

FEATURES

- ¾ ATR based on D2D chassis
- 7.45" x 7.58" x 14.77" (WxHxD)
- Application-specific 3U 5-slot hybrid OpenVPX/cPCI backplane
 - (2) 3U OpenVPX 1.0" pitch slots
 - (1) 3U cPCI slot
 - (2) slots for expansion
 - (1) 3U MIL-STD-704F application-specific pitch power supply slot
- Application-specific I/O panel CCA
 - I/O protection circuitry for severe RTCA/DO-160 Lightning Pin Injection
- -45 to +71°C
- 0 to 25 kft
- 28 VDC MIL-STD-704F input
- 216W application-specific pitch power supply with (6) outputs and 50 msec holdup

CHASSIS SOLUTION 70-176

UAV AIRBORNE 3U OPENVPX ¾-ATR
FORCED AIR CONDUCTION ATR
SOLUTION FOR RADAR APPLICATIONS



MARKET

Military

APPLICATION

UAV Airborne Radar Application

CHALLENGE

Design and manufacture a UAV airborne high power forced air conduction-cooled ATR chassis for rotary wing aircraft with severe RTCA/DO-160 Lightning Pin Injection, hybrid 3U OpenVPX™/CompactPC® (cPCI) card cage and backplane, and application-specific MIL-STD-704F power supply.

CONCERNS

Program required extensive I/O protection circuitry for severe RTCA/DO-160 Lightning Pin Injection, hybrid 3U OpenVPX/cPCI card cage and backplane, application-specific MIL grade power supply with 50msec holdup, and aggressive +71°C ambient temperature requirement.

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.

This application-specific ¾ ATR Enclosure is based on the D2D chassis design and is 7.45" x 7.58" x 14.77" (WxHxD). It supports an application-specific 5-slot 3U hybrid OpenVPX/cPCI backplane.

The chassis includes an application-specific 28 VDC input 223W power supply with (6) outputs and 50msec holdup. This chassis includes I/O protection circuitry for severe RTCA/DO-160 Lightning Pin Injection.

Designed for a UAV rotary wing radar application the chassis operates at 0 to 25 kft and -45 to +71°C.

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SPECIFICATIONS

PHYSICAL	
Width	7.45"
Height	7.58"
Depth	14.77"
Weight	20 lbs. including power supply
Construction	Brazed Aluminum
ENVIRONMENTAL	
Operating Temperature	-45 to +71°C per RTCA/DO-160F, Section 5, Category B2
Storage Temperature	-45 to +71°C per RTCA/DO-160F, Section 4, Category B2
Altitude	0 to 25,000 ft MSL per RTCA/DO-160F, Section 4, Category B2
Humidity	95% RH with conditions between 38°C and 65°C per RTCA/DO-160F, Section 6 for Category B
Cooling	Air-cooled sidewalls utilizing built-in MIL grade high performance fan
Shock	6Gs at 20msec per RTCA/DO-160F, Section 7.2 for Category E
Crash Safety	RTCA/DO-160F, Section 7.3.1 for Category E
Vibration	RTCA/DO-160F, Section 8 for Categories S[L], U[G] and R[G], with helicopter characteristics
Acceleration	20Gs at 20msec – Crash Safety per RTCA/DO-160F, Section 7.3.1 for Category E
Explosion	RTCA/DO-160F, Section 9 for Category E
Waterproofness	RTCA/DO-160F, Section 10 for Category W
Sand and Dust	RTCA/DO-160F, Section 12 for Category S
Fungus	RTCA/DO-160F, Section 13 for Category F
Salt Spray	RTCA/DO-160F, Section 14 for Category S
Magnetic Effect	RTCA/DO-160F, Section 15 for Category A
EMC	<ul style="list-style-type: none">• RTCA/DO-160F, Section 19 for Category ZC• RTCA/DO-160F, Section 20, for Category R• RTCA/DO-160F, Section 21 for Category H• RTCA/DO-160F, Section 22 for Category A3G33
ESD	RTCA/DO-160F, Section 25 for Category A
POWER/ELECTRICAL	
DC Input	28 VDC per MIL-STD-704F
Backplane Connectors	<ul style="list-style-type: none">• 3U OpenVPX connectors• 6U OpenVPX connectors• Positronics Power Supply Connector
Connector Pitch	1.0"
CONSTRUCTION	
Top & Bottom	Aluminum 6061
Card Cage Brazement	Dip Brazed Aluminum 6061
Power Supply	<ul style="list-style-type: none">• (1) 3U Application-specific Pitch Conduction-cooled Power Supply with (6) outputs and 50msec holdup• DC Outputs total 223W

WARRANTY

This product has a one year warranty.

CONTACT INFORMATION

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