


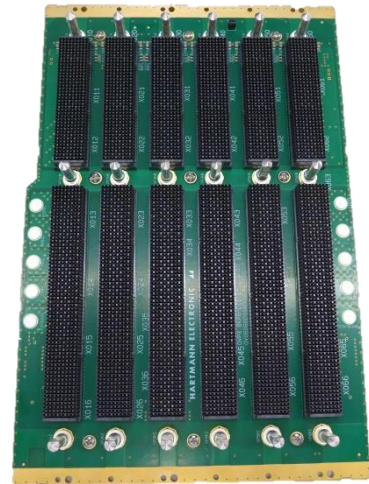
<p><b>6U Open VPX BACKPLANE</b> <b>BKP6-DIS06-11.2.10-4</b></p>	<p><b>VITA 46</b> <b>VITA 65</b></p>	

**Key figures:**

- Compliant to VITA 46.0 baseline specification
- Compliant to VITA 65 Open VPX
- 6 Slots VPX, 5 Payload Slots , 1 Switch Slots
- Data Plane Connections X4 full mesh  
Control plane connections each slot to switch slot X2
- M5 studs for powerentry
- PCB size 174.5mm x 261,9mm x 5.4 mm
- 5 HP from slot to slot (25.40 mm)
- Flexible keying and alignment mechanism
- System Management Interface on the backplane (XICR, XICL)
- with geographical address pins
- Reference clock
- Non-Volatile Memory Read Only signal set by Jumper BR1
- Battery backup option setting by Jumper XBAT. Vbat external or connected to +3.3 AUX.
- Power Consumption:  
VS1:VS2:VS3 = 84A : 84A : 132A
- System Reset
- Operating temperature: -40° - +85°C
- Storage temperature: -55°C - +85°C
- Flammability rating: UL94-V0
- Designed to use with the 6U Power Backplane B1961HLB10

▪ **Order number: B196511061**

Front side



Rear side



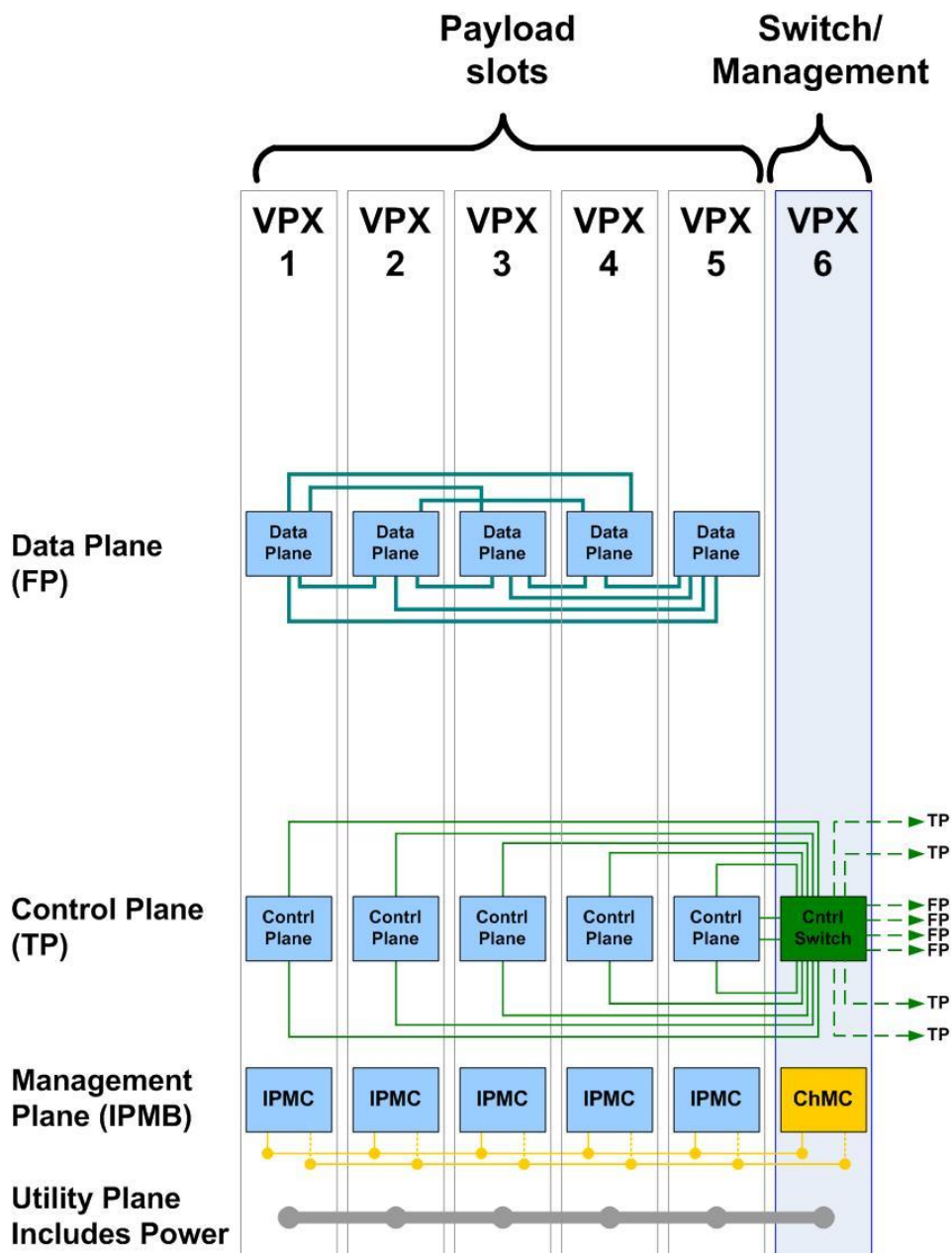
6U Open VPX BACKPLANE  
BKP6-DIS06-11.2.10-4

