	Row i	Row h	Even	Odd	Row e	Row d	Even	Odd	Row a
1 Data Plane Inter-SW PP Port 4	UD	GND	GND-J6	DS04-T0-	DS04-T0+	GND	GND-J6	DS04-R0-	DS04-R0+
	GND	DS04-T1-	DS04-T1+	GND-J6	GND	DS04-R1-	DS04-R1+	GND-J6	GND
	UD	GND	GND-J6	DS04-T2-	DS04-T2+	GND	GND-J6	DS04-R2-	DS04-R2+
	GND	DS04-T3-	DS04-T3+	GND-J6	GND	DS04-R3-	DS04-R3+	GND-J6	GND
5 Data Plane Inter-SW PP Port 3	UD	GND	GND-J6	DS03-T0-	DS03-T0+	GND	GND-J6	DS03-R0-	DS03-R0+
	GND	DS03-T1-	DS03-T1+	GND-J6	GND	DS03-R1-	DS03-R1+	GND-J6	GND
	UD	GND	GND-J6	DS03-T2-	DS03-T2+	GND	GND-J6	DS03-R2-	DS03-R2+
	GND	DS03-T3-	DS03-T3+	GND-J6	GND	DS03-R3-	DS03-R3+	GND-J6	GND
9 Data Plane Inter-SW PP Port 2	UD	GND	GND-J6	DS02-T0-	DS02-T0+	GND	GND-J6	DS02-R0-	DS02-R0+
	GND	DS02-T1-	DS02-T1+	GND-J6	GND	DS02-R1-	DS02-R1+	GND-J6	GND
	UD	GND	GND-J6	DS02-T2-	DS02-T2+	GND	GND-J6	DS02-R2-	DS02-R2+
	GND	DS02-T3-	DS02-T3+	GND-J6	GND	DS02-R3-	DS02-R3+	GND-J6	GND
13 Data Plane Inter-SW PP Port 1	UD	GND	GND-J6	DS01-T0-	DS01-T0+	GND	GND-J6	DS01-R0-	DS01-R0+
	GND	DS01-T1-	DS01-T1+	GND-J6	GND	DS01-R1-	DS01-R1+	GND-J6	GND
	UD	GND	GND-J6	DS01-T2-	DS01-T2+	GND	GND-J6	DS01-R2-	DS01-R2+
	GND	DS01-T3-	DS01-T3+	GND-J6	GND	DS01-R3-	DS01-R3+	GND-J6	GND



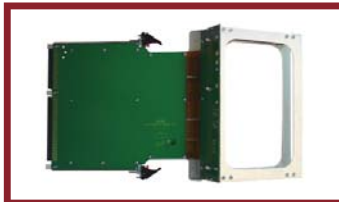
# 6U OpenVPX 16-Slot BKP6-CEN16-11.2.2-n Backplane

## Backplane Profile

Profile name	Mechanical		Slot Profiles and Section		Channel Gbaud Rate		
	Pitch (in)	RTM Conn	Payload	Switch	Control Plane	Data Plane	Expansion Plane
BKP6-CEN16-11.2.2-1	1.0	VITA 46.10	SLT6-PAY-4F1Q2U2T-10.2.1	SLT6-SWH-20U19F-10.4.1	1.25	3.125	5.0
BKP6-CEN16-11.2.2-2	1.0	VITA 46.10	SLT6-PAY-4F1Q2U2T-10.2.1	SLT6-SWH-20U19F-10.4.1	1.25	5.0	5.0
BKP6-CEN16-11.2.2-3	1.0	VITA 46.10	SLT6-PAY-4F1Q2U2T-10.2.1	SLT6-SWH-20U19F-10.4.1	1.25	6.25	5.0

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