

3U OpenVPX BACKPLANE BKP3-CEN07-15.2.3-4

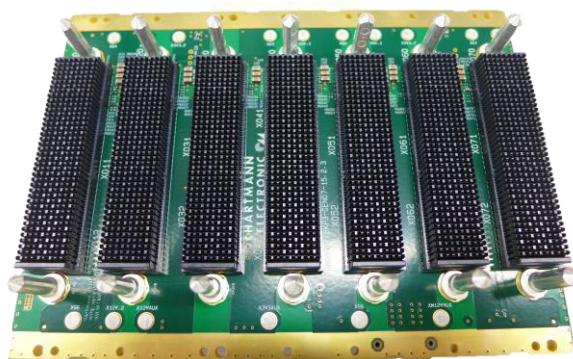
VITA 46
VITA 65



Key Features:

- Compliant to VITA 46.0 baseline specification
 - Compliant to VITA 65 , BKP3-CEN07-15.2.3-4
 - 7 Slots VPX, 6 Payload Slots, 1 Switch Slot
 - Configuration Data Plane: Single Star (1x FP)
 - Configuration Control Plane: Single Star (1x UTP)
 - M3 studs for power entry
 - PCB size 128.50mm x 174.65mm x 5.4 mm
 - 5 HP from slot to slot (25.40 mm)
 - Flexible keying and alignment mechanism
 - with geographical address pins
 - Reference clock
 - Auxiliary clock
 - System Reset
 - With JTAG connector on first slot (JT1)
 - System Management Interface on the backplane (I2CA, I2CB)
 - 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.
 - Max. Input current per backplane
VS1:VS2:VS3 = 75A : 80A : 75A
 - Operating temperature: -40° - +85°C
 - Storage temperature: -55°C - +85°C
 - Flammability rating: UL94-V0
 - Custom assembly or modification on request
- **Order number: B193610160**

Front side



Back side



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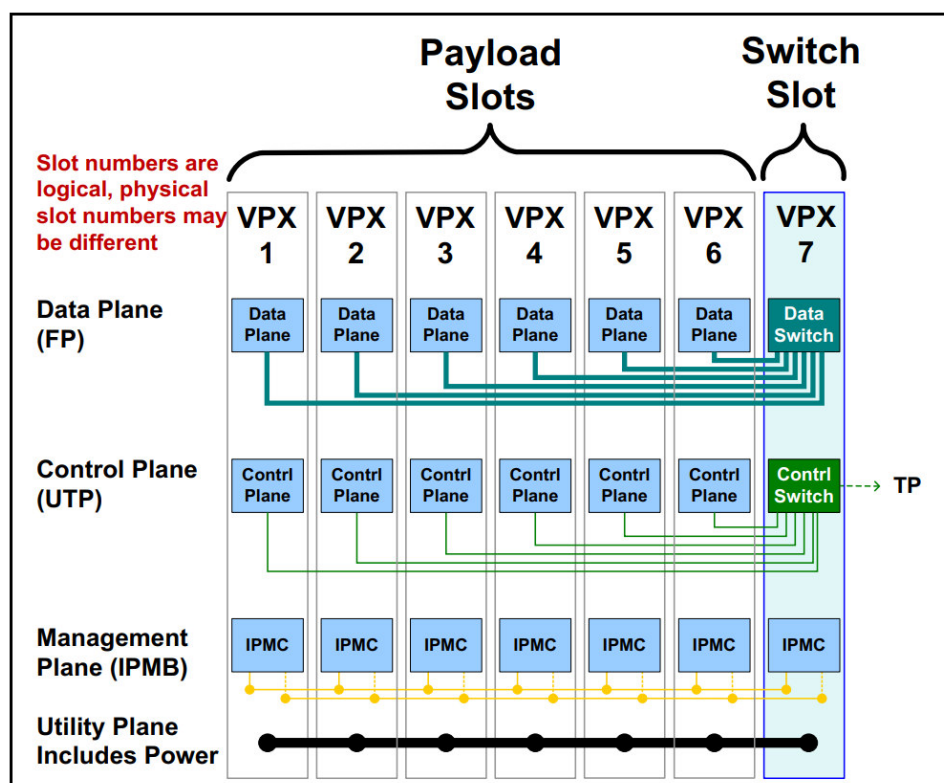
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1) Topology: 7-Slot — BKP3-CEN07-15.2.3-4 (6 Payloads + 1 Switch)

Profile Payload slots: SLT3-PAY-2F2U-14.2.3 / MOD3-PAY-2F2U-16.2.3

Profile Switch slot: SLT3-SWH-6F6U-14.4.1 / MOD3-SWH-6F6U-16.4.1



2) Data Plane Port connections

Logical Payload Slot	Payload Data Plane Port	Switch Data Plane Port
1	DP01	DP01
2	DP01	DP02
3	DP01	DP03
4	DP01	DP04
5	DP01	DP05
6	DP01	DS01

