VT972

FPGA Processing Utilizing Xilinx ZYNQ FPGA with Integrated I/O

VT972

Key Features

- Xilinx FPGA ZYNQ XQZ045
- Integrated Dual core ARM Processor
- 16GB of DDR-3 Memory
- 128MB Flash
- Six Ethernet Ports
- 20 x RS-482 Transmit
- 20 x RS-482 Receive
- 8 x RS-232
- 3 x CAN Bus
- 40 x GPIO
- 2 x isoSPI
- 3 x USB
- 5 x Temperature Sensors
- All I/O routed to the backplane
- All power generations are redundant
- Rugged conduction cooled module

Benefits

- Design utilizes proven VadaTech subcomponents and engineering techniques
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company

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VT972

The VT972 is a rugged, conduction cooled module in custom form factor (available conduction cooled only). The module has a Xilinx ZYNQ XQZ045 with 16GB of DDR-3 Memory. The module has extensive I/O integrated, which includes:

- Six Ethernet ports 10/100/1000-Base-T
- 20 x RS-482 Transmit
- 20 x RS-482 Receiver
- 8 x RS-232
- 3 x CAN Bus
- 40 x GPIO
- 3 x USB
- 5 x Temperature Sensors
- 128MB Flash
- 2 x IsoSPI

All I/O are routed to the backplane connector. The module has redundant power generation for each power rail for full redundancy. The backplane connector is an Amphenol Rugged Brushed Contact LRM.

The module comes only in rugged conduction cooled version and operates with input power of 18V-36V DC (typical 24V).

