

3U Open VPX BACKPLANE BKP3-CEN08-15.2.16-4

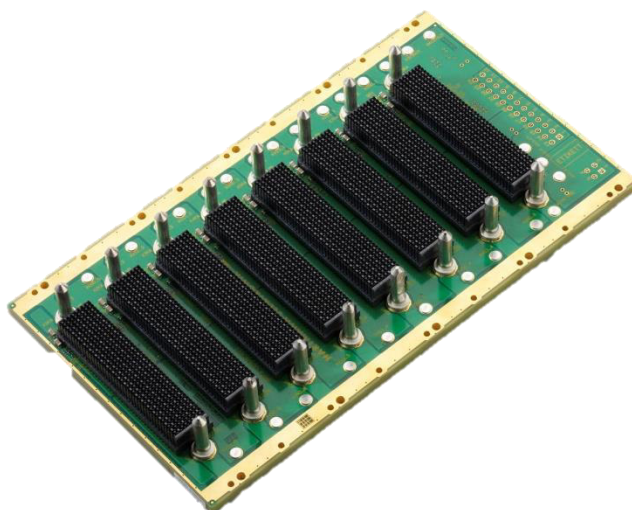
VITA 46
VITA 65



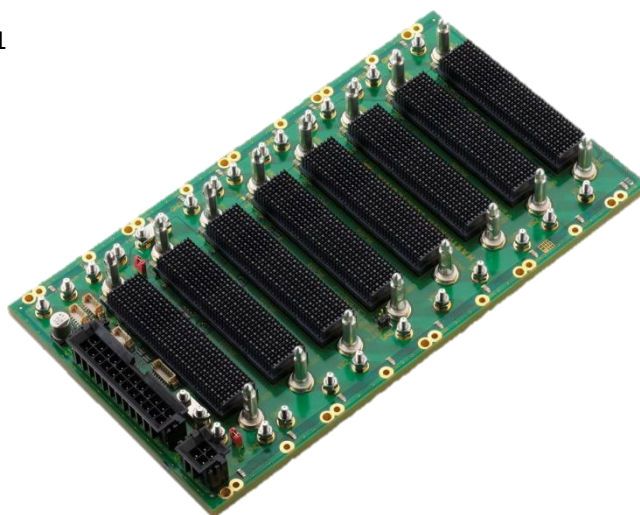
Key figures:

- Compliant to VITA 46.0 baseline specification 
- Compliant to VITA 65 Open VPX
- 8 Slots VPX, 6 Payload Slots , 2 Switch Slots
- Single Star X4 configuration
- M3 studs and ATX connector for powerentry
- PCB size 128.5mm x 229.4mm x 5.4 mm
- 5 HP from slot to slot (25.40 mm)
- Flexible keying and alignment mechanism
- System Management Interface on the backplane (I2C1, I2C2)
- with geographical address pins
- Reference clock
- Non-Volatile Memory Read Only signal set by Jumper BR1
- Battery backup option setting by Jumper X5. Vbat external or connected to 3.3 AUX.
- Power Consumption:
VS1:VS2:VS3 = 125A : 125A : 125A
(15A/ Slot and Voltage)
- System Reset
- Operating temperature: -40° - +85°C
- Storage temperature: -55°C - +85°C
- Flammability rating: UL94-V0
- **Order number: B190308020**

