

### KEY FEATURES

- Dual-channel 24-bit A/D converter for targetting sonar applications
- 130 MSPS ADC
- High dynamic range - 130dB
- SNR 80dBFS at 30MHz
- SFDR 100dBc (2nd and 3rd Harmonic) 30MHz
- Instantaneous dynamic range > 110dB
- Total dynamic range > 140dB
- On-board band pass filter
- Trigger in/out with clock in/out
- PPC 8548 processor @ 1 GHz
- Up to two Gbytes of DDR-II memory for CPU
- Front panel CompactFlash
- Quad GbE on-board
- VITA 41 with VME-320 Interface
- Serial Rapid I/O or GbE on P0
- RoHS compliant

The VadaTech VXS501 module is a high-speed dual ADC converter in a single slot 6U VXSbus form factor. Two front panel Triaxial TNC connectors accept the differential analog inputs which then go through an on-board RF isolated transformer. The module also has capability for external sample clock or external trigger. The VXS501 has an on-board high-speed/density FPGA. The FPGA has 256MB of DDR-II memory for data packing, formatting and storing. The FPGA handles the DSP functionality such as digital filtering and decimation. The VXS501 has trigger in/out as well as clock in/out and passive band pass filters integrated on-board.

The module follows the VXS specification which interfaces to the VME bus as well as to P0 which provides GbE or Serial Rapid I/O.

The VXS501 supports VxWorks or Linux operating systems.

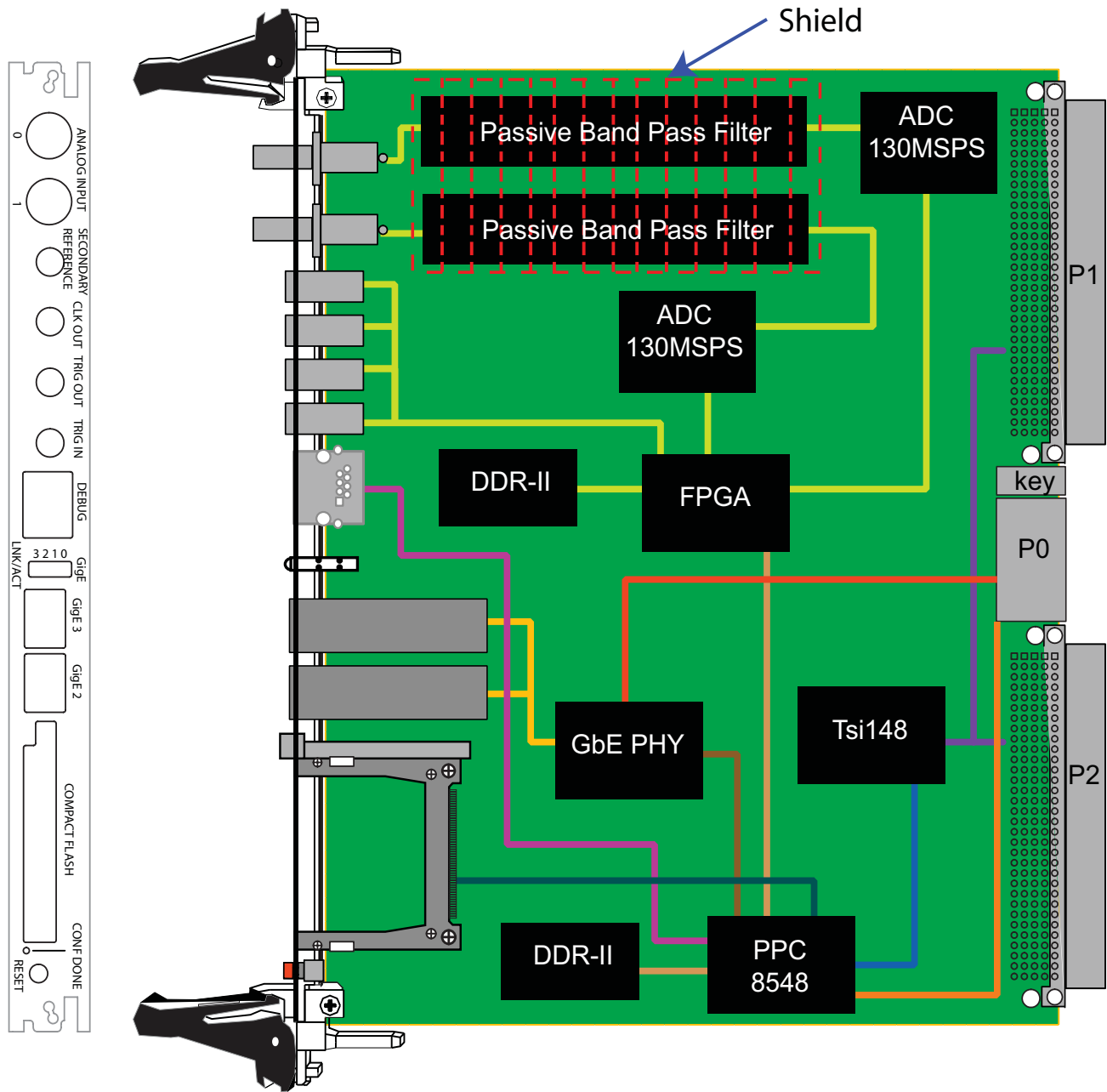
VadaTech can modify this product to meet special customer requirements without NRE (minimum order placement is required).