VITA 46  
VITA 65



1) Topology: BKP6-DIS06-11.2.10-4

Slot Profiles		Chanel Gbaud Rate	
Payload	Switch	Control Plane	Data Plane
SLT6-PAY-4F2T-10.2.2	SLT6-SWH-4F24T-10.4.4	1.25	10.3125



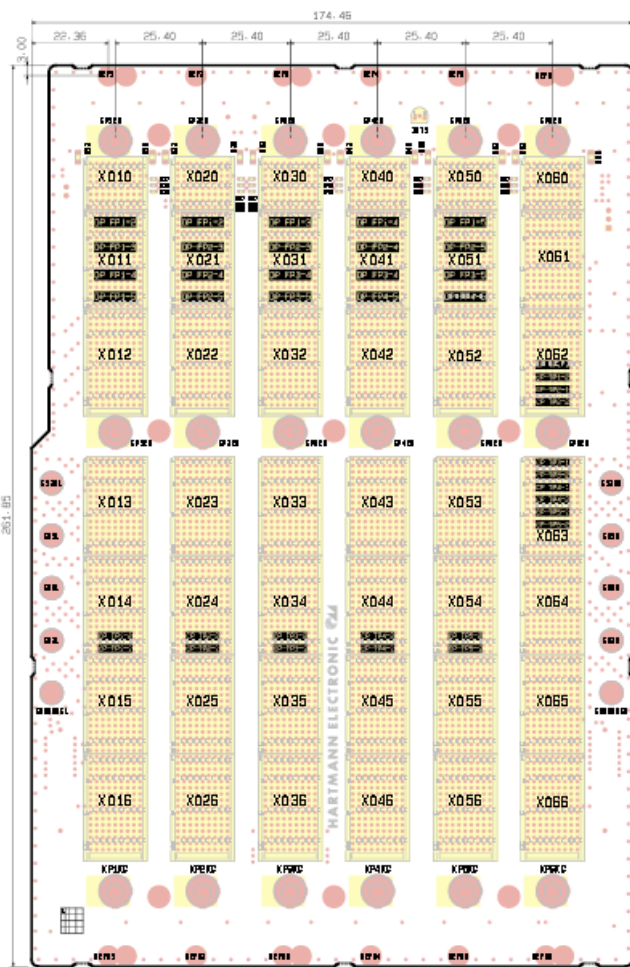
6U Open VPX BACKPLANE  
BKP6-DIS06-11.2.10-4