Front side



Rear side



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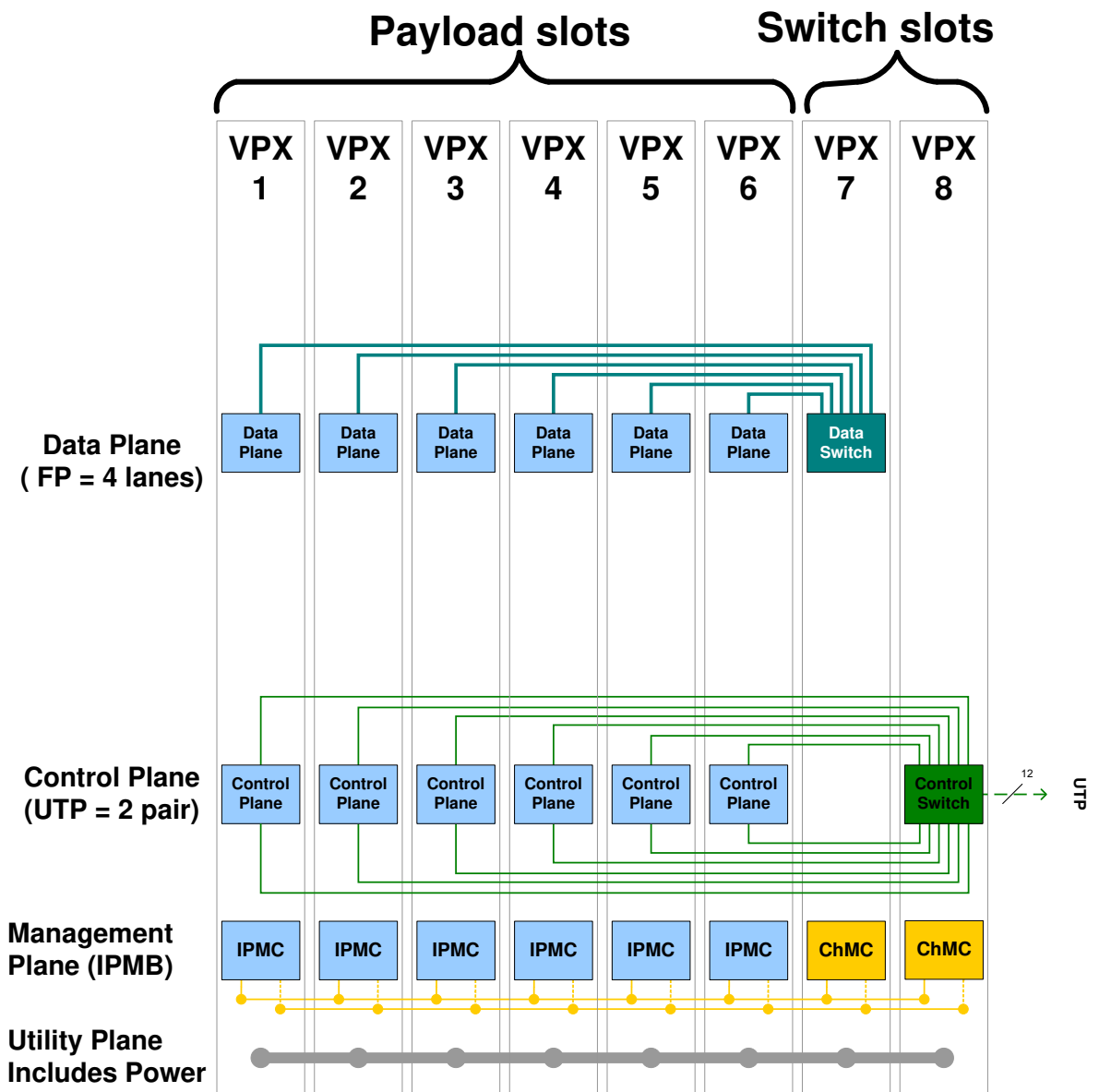