Figure 1: VT972 Front View

Figure 2: VT972 Rear View

Block Diagram

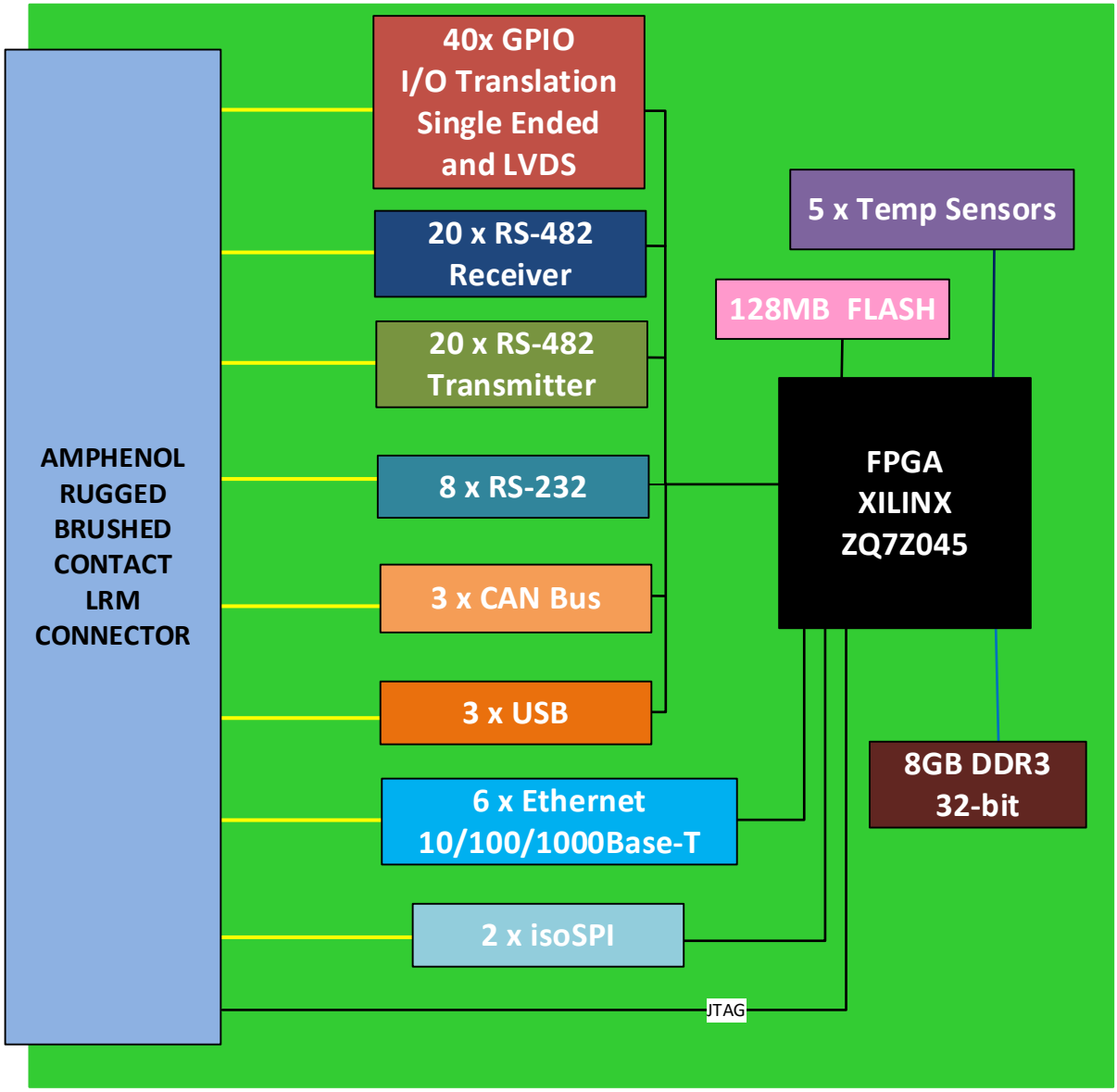

Figure 3: VT972 Functional Block Diagram

Specifications

Architecture		
Physical	**Dimensions**	Width: 8.6”
		Depth: 9.2”
		Height: 1”
Type	**Conduction Cooled**	Per ANSI/VITA 47 option selected
Configuration		
Power	**VT972**	15W FPGA load dependent (18-36V DC power input)
Environmental	**Temperature**	See Ordering Options
		Storage Temperature: –45° to +100°C
	Vibration	Operating 9.8 m/s^2 (1G), 5 to 500 Hz on each axis
	Shock	Operating 325G/2 ms, 160G/1 ms
	Relative Humidity	5 to 95% non-condensing
Rear Connection	**Interface Connectors**	Amphenol Rugged Brushed Contact LRM
	Mechanical	Custom form factor, conduction cooled
Software Support	**Operating System**	Linux
Other		
MTBF	MIL Hand book 217-F@ TBD hrs	
Certifications	Designed to meet FCC, CE and UL certifications, where applicable	
Standards	VadaTech is certified to both the ISO9001:2015 and AS9100D standards	
Warranty	One (1) year, see VadaTech Terms and Conditions	

INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of OpenVPX, ATCA and MTCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTMs), Power Modules, and more. The company also offers integration services as well as pre-configured Application-Ready Platforms. Please contact VadaTech Sales for more information.

Ordering Options

VT972 – 000-000-0HJ

		H = Environmental
		See Environmental Specification
		J = Conformal Coating
		0 = No coating 1 = Humiseal 1A33 Polyurethane 2 = Humiseal 1B31 Acrylic

Environmental Specification

			Conduction Cooled		
Option H			**H = 2**	**H = 3**	**H = 4**
Operating Temperature			CC1* (0°C to +55°C)	CC3* (-40°C to +70°C)	CC4* (-40°C to +85°C)
Storage Temperature			C1* (-40°C to +85°C)	C3* (-50°C to +100°C)	C3* (-50°C to +100°C)
Operating Vibration			V3* (0.1 g2/Hz max)	V3* (0.1 g2/Hz max)	V3 (0.1 g2/Hz max)
Storage Vibration			OS2* (40g)	OS2* (40g)	OS2* (40g)
Humidity			95% non-condensing	95% non-condensing	95% non-condensing

Notes:

* Nomenclature per ANSI/VITA 47. Contact local sales office for conduction cooled (H = 2, 3, 4).

Related Products

VT878

- Conduction cooled two-module chassis
- Compact and robust design
- Designed for bulkhead mount in ground or air vehicle

VPX007

- Versatile Layer 2 managed Ethernet switch
- Total of 24 Ports of 10GbE
- Up to eight SFP+ Ports on the front panel

VT988

- 16 ADC for synchronous capture
- Xilinx Virtex-7 XC7VX485T FPGA
- NVidia Jetson TX2 System on Module

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