VITA 46  
VITA 65

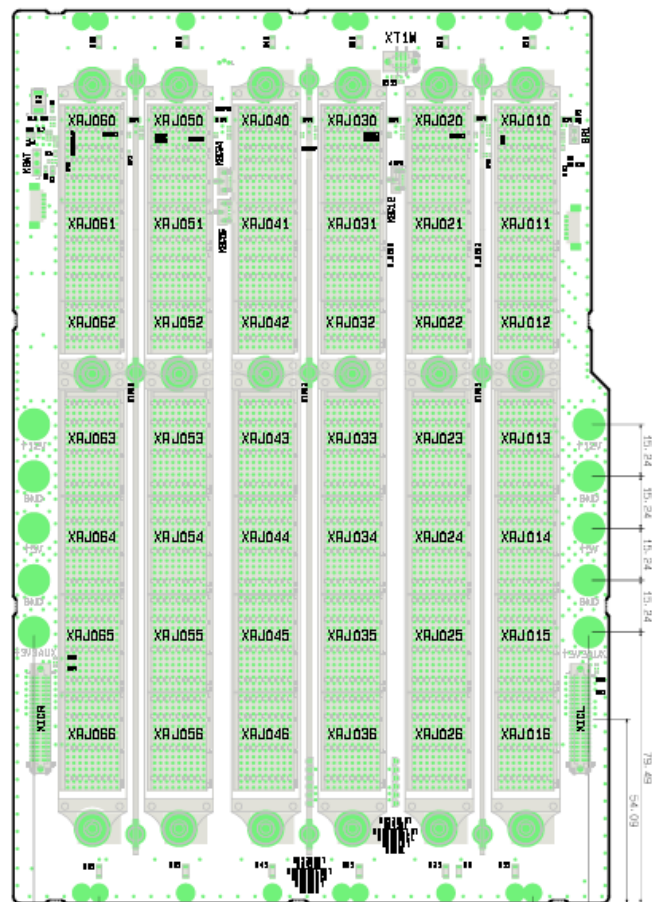



2) Drawings:

Front side



Rear side



<b>6U Open VPX BACKPLANE</b> <b>BKP6-DIS06-11.2.10-4</b>	<b>VITA 46</b> <b>VITA 65</b>	
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### 3) Pin Assignment


#### Pin Assignment VPX J0 (Utility Connector)

	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

Vs1=12V, Vs2=12V, Vs3=5V

#### Payload Slot Profile SLT6-PAY-4F2T-10.2.2 — P1 & J1

Plug-In Module P1	Row G	Row F	Row E		Row D	Row C	Row B		Row A	
			Even	Odd			Even	Odd		
Bplane J1	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a	
Data Plane Port 1	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+
Data Plane Port 2	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
Data Plane Port 3	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+
Data Plane Port 4	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
Data Plane Port 4	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

<b>6U Open VPX BACKPLANE</b> <b>BKP6-DIS06-11.2.10-4</b>	<b>VITA 46</b> <b>VITA 65</b>	
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Payload Slot Profile SLT6-PAY-4F2T-10.2.2 — P2&J2, P3&J3, P5&J5, P6&J6  
 This connectors are all User Defined pins. See Section VITA65 6.3.3 for requirements and pin assignments concerning connectors that are all User Defined.