1) Topology: Single Star based on BKP3-CEN08-15.2.16-n

Profil Data Plane Switch slot: SLT3-SWH-6F6U-14.4.1

Profil Control Plane Switch slot: SLT3-SWH-2F24U-14.4.3

Profil Payload slots: SLT3-PAY-2F2U-14.2.3



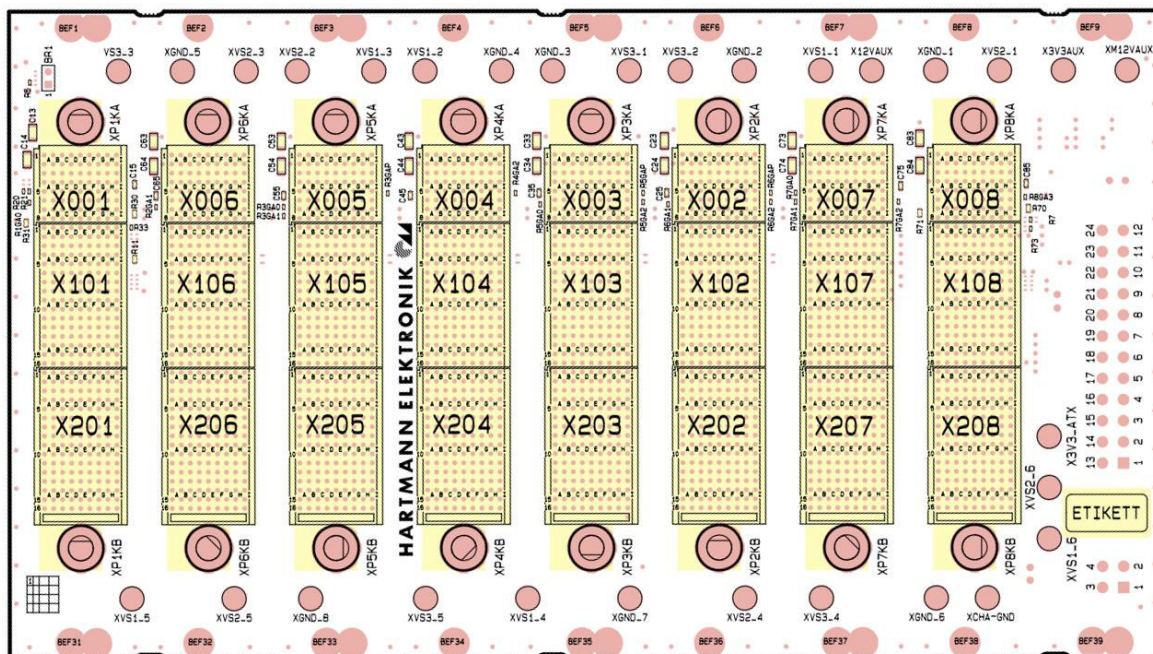
3U Open VPX
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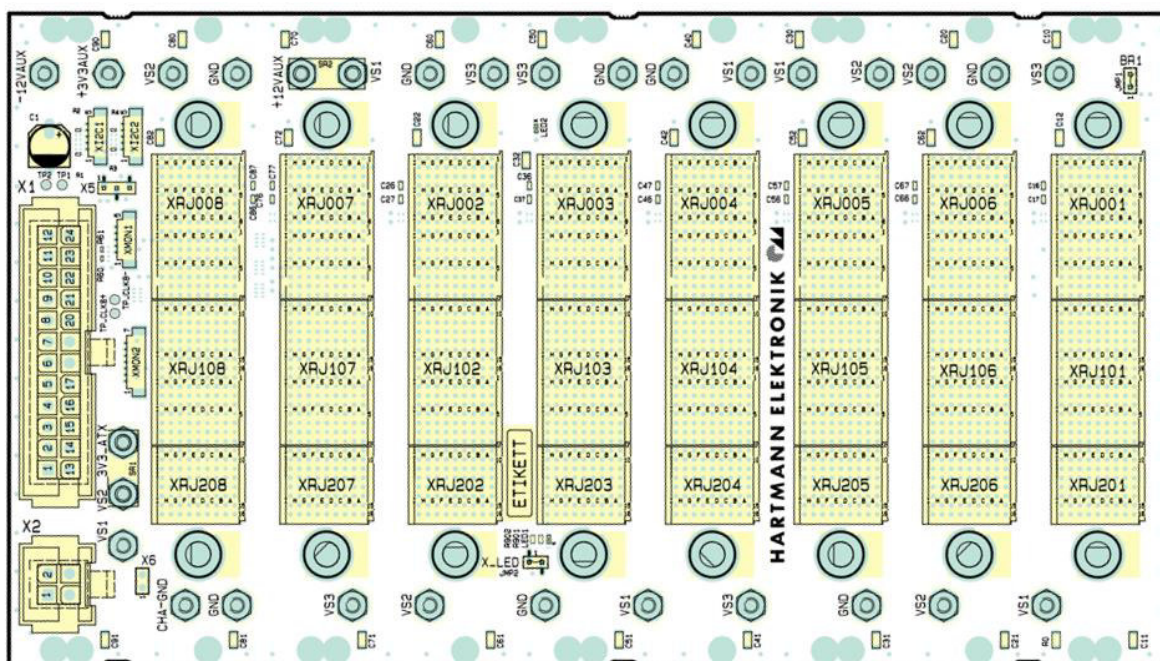


2) Drawings:

Front side



Back side



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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=3.3V , VS3=5V

