


**Summary**

The **ADM-XRC-5T-DA1** is a high performance reconfigurable PMC (PCI Mezzanine Card) based on the Xilinx™ Virtex-5 LXT,SXT and FXT range of Platform FPGAs. It Provides onboard Analog to Digital and Digital to Analog functionality for data sampling/generation.

Features include:

The analog Interface consists of a single channel ADC (8-bit resolution at up to 3Gsp/s) and a single channel DAC (12 bit resolution at up to 2.3GHz).

High speed PCI-X interface, external memory, Analog I/O, high density I/O, programmable clocks, temperature monitoring and flash boot facilities.

A comprehensive cross platform API with support for **Microsoft Windows™**, **Linux** and **VxWorks** provides access to the full functionality of these hardware features.

**Features**
**Applications:**

Signal Capture/Generation

**Target Devices:**

Xilinx Virtex-5 - LX110T, LX155T, FX70T, FX100T, SX95T (FFG1136)

**Memory:**

**SDRAM** - 512MByte in 2 independent banks of DDR-II SDRAM 4M x 32-bits @ 333MHz

**SSRAM** - 8MByte in 2 independent banks of DDR-II SSRAM 2M x 18-bits @ 200MHz

**FLASH** - 4MByte serial Flash

**FLASH** - Configuration Flash providing an initialisation design for automatic loading into the target FPGA.

**Front Connector I/O:**

Single 8-bit ADC up to 3Gsp/s

Single 12-bit DACs up to 2.3GHz

External Clock Input

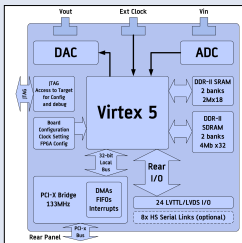
Auxiliary Input/Output

**Rear Connector I/O:**

24 I-O connections via PMC Pn4 connector (12 LVDS pairs) programmable signaling levels of 2.5V or 3.3V

8 High-Speed Serial Links via P15 connector

Only if the "extra connector fitted" option is chosen



**Specification**

Product Name	ADM-XRC-5T-DA1	
Target Devices	Xilinx Virtex-5 - LX110T, LX155T, FX70T, FX100T, SX95T (FFG1136)	
Host I/F	PCI/PCI-X	
Interface	64-bit 66MHz PCI or 64-bit 133MHz PCI-X interface in separate bridge device with 32-bit 80MHz local bus 4 DMA controllers	
Memory	<b>SDRAM</b> - 512MByte in 2 independent banks of DDR-II SDRAM 4M x 32-bits @ 333MHz <b>SSRAM</b> - 8MByte in 2 independent banks of DDR-II SSRAM 2M x 18-bits @ 200MHz <b>FLASH</b> - 4MByte serial Flash <b>FLASH</b> - Configuration Flash providing an initialisation design for automatic loading into the target FPGA.	
Front I/O	<b>ADC Input:</b> Single 8-bit ADC up to 3Gbps bandwidth = 30MHz to 1700MHz nominal levels = Range1: $\pm 410$ mV nominal, Range2: $\pm 300$ mV nominal impedance = 50 Ohms resolution = 8-bit fmax = 3GHz connector = MMCX <b>DAC Output:</b> Single 12-bit DACs up to 2.3GHz resolution = 12-bit bandwidth = 50MHz to 1GHz fmax = 2.3GHz connector = MMCX Multi-Nyquist Filtering, Nyquist Zones 1,2,3 selectable <b>Ext Clock:</b> External Clock Input levels = $\pm 400$ mV <b>Ext IO:</b> Auxiliary Input/Output levels = +3V3 or +5V	
Rear I/O	24 I-O connections via PMC Pn4 connector (12 LVDS pairs) programmable signaling levels of 2.5V or 3.3V connector Only if the "extra connector fitted" option is chosen	8 High-Speed Serial Links via P15
Special Functions	<b>Single DAC interface</b> (12-bit at 2.3GHz) <b>Single ADC interface</b> (8-bit at 3GHz)	
Clocks	Local bus clock programmable up to 80MHz Low-jitter user clock, programmable up to 637.5MHz Additional 200MHz reference clock for IOB delay circuits.	
Device Configuration	PCI Bus direct to SelectMAP port From Flash direct on power up External JTAG connector	
Software	Drivers for Microsoft Windows™, Linux and VxWorks API with template designs in VHDL and Verilog	
Environmental	<b>Temperature:</b> <b>Air cooled option (AC0)</b> Operating Temperature 0° to +55°C <b>Air cooled Extended Range (ACE)</b> Operating Temperature 0° to +55°C <b>Air cooled industrial option (AC1)</b> Operating Temperature -20° to +55°C <b>Conduction cooled option (CC1)</b>	
<b>Ordering Codes</b>		
ADM-XRC-5T-DA1/z-y(c)(m)(x)		
Virtex-5 device	z	LX110T, LX155T, FX70T, FX100T, SX95T
Virtex-5 speed	y	1, 2, 3
Cooling	c	blank = air cooled commercial, /AC1 = air cooled industrial, /CC1 = conduction cooled industrial
Memory Size Fitted	m	blank = each bank has 256MByte - 512MByte for the card, /1 = each bank has 512MByte - 1GByte for the card
HS Serial Connector Fitted	x	blank = not fitted, /X = Connector fitted