# VXS High Dynamic Range Dual ADC

## SPECIFICATIONS

Architecture		
Physical	Dimensions	Width: 6.385in. (162.2 mm)
		Depth: 9.187in. (233.34 mm)
Type	VXS	6U VXS single slot
Standard		
VITA	ANSI/VITA41	VXS.0
Configuration		
Power	VXS501	18W
Front Panel	Interface Connectors	Debug Port RS-232 RJ-45
		Dual LC for GbE
		CompactFlash
		Dual Triaxial TNC
		SMA for clock in/out
	SMA for trig in/out	
	LEDs	Link/Activity
Environmental	Temperature	Operating Temperature: 0° to 65° C (Air flow requirement is to be greater than 400 LFM)
		Storage Temperature: -40° to +90° C
	Vibration	1G, 5-500Hz each axis
	Shock	30Gs each axis
	Relative Humidity	5 to 95 percent, non-condensing
Software Support	Operating Systems	Linux or VxWorks
Other		
MTBF	MIL Spec 217-F > 185,000 Hrs.	
Certifications	Designed to meet FCC, CE and UL certifications where applicable	
Standards	VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards	
Compliance	RoHS	
Warranty	Two (2) years	
Trademarks and Logos	The VadaTech logo is a registered trademark of VadaTech, Inc. Other registered trademarks are the property of their respective owners. All rights reserved. Specification subject to change without notice.	

# VXS High Dynamic Range Dual ADC



**FIGURE 1.** VXS501 Functional Block Diagram

# VXS High Dynamic Range Dual ADC

## ORDERING OPTIONS

### VXS501 - ABC- D00 - 00J

#### A = Front Fiber Ports

- 1 = LC/SX transceivers (850 nm)
- 2 = LC/LX transceivers (1310 nm)

#### B = Compact Flash

- 0 = None
- 1 = 2 GB
- 2 = 4 GB
- 3 = 8 GB

#### C = CPU DDR-II Memory

- 1 = 512 MB
- 2 = 1 GB
- 3 = 2 GB

#### D = PO Connector Option

- 1 = No load
- 2 = GbE
- 3 = Serial Rapid I/O

#### J = Conformal Coating

- 0 = None
- 1 = Humiseal 1A33 Polyurethane
- 2 = Humiseal 1B31 Acrylic



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