Atrenne
A Celestica Company

CHASSIS SOLUTION 881-131

HIGH POWER SMALL FORM FACTOR 3U OPENVPX CONDUCTION-COOLED COLD PLATE CHASSIS

FEATURES

- Modified COTS cold plate style small form factor chassis
- Central switch topology 5-slot 3U OpenVPX backplane
- (5) 3U OpenVPX 0.8" pitch slots
- (2) 3U 0.8” pitch power supply slots
- Application-specific I/O board
- Operating Temperature: -40 to +55°C
- Altitude: 28 kft
- 28 VDC MIL-STD-704F and MIL-STD-1275B power input
- 450W power supply
- 3U OpenVPX Payload – total of (9) Core i7 Processors, Core i7 SBCs & XMCs
- Shock: 40g, 11 ms
- Vibration: MIL-STD-810 ground vehicle, propeller aircraft and helicopter aircraft methods
- EMI/EMC: MIL-STD-461E

MARKET

Military

APPLICATION

ISR Application for Airborne and Ground Demonstration

CHALLENGE

Design and manufacture an airborne forced air conduction-cooled ATR chassis with (5) high power 3U OpenVPX™ slots, 0.8” pitch 3U card cage and backplane, and 450W MIL-STD-704F power supply.

CONCERNS

Program required high power 3U OpenVPX, with quick-turn delivery requirements.

HOW CAN WE HELP REDUCE YOUR RISK?

Atrenne can help you with all of your application-specific backplane and chassis requirements.

The solutions that you see on our website are just a small sample of what we have done. Please browse our solutions and contact us for a consultation.

The Atrenne Small Form Factor (SFF) high power chassis solution was based on our SFF-4 baseplate cooled small form factor chassis. It supports (5) slots of 3U OpenVPX modules configured in a central switch topology. This conduction-cooled cold plate enclosure supports 28 VDC MIL-STD-704F and MIL-STD-1275B power input with a 450W power supply.

This application-specific ATR chassis was designed to support an operating temperature of -40 to +55°C, altitude of 28 kft, shock up to 40g, 11 ms, vibration to MIL-STD-810 ground vehicle, propeller aircraft and helicopter aircraft methods, and EMI/EMC per MIL-STD-461E.

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HIGH POWER SMALL FORM FACTOR 3U OPENVPX CONDUCTION-COOLED COLD PLATE CHASSIS E

SPECIFICATIONS

PHYSICAL	
Width	6.00”
Height	7.57”
Depth	9.25”
Weight	18 lbs. including power supply
Construction	Brazed Aluminum
ENVIRONMENTAL	
Operating Temperature	-40 to +55°C
Storage Temperature	-55 to +105°C
Altitude	28 kft
Humidity	95% per RTCA/DO-160D Section 10.2, Category W
Cooling	Cooled via cold plates on the two sides which need to be connected to heat exchangers Heat exchangers not included but could be liquid or air cooled
Waterproofness	RTCA/DO-160D Section 6.31, Category A
Explosion Proofness	RTCA/DO-160D Section 9.4.2, Category E
Fluid Susceptibility	RTCA/DO-160D Section 11.3, Category F
Sand and Dust	RTCA/DO-160D Section 12.2
Fungus	MIL-STD-454, Requirement 4
Salt Spray	RTCA/DO-160D Section 13, Category F
Rapid Decompression	RTCA/DO-160D Section 4.6.1, 8,000 ft to 65,000 ft in 15 seconds
Shock	40g, 11 ms
Vibration	MIL-STD-810D ground mobile, propeller aircraft, helicopter aircraft methods
Acceleration	Longitudinal: +/- 1.2g Lateral: +/- 1.0g Vertical: + 5.0, -2.5g
EMC	MIL-STD-461E: CE102, CS101, CS114, CS115, CS116, RE102, RS101, RS103
POWER/ELECTRICAL	
DC Input	28 VDC per MIL-STD-704F & MIL-STD-1275B
Backplane Connectors	3U OpenVPX connectors Positronics Power Supply Connector
Connector Pitch	0.8"
CONSTRUCTION	
Top & Bottom	Aluminum 6061
Card Cage Brazement	Dip Brazed Aluminum 6061
Power Supply	(2) 3U Conduction-cooled Power Supply DC Outputs total 450W

WARRANTY

This product has a one year warranty.

CONTACT INFORMATION

www.atrenne.com
sales@atrenne.com
508.588.6110 or 800.926.8722

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