Payload Slot Profile SLT3-PAY-2F2U-14.2.3— P1 & J1

Plug-in module P1	Row G	Row F	Row E		Row D	Row C	Row B		Row A
Bplane J1	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	GDiscrete1	GND	GND-J1	DP01-TD0-	DP01-TD0+	GND	GND-J1	DP01-RD0-	DP01-RD0+
2	GND	DP01-TD1-	DP01-TD1+	GND-J1	GND	DP01-RD1-	DP01-RD1+	GND-J1	GND
3	P1-VBAT	GND	GND-J1	DP01-TD2-	DP01-TD2+	GND	GND-J1	DP01-RD2-	DP01-RD2+
4	GND	DP01-TD3-	DP01-TD3+	GND-J1	GND	DP01-RD3-	DP01-RD3+	GND-J1	GND
5	SYS_CON*	GND	GND-J1	DP02-TD0-	DP02-TD0+	GND	GND-J1	DP02-RD0-	DP02-RD0+
6	GND	DP02-TD1-	DP02-TD1+	GND-J1	GND	DP02-RD1-	DP02-RD1+	GND-J1	GND
7	Reserved	GND	GND-J1	DP02-TD2-	DP02-TD2+	GND	GND-J1	DP02-RD2-	DP02-RD2+
8	GND	DP02-TD3-	DP02-TD3+	GND-J1	GND	DP02-RD3-	DP02-RD3+	GND-J1	GND
9	UD	GND	GND-J1	UD	UD	GND	GND-J1	UD	UD
10	GND	UD	UD	GND-J1	GND	UD	UD	GND-J1	GND
11	UD	GND	GND-J1	UD	UD	GND	GND-J1	UD	UD
12	GND	UD	UD	GND-J1	GND	UD	UD	GND-J1	GND
13	UD	GND	GND-J1	UD	UD	GND	GND-J1	UD	UD
14	GND	UD	UD	GND-J1	GND	UD	UD	GND-J1	GND
15	Maskable Reset*	GND	GND-J1	CPUTp02-TD-	CPUTp02-TD+	GND	GND-J1	CPUTp02-RD-	CPUTp02-RD+
16	GND	CPUTp01-TD-	CPUTp01-TD+	GND-J1	GND	CPUTp01-RD-	CPUTp01-RD+	GND-J1	GND

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Payload Slot Profile SLT3-PAY-2F2U-14.2.3— P2 & J2

This connector is all User Defined pins. See Section 6.3.3 for requirements and pin assignments
Concerning connectors that are all User Defined.

Connector Example Combined Plug-In Module & Backplane - Differential

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

Switch Data Plane Slot Profile SLT3-SWH-6F6U-14.4.1— P1 & J1

Plug-In Module P1	Row G	Row F	Row E		Row D	Row C	Row B		Row A
Bplane J1	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	GDiscrete1	GND	GND-J1	DP01-TD0-	DP01-TD0+	GND	GND-J1	DP01-RD0-	DP01-RD0+
2	GND	DP01-TD1-	DP01-TD1+	GND-J1	GND	DP01-RD1-	DP01-RD1+	GND-J1	GND
3	P1-VBAT	GND	GND-J1	DP01-TD2-	DP01-TD2+	GND	GND-J1	DP01-RD2-	DP01-RD2+
4	GND	DP01-TD3-	DP01-TD3+	GND-J1	GND	DP01-RD3-	DP01-RD3+	GND-J1	GND
5	SYS_CON*	GND	GND-J1	DP02-TD0-	DP02-TD0+	GND	GND-J1	DP02-RD0-	DP02-RD0+
6	GND	DP02-TD1-	DP02-TD1+	GND-J1	GND	DP02-RD1-	DP02-RD1+	GND-J1	GND
7	Reserved	GND	GND-J1	DP02-TD2-	DP02-TD2+	GND	GND-J1	DP02-RD2-	DP02-RD2+
8	GND	DP02-TD3-	DP02-TD3+	GND-J1	GND	DP02-RD3-	DP02-RD3+	GND-J1	GND
9	UD	GND	GND-J1	DP03-TD0-	DP03-TD0+	GND	GND-J1	DP03-RD0-	DP03-RD0+
10	GND	DP03-TD1-	DP03-TD1+	GND-J1	GND	DP03-RD1-	DP03-RD1+	GND-J1	GND
11	UD	GND	GND-J1	DP03-TD2-	DP03-TD2+	GND	GND-J1	DP03-RD2-	DP03-RD2+
12	GND	DP03-TD3-	DP03-TD3+	GND-J1	GND	DP03-RD3-	DP03-RD3+	GND-J1	GND
13	UD	GND	GND-J1	DP04-TD0-	DP04-TD0+	GND	GND-J1	DP04-RD0-	DP04-RD0+
14	GND	DP04-TD1-	DP04-TD1+	GND-J1	GND	DP04-RD1-	DP04-RD1+	GND-J1	GND
15	Maskable Reset*	GND	GND-J1	DP04-TD2-	DP04-TD2+	GND	GND-J1	DP04-RD2-	DP04-RD2+
16	GND	DP04-TD3-	DP04-TD3+	GND-J1	GND	DP04-RD3-	DP04-RD3+	GND-J1	GND