3) Drawings

[illegible]

This detailed floor plan illustrates the layout of the first floor. It features a central vertical corridor labeled "ETIKET". Rooms are arranged symmetrically on both sides of this corridor. The left wing contains rooms XRU070, XRU060, XRU050, XRU040, XRU030, XRU020, XRU010, XRU071, XRU061, XRU051, XRU041, XRU031, XRU021, XRU011, XRU072, XRU062, XRU052, XRU042, XRU032, XRU022, and XRU012. The right wing contains rooms XI20B, XU11, XM0A07, XM0A06, XM0A05, XM0A04, XM0A03, XM0A02, and XM0N2. Utility areas include XAU1, XUTIL, and XAU2. The plan is densely populated with electrical symbols, including outlets, switches, and communication points.

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4) 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
			Even	Odd			Even	Odd	
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 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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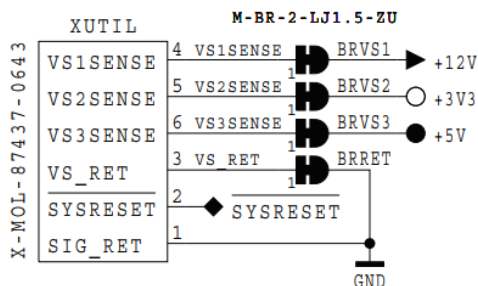
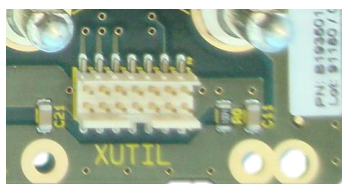
Switch Slot Profile SLT3-SWH-6F6U-14.4.1— P2 & J2

Plug-In Module P2	Row G	Row F	Row E		Row D	Row C	Row B		Row A
Bplane J2	Row i	Row h	Even	Odd	Row e	Row d	Even	Odd	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	GND-J2	GND	GND

5) Current Capability:

▪ +12V	75 A
▪ +3.3V	80 A
▪ +5V	75 A
▪ -12V AUX	7 A
▪ +12V AUX	7 A
▪ +3.3V AUX	7 A

6) UTILITY (Connector XUTIL)



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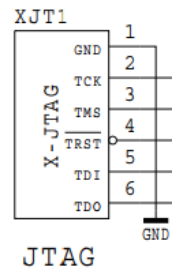
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7) JTAG (Connector XJT1)



Consider: JTAG only at Slot 1



Connector Molex
87437-0643

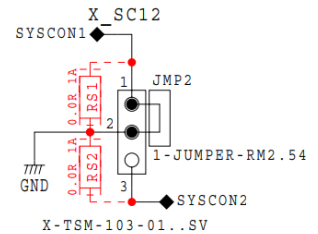
8) SYSCON

By setting the signal Syscon to GND the system slot is defined. In general the system slot is slot 1.

There are additional connectors X_SC34, X_SC56
X_SC7 so as you can select any slot as system slot

X_SC12

1	SYSCON1
2	GND
3	SYSCON2



We offer 2 options for setting:

- Jumper (standard)
- 0 Ohm Resistor for rugged applications

9) I2C Connector

There are 2 connectors for system-management I2CA and I2CB.

For customer specific board assembly Zero-Ohm resistors available.

Usable voltages for I2C are 3.3V-AUX

I2CA

1	I2CA_SCL
2	GND
3	I2CA_SDA
4	I2CA_PWR
5	NC

I2CB

1	I2CB_SCL
2	GND
3	I2CB_SDA
4	I2CB_PWR
5	NC

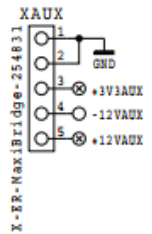
Connector Molex 53398-0571

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10) Power Studs M3 / AUX

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 terminal and via single row vertical terminals. Optimal daughter board supply and trouble-free operation are ensured by the arrangement of the feed modules on the backplane.



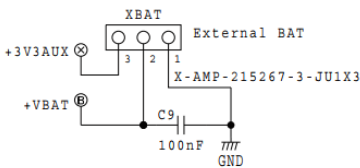
Connector Erni 254831

11) XBAT

Normally a battery voltage with approximately 3V is available at Pin VBAT of connector VPX-J1. The voltage is externally accessible with connector XBAT, Pin2 or internally using 3.3V_AUX by setting a Jumper between Pin2 and Pin3.

VBAT X5

1	GND
2	+VBAT
3	+3.3V_AUX

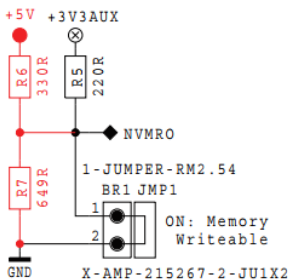


12) NVMRO

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

BR1

1	NVMRO
2	GND



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