Backplane Jn	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	UD	UD	UD	UD	UD	GND	UD	UD	UD
2	GND	UD	UD	GND	UD	UD	UD	UD	GND
3	UD	UD	UD	UD	UD	GND	UD	UD	UD
4	GND	UD	UD	GND	UD	UD	UD	UD	GND
5	UD	UD	UD	UD	UD	GND	UD	UD	UD
6	GND	UD	UD	GND	UD	UD	UD	UD	GND
7	UD	UD	UD	UD	UD	GND	UD	UD	UD
8	GND	UD	UD	GND	UD	UD	UD	UD	GND
9	UD	UD	UD	UD	UD	GND	UD	UD	UD
10	GND	UD	UD	GND	UD	UD	UD	UD	GND
11	UD	UD	UD	UD	UD	GND	UD	UD	UD
12	GND	UD	UD	GND	UD	UD	UD	UD	GND
13	UD	UD	UD	UD	UD	GND	UD	UD	UD
14	GND	UD	UD	GND	UD	UD	UD	UD	GND
15	UD	UD	UD	UD	UD	GND	UD	UD	UD
16	GND	UD	UD	GND	UD	UD	UD	UD	GND

Payload Slot Profile SLT6-PAY-4F2T-10.2.2 — P4 & J4

Plug-In Mod P4	Row G	Row F	Row E		Row D	Row C	Row B		Row A
Bplane J4	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	UD	UD	GND	GND-J4	UD	UD
12	GND	UD	UD	GND-J4	GND	UD	UD	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

6U Open VPX BACKPLANE  
BKP6-DIS06-11.2.10-4

VITA 46  
VITA 65



Switch Slot Profile SLT6-SWH-4F24T-10.4.4 — P1 & J1

Plug-In Module P1	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
<b>Bplane J1</b>	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	GDiscrete1	GND	GND-J1	CP01-T0-	CP01-T0+	GND	GND-J1	CP01-R0-	CP01-R0+
2	GND	CP01-T1-	CP01-T1+	GND-J1	GND	CP01-R1-	CP01-R1+	GND-J1	GND
3	P1-VBAT	GND	GND-J1	CP01-T2-	CP01-T2+	GND	GND-J1	CP01-R2-	CP01-R2+
4	GND	CP01-T3-	CP01-T3+	GND-J1	GND	CP01-R3-	CP01-R3+	GND-J1	GND
5	SYS_CON*	GND	GND-J1	CP02-T0-	CP02-T0+	GND	GND-J1	CP02-R0-	CP02-R0+
6	GND	CP02-T1-	CP02-T1+	GND-J1	GND	CP02-R1-	CP02-R1+	GND-J1	GND
7	Reserved	GND	GND-J1	CP02-T2-	CP02-T2+	GND	GND-J1	CP02-R2-	CP02-R2+
8	GND	CP02-T3-	CP02-T3+	GND-J1	GND	CP02-R3-	CP02-R3+	GND-J1	GND
9	UD	GND	GND-J1	CP03-T0-	CP03-T0+	GND	GND-J1	CP03-R0-	CP03-R0+
10	GND	CP03-T1-	CP03-T1+	GND-J1	GND	CP03-R1-	CP03-R1+	GND-J1	GND
11	UD	GND	GND-J1	CP03-T2-	CP03-T2+	GND	GND-J1	CP03-R2-	CP03-R2+
12	GND	CP03-T3-	CP03-T3+	GND-J1	GND	CP03-R3-	CP03-R3+	GND-J1	GND
13	UD	GND	GND-J1	CP04-T0-	CP04-T0+	GND	GND-J1	CP04-R0-	CP04-R0+
14	GND	CP04-T1-	CP04-T1+	GND-J1	GND	CP04-R1-	CP04-R1+	GND-J1	GND
15	Maskable Reset*	GND	GND-J1	CP04-T2-	CP04-T2+	GND	GND-J1	CP04-R2-	CP04-R2+
16	GND	CP04-T3-	CP04-T3+	GND-J1	GND	CP04-R3-	CP04-R3+	GND-J1	GND

