

# VT983

Quad ADC @ 250 MSPS and  
Single DAC @ 250 MSPS



VT983

## Key Features

- Quad ADC 16-bit @ 250 MSPS for synchronous capture (TI ADS42LB69)
- Single DAC 16-bit @ 250 MSPS (Maxim MAX5878)
- Xilinx Virtex-7 690T FPGA
- NVidia Jetson TX2 System on Module
- Managed Layer two GbE Switch

## Benefits

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



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# VT983

The VT983 is a data acquisition platform capable of synchronous sampling. It has Quad ADC 16-bit @ 250 MSPS (TI ADS42JB69) and a 16-bit DAC @ 250 MSPS (Maxim MAX5878). All input data channels pass through a Virtex-7 690T which is user programmable for filtering/DDC and analysis. The 690T FPGA interfaces to the Jetson TX2 via PCIe x4. Rear Panel USB and HDMI are available for user interface, making the VT983 ideal as a base platform for comprehensive signal monitoring systems. Also, the module has an M.2 socket with SATA interface for storage which interfaces to the Jetson TX2 and an SHDC socket.

Jetson TX2 features an integrated 256-core NVIDIA Pascal GPU, a hex-core ARMv8 64-bit CPU complex, and 8 GB of LPDDR4 memory with a 128-bit interface. The CPU complex combines a dual-core NVIDIA Denver 2 alongside a quad-core ARM Cortex-A57.

The VT983 has a Layer 2 Managed Gigabit Ethernet Switch which provides dual GbE through RJ-45 interface to the Rear Panel and allows interconnection among the subsystems. System cooling is from right to left with the intelligent fan controller.