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Switch Data Plane Slot Profile SLT3-SWH-6F6U-14.4.1— P2 & J2

Plug-In Module P2	Row G	Row F	Row E		Row D	Row C	Row B		Row A
Bplane J2	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	UD	GND	GND-J2	DP05-TD0-	DP05-TD0+	GND	GND-J2	DP05-RD0-	DP05-RD0+
2	GND	DP05-TD1-	DP05-TD1+	GND-J2	GND	DP05-RD1-	DP05-RD1+	GND-J2	GND
3	UD	GND	GND-J2	DP05-TD2-	DP05-TD2+	GND	GND-J2	DP05-RD2-	DP05-RD2+
4	GND	DP05-TD3-	DP05-TD3+	GND-J2	GND	DP05-RD3-	DP05-RD3+	GND-J2	GND
5	UD	GND	GND-J2	DS01-TD0-	DS01-TD0+	GND	GND-J2	DS01-RD0-	DS01-RD0+
6	GND	DS01-TD1-	DS01-TD1+	GND-J2	GND	DS01-RD1-	DS01-RD1+	GND-J2	GND
7	UD	GND	GND-J2	DS01-TD2-	DS01-TD2+	GND	GND-J2	DS01-RD2-	DS01-RD2+
8	GND	DS01-TD3-	DS01-TD3+	GND-J2	GND	DS01-RD3-	DS01-RD3+	GND-J2	GND
9	UD	GND	GND-J2	CSutp01-TD-	CSutp01-TD+	GND	GND-J2	CSutp01-RD-	CSutp01-RD+
10	GND	CPutp05-TD-	CPutp05-TD+	GND-J2	GND	CPutp05-RD-	CPutp05-RD+	GND-J2	GND
11	UD	GND	GND-J2	CPutp04-TD-	CPutp04-TD+	GND	GND-J2	CPutp04-RD-	CPutp04-RD+
12	GND	CPutp03-TD-	CPutp03-TD+	GND-J2	GND	CPutp03-RD-	CPutp03-RD+	GND-J2	GND
13	UD	GND	GND-J2	CPutp02-TD-	CPutp02-TD+	GND	GND-J2	CPutp02-RD-	CPutp02-RD+
14	GND	CPutp01-TD-	CPutp01-TD+	GND-J2	GND	CPutp01-RD-	CPutp01-RD+	GND-J2	GND
15	UD	GND	GND-J2	UD	UD	GND	GND-J2	UD	UD
16	GND	UD	UD	GND-J2	GND	UD	UD	GND-J2	GND

Switch Control Plane Profile SLT3-SWH-2F24U-14.4.3— P1 & J1

Plug-In Module P1	Row G	Row F	Row E		Row D	Row C	Row B		Row A
Bplane J1	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	CPutp01-TD-	CPutp01-TD+	GND	GND-J1	CPutp01-RD-	CPutp01-RD+
10	GND	CPutp02-TD-	CPutp02-TD+	GND-J1	GND	CPutp02-RD-	CPutp02-RD+	GND-J1	GND
11	UD	GND	GND-J1	CPutp03-TD-	CPutp03-TD+	GND	GND-J1	CPutp03-RD-	CPutp03-RD+
12	GND	CPutp04-TD-	CPutp04-TD+	GND-J1	GND	CPutp04-RD-	CPutp04-RD+	GND-J1	GND
13	UD	GND	GND-J1	CPutp05-TD-	CPutp05-TD+	GND	GND-J1	CPutp05-RD-	CPutp05-RD+
14	GND	CPutp06-TD-	CPutp06-TD+	GND-J1	GND	CPutp06-RD-	CPutp06-RD+	GND-J1	GND
15	Maskable Reset*	GND	GND-J1	CPutp07-TD-	CPutp07-TD+	GND	GND-J1	CPutp07-RD-	CPutp07-RD+
16	GND	CPutp08-TD-	CPutp08-TD+	GND-J1	GND	CPutp08-RD-	CPutp08-RD+	GND-J1	GND

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Switch Control Plane Profile SLT3-SWH-2F24U-14.4.3— P2 & J2