Switch Slot Profile SLT6-SWH-4F24T-10.4.4 — P2 & J2

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
<b>Bplane J2</b>	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	UD	GND	GND-J2	CPTp01-DB-	CPTp01-DB+	GND	GND-J2	CPTp01-DA-	CPTp01-DA+
2	GND	CPTp01-DD-	CPTp01-DD+	GND-J2	GND	CPTp01-DC-	CPTp01-DC+	GND-J2	GND
3	UD	GND	GND-J2	CPTp02-DB-	CPTp02-DB+	GND	GND-J2	CPTp02-DA-	CPTp02-DA+
4	GND	CPTp02-DD-	CPTp02-DD+	GND-J2	GND	CPTp02-DC-	CPTp02-DC+	GND-J2	GND
5	UD	GND	GND-J2	CPTp03-DB-	CPTp03-DB+	GND	GND-J2	CPTp03-DA-	CPTp03-DA+
6	GND	CPTp03-DD-	CPTp03-DD+	GND-J2	GND	CPTp03-DC-	CPTp03-DC+	GND-J2	GND
7	UD	GND	GND-J2	CPTp04-DB-	CPTp04-DB+	GND	GND-J2	CPTp04-DA-	CPTp04-DA+
8	GND	CPTp04-DD-	CPTp04-DD+	GND-J2	GND	CPTp04-DC-	CPTp04-DC+	GND-J2	GND
9	UD	GND	GND-J2	CPTp05-DB-	CPTp05-DB+	GND	GND-J2	CPTp05-DA-	CPTp05-DA+
10	GND	CPTp05-DD-	CPTp05-DD+	GND-J2	GND	CPTp05-DC-	CPTp05-DC+	GND-J2	GND
11	UD	GND	GND-J2	CPTp06-DB-	CPTp06-DB+	GND	GND-J2	CPTp06-DA-	CPTp06-DA+
12	GND	CPTp06-DD-	CPTp06-DD+	GND-J2	GND	CPTp06-DC-	CPTp06-DC+	GND-J2	GND
13	UD	GND	GND-J2	CPTp07-DB-	CPTp07-DB+	GND	GND-J2	CPTp07-DA-	CPTp07-DA+
14	GND	CPTp07-DD-	CPTp07-DD+	GND-J2	GND	CPTp07-DC-	CPTp07-DC+	GND-J2	GND
15	UD	GND	GND-J2	CPTp08-DB-	CPTp08-DB+	GND	GND-J2	CPTp08-DA-	CPTp08-DA+
16	GND	CPTp08-DD-	CPTp08-DD+	GND-J2	GND	CPTp08-DC-	CPTp08-DC+	GND-J2	GND

6U Open VPX BACKPLANE  
BKP6-DIS06-11.2.10-4

VITA 46  
VITA 65




Switch Slot Profile SLT6-SWH-4F24T-10.4.4 — P3 & J3

Plug-In Module P3	Row G	Row F	Row E		Row D	Row C	Row B		Row A
	Even	Odd	Even	Odd	Even	Odd	Even	Odd	Even
Bplane J3	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	UD	GND	GND-J3	CPTp09-DB-	CPTp09-DB+	GND	GND-J3	CPTp09-DA-	CPTp09-DA+
2	GND	CPTp09-DD-	CPTp09-DD+	GND-J3	GND	CPTp09-DC-	CPTp09-DC+	GND-J3	GND
3	UD	GND	GND-J3	CPTp10-DB-	CPTp10-DB+	GND	GND-J3	CPTp10-DA-	CPTp10-DA+
4	GND	CPTp10-DD-	CPTp10-DD+	GND-J3	GND	CPTp10-DC-	CPTp10-DC+	GND-J3	GND
5	UD	GND	GND-J3	CPTp11-DB-	CPTp11-DB+	GND	GND-J3	CPTp11-DA-	CPTp11-DA+
6	GND	CPTp11-DD-	CPTp11-DD+	GND-J3	GND	CPTp11-DC-	CPTp11-DC+	GND-J3	GND
7	UD	GND	GND-J3	CPTp12-DB-	CPTp12-DB+	GND	GND-J3	CPTp12-DA-	CPTp12-DA+
8	GND	CPTp12-DD-	CPTp12-DD+	GND-J3	GND	CPTp12-DC-	CPTp12-DC+	GND-J3	GND
9	UD	GND	GND-J3	CPTp13-DB-	CPTp13-DB+	GND	GND-J3	CPTp13-DA-	CPTp13-DA+
10	GND	CPTp13-DD-	CPTp13-DD+	GND-J3	GND	CPTp13-DC-	CPTp13-DC+	GND-J3	GND
11	UD	GND	GND-J3	CPTp14-DB-	CPTp14-DB+	GND	GND-J3	CPTp14-DA-	CPTp14-DA+
12	GND	CPTp14-DD-	CPTp14-DD+	GND-J3	GND	CPTp14-DC-	CPTp14-DC+	GND-J3	GND
13	UD	GND	GND-J3	CPTp15-DB-	CPTp15-DB+	GND	GND-J3	CPTp15-DA-	CPTp15-DA+
14	GND	CPTp15-DD-	CPTp15-DD+	GND-J3	GND	CPTp15-DC-	CPTp15-DC+	GND-J3	GND
15	UD	GND	GND-J3	CPTp16-DB-	CPTp16-DB+	GND	GND-J3	CPTp16-DA-	CPTp16-DA+
16	GND	CPTp16-DD-	CPTp16-DD+	GND-J3	GND	CPTp16-DC-	CPTp16-DC+	GND-J3	GND