Figure 1: VT983



Figure 2: VT983 with Antenna

# Block Diagram

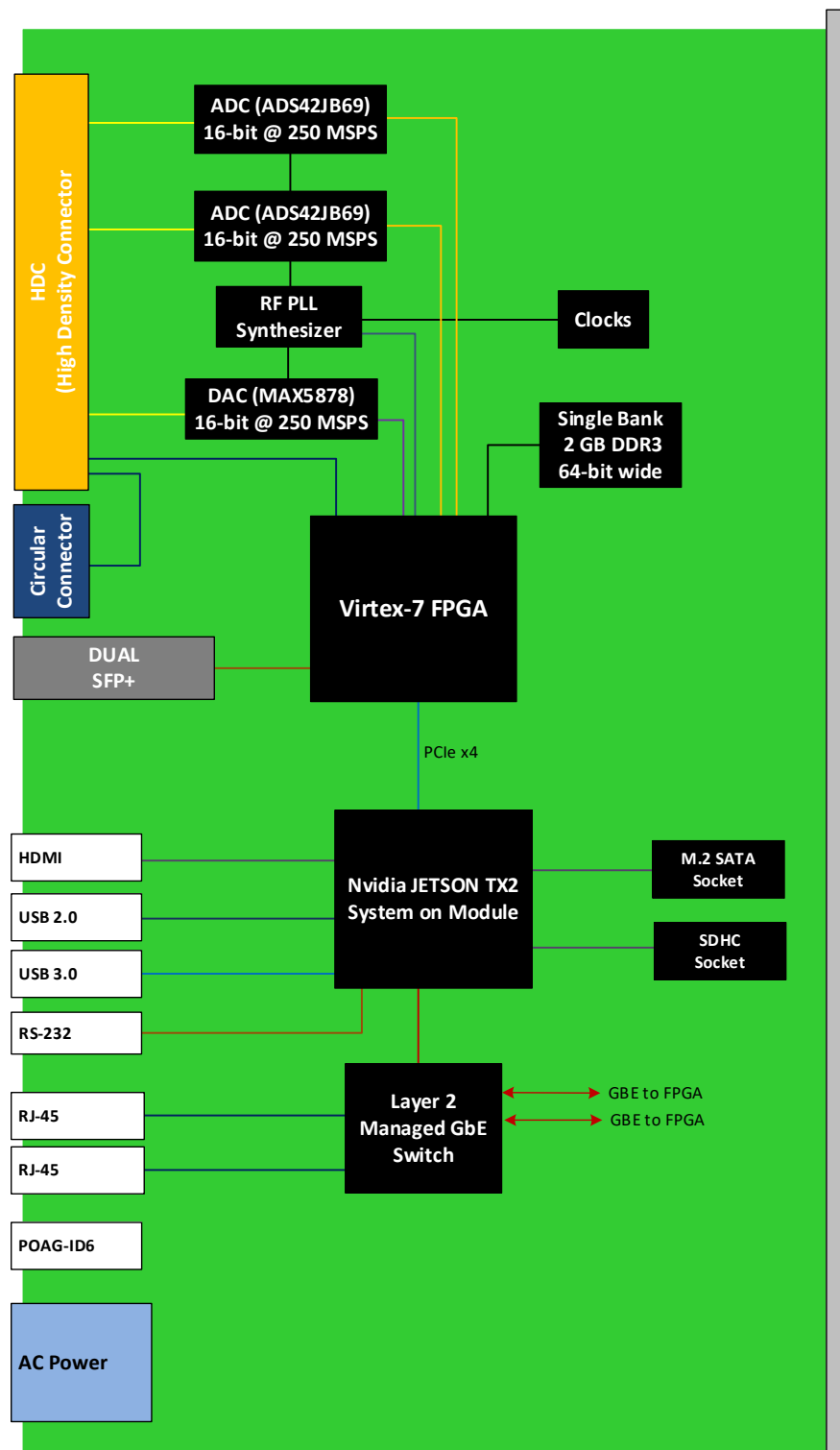


Figure 3: VT983 Functional Block Diagram

# Specifications

Architecture		
Physical	Dimensions	Width: 12"
		Depth: 9.84"
		Height: 2"
Type	Chassis	ADC/DAC Data Acquisition
Configuration		
Power	VT983	~90W
Environmental	Temperature	See <a href="#">Ordering Options</a>
		Storage Temperature: -40° to +90°C
	Vibration	Operating 9.8 m/s <sup>2</sup> (1G), 5 to 500Hz on each axis
	Shock	Operating 325G/2 ms, 160G/1 ms
	Relative Humidity	5 to 95% non-condensing
Rear Panel	Interface Connectors	AC Mains inlet (universal input)
		POAG ID6
		2x SFP+ for 10GbE or other protocols
		2x RJ-45 for GbE
		1x USB 3.0 and 1x USB 2.0
		HDMI, Display Port
		RS-232 vis Micro USB
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 ISO9001:2000 and AS9100B:2004 standards	
Warranty	One (1) year, see <a href="#">VadaTech Terms and Conditions</a>	

## 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

## VT983 – ABC-DE0-00J

A = SATA M.2	D = SFP+ Ports	
0 = No SATA M.2 1 = 128 GB 2 = 256 GB 3 = 512 GB 4 = 1 TB	0 = Ports are loaded w/o Transceivers 1 = Ports are not loaded (not available) 2 = Dual -SR transceivers 3 = Dual -LR Transceivers 4 = Reserved	
B = SDHC	E = FPGA Speed	
0 = No SDHC 1 = 32 GB	1 = Low 2 = High 3 = Highest	
C = ADC Input Freq Range		J = Temperature Range and Coating
0 = <250 MHz 1 = >250 MHz		0 = Commercial (–5° to +55°C), No coating 1 = Commercial (–5° to +55°C), Humiseal 1A33 Polyurethane 2 = Commercial (–5° to +55°C), Humiseal 1B31 Acrylic 3 = Industrial (–20° to +70°C), No coating 4 = Industrial (–20° to +70°C), Humiseal 1A33 Polyurethane 5 = Industrial (–20° to +70°C), Humiseal 1B31 Acrylic

For operational reasons VadaTech reserves the right to supply a higher speed FPGA device than specified on any particular order/delivery at no additional cost, unless the customer has entered into a Revision Lock agreement with respect to this product.

## Related Products

AMC521



- Sixteen channel ADC 16-bit @ 250 MSPS (TI ADS42JB69)
- Eight channel SAR, ADC 16-bit @ 650 KSPS simultaneous (TI ADS8568)
- Interface to the FPGA is via JESD204B

AMC524



- Quad ADC 16-bit @ 125 MSPS (AD9653)
- Dual DAC 12-bit @ 2.5 GSPS (DDS AD9915)
- Artix-7 FPGA with dual banks of DDR3, 2 GB total

AMC526



- Dual ADC 12-Bit @ 2.6 GSPS (AD9625) in single module, mid-size
- Xilinx Virtex-7 690T FPGA in FFG-1761 package
- Quad bank QDR-II+ memory (576 Mb total) and 1 Gb DDR3

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