Plug-In Module P2	Row G	Row F	Row E		Row D	Row C	Row B		Row A
Bplane J2	Row i	Row h	Row g	Row f	Row e	Row d	Row c	Row b	Row a
1	UD	GND	GND-J2	CPutp09-TD-	CPutp09-TD+	GND	GND-J2	CPutp09-RD-	CPutp09-RD+
2	GND	CPutp10-TD-	CPutp10-TD+	GND-J2	GND	CPutp10-RD-	CPutp10-RD+	GND-J2	GND
3	UD	GND	GND-J2	CPutp11-TD-	CPutp11-TD+	GND	GND-J2	CPutp11-RD-	CPutp11-RD+
4	GND	CPutp12-TD-	CPutp12-TD+	GND-J2	GND	CPutp12-RD-	CPutp12-RD+	GND-J2	GND
5	UD	GND	GND-J2	CPutp13-TD-	CPutp13-TD+	GND	GND-J2	CPutp13-RD-	CPutp13-RD+
6	GND	CPutp14-TD-	CPutp14-TD+	GND-J2	GND	CPutp14-RD-	CPutp14-RD+	GND-J2	GND
7	UD	GND	GND-J2	CPutp15-TD-	CPutp15-TD+	GND	GND-J2	CPutp15-RD-	CPutp15-RD+
8	GND	CPutp16-TD-	CPutp16-TD+	GND-J2	GND	CPutp16-RD-	CPutp16-RD+	GND-J2	GND
9	UD	GND	GND-J2	CPutp17-TD-	CPutp17-TD+	GND	GND-J2	CPutp17-RD-	CPutp17-RD+
10	GND	CPutp18-TD-	CPutp18-TD+	GND-J2	GND	CPutp18-RD-	CPutp18-RD+	GND-J2	GND
11	UD	GND	GND-J2	CPutp19-TD-	CPutp19-TD+	GND	GND-J2	CPutp19-RD-	CPutp19-RD+
12	GND	CPutp20-TD-	CPutp20-TD+	GND-J2	GND	CPutp20-RD-	CPutp20-RD+	GND-J2	GND
13	UD	GND	GND-J2	CPutp21-TD-	CPutp21-TD+	GND	GND-J2	CPutp21-RD-	CPutp21-RD+
14	GND	CPutp22-TD-	CPutp22-TD+	GND-J2	GND	CPutp22-RD-	CPutp22-RD+	GND-J2	GND
15	UD	GND	GND-J2	CPutp23-TD-	CPutp23-TD+	GND	GND-J2	CPutp23-RD-	CPutp23-RD+
16	GND	CPutp24-TD-	CPutp24-TD+	GND-J2	GND	CPutp24-RD-	CPutp24-RD+	GND-J2	GND

4) I2C connector

There are 2 connectors for system- management I2C1 and I2C2.

For customer specific board assembly are Zero-Ohm resistors available.

Usable voltages for I2C are 3.3V-AUX

I2C1

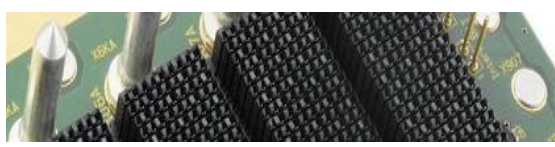
1	I2C1_SCL
2	GND
3	I2C1_SDA
4	I2C1_PWR
5	NC

I2C2

1	I2C2_SCL
2	GND
3	I2C2_SDA
4	I2C2_PWR
5	NC

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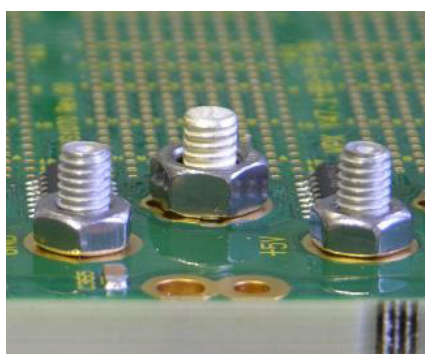
**VITA 46
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5) Power Studs M3

The main operating voltages (+12V, +3.3V, +5V) and GND are supplied with M3 screw terminals. The auxiliary operating voltages are supplied via M3 screw terminals. Optimal daughter board supply and trouble-free operation are ensured by the arrangement of the feed modules on the backplane.

Consider: Max. 36A/ Slot acc. VITA 46.0 allowed



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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