Switch Slot Profile SLT6-SWH-4F24T-10.4.4 — P4 & J4

Plug-In Module P4	Row G	Row F	Row E		Row D	Row C	Row B		Row A
	Even	Odd	Even	Odd	Even	Odd	Even	Odd	Even
Bplane J4	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	UD	GND	GND-J4	CPTp17-DB-	CPTp17-DB+	GND	GND-J4	CPTp17-DA-	CPTp17-DA+
2	GND	CPTp17-DD-	CPTp17-DD+	GND-J3	GND	CPTp17-DC-	CPTp17-DC+	GND-J4	GND
3	UD	GND	GND-J4	CPTp18-DB-	CPTp18-DB+	GND	GND-J4	CPTp18-DA-	CPTp18-DA+
4	GND	CPTp18-DD-	CPTp18-DD+	GND-J4	GND	CPTp18-DC-	CPTp18-DC+	GND-J4	GND
5	UD	GND	GND-J4	CPTp19-DB-	CPTp19-DB+	GND	GND-J3	CPTp19-DA-	CPTp19-DA+
6	GND	CPTp19-DD-	CPTp19-DD+	GND-J4	GND	CPTp19-DC-	CPTp19-DC+	GND-J4	GND
7	UD	GND	GND-J4	CPTp20-DB-	CPTp20-DB+	GND	GND-J4	CPTp20-DA-	CPTp20-DA+
8	GND	CPTp20-DD-	CPTp20-DD+	GND-J4	GND	CPTp20-DC-	CPTp20-DC+	GND-J4	GND
9	UD	GND	GND-J4	CPTp21-DB-	CPTp21-DB+	GND	GND-J4	CPTp21-DA-	CPTp21-DA+
10	GND	CPTp21-DD-	CPTp21-DD+	GND-J4	GND	CPTp21-DC-	CPTp21-DC+	GND-J4	GND
11	UD	GND	GND-J4	CPTp22-DB-	CPTp22-DB+	GND	GND-J4	CPTp22-DA-	CPTp22-DA+
12	GND	CPTp22-DD-	CPTp22-DD+	GND-J4	GND	CPTp22-DC-	CPTp22-DC+	GND-J4	GND
13	UD	GND	GND-J4	CPTp23-DB-	CPTp23-DB+	GND	GND-J4	CPTp23-DA-	CPTp23-DA+
14	GND	CPTp23-DD-	CPTp23-DD+	GND-J4	GND	CPTp23-DC-	CPTp23-DC+	GND-J4	GND
15	UD	GND	GND-J4	CPTp24-DB-	CPTp24-DB+	GND	GND-J4	CPTp24-DA-	CPTp24-DA+
16	GND	CPTp24-DD-	CPTp24-DD+	GND-J4	GND	CPTp24-DC-	CPTp24-DC+	GND-J4	GND

<b>6U Open VPX BACKPLANE</b> <b>BKP6-DIS06-11.2.10-4</b>	<b>VITA 46</b> <b>VITA 65</b>	
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Switch Slot Profile SLT6-SWH-4F24T-10.4.4 — P5&J5, P6&J6

This connectors are all User Defined pins. See Section VITA 65 6.3.3 for requirements and pin assignments concerning connectors that are all User Defined.

Backplane Jn	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	UD	UD	UD	UD	UD	GND	UD	UD	UD
2	GND	UD	UD	GND	UD	UD	UD	UD	GND
3	UD	UD	UD	UD	UD	GND	UD	UD	UD
4	GND	UD	UD	GND	UD	UD	UD	UD	GND
5	UD	UD	UD	UD	UD	GND	UD	UD	UD
6	GND	UD	UD	GND	UD	UD	UD	UD	GND
7	UD	UD	UD	UD	UD	GND	UD	UD	UD
8	GND	UD	UD	GND	UD	UD	UD	UD	GND
9	UD	UD	UD	UD	UD	GND	UD	UD	UD
10	GND	UD	UD	GND	UD	UD	UD	UD	GND
11	UD	UD	UD	UD	UD	GND	UD	UD	UD
12	GND	UD	UD	GND	UD	UD	UD	UD	GND
13	UD	UD	UD	UD	UD	GND	UD	UD	UD
14	GND	UD	UD	GND	UD	UD	UD	UD	GND
15	UD	UD	UD	UD	UD	GND	UD	UD	UD
16	GND	UD	UD	GND	UD	UD	UD	UD	GND



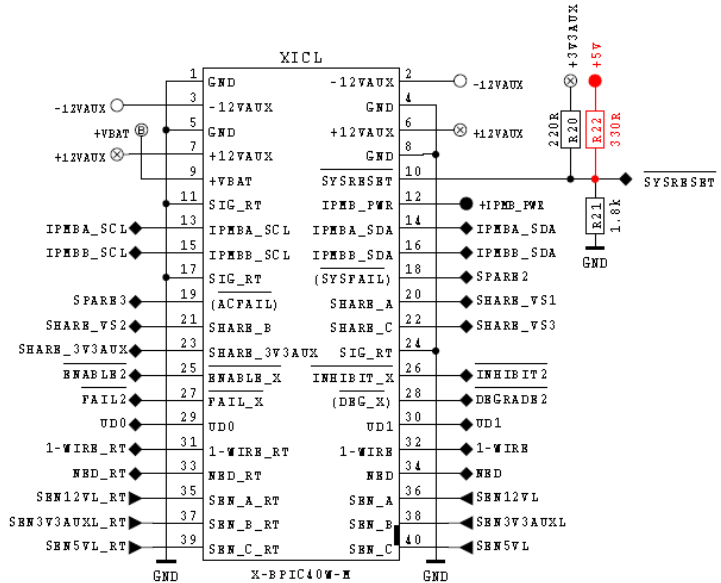
**6U Open VPX BACKPLANE**  
**BKP6-DIS06-11.2.10-4**

**VITA 46**  
**VITA 65**



#### 4) XICL/ XICR connector

There are 2 connectors with the main control signals like sense, I2C, load shares and auxiliary voltages.



Connector Samtec TFM-120-02-L-D-P

#### 5) Power Studs M5

The voltages +12V, +5V, +3.3VAUX and GND are supplied with M5 screw terminals. The auxiliary voltages ±12VAUX are supplied via connector XICL or IICR.

#### 6) VBAT X5

Normally a battery voltage with approximately 3V is available at Pin VBAT of connector VPX-J1. The voltage is externally accessible with connector X5 **or** internally using 3.3V\_AUX by closing Jumper BR2.

##### VBAT X5

1	GND
2	+3V Batterie

##### BR2

1	+3.3V_AUX
2	+VBAT

#### 7) NVMRO

If Jumper BR1 is closed NVRMO is set to memory writeable.

##### BR1

1	NVMRO
2	GND

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