



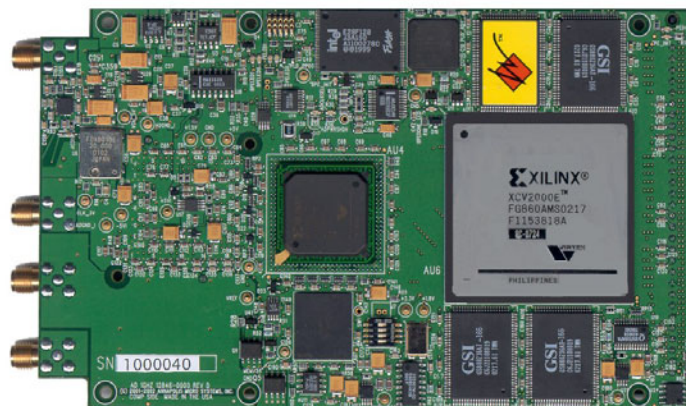
TM
Annapolis Micro Systems, Inc.
1.5 GHz A/D I/O Card

Data Sheet
Doc # 12867-0000 Rev1.14

Input Up to 1.5 GigaSamples/Second

General Description

The 1.5 GHz A/D I/O Card provides a dramatic improvement in integration, flexibility and convenience over other A/D cards on the market. It is available either optimized for Frequency Response (FR) or optimized for Effective Number of Bits (ENOB). The board performs analog to digital conversion and processes FFTs in real time at up to 1.5 GigaSamples per second. This I/O Daughter Card can be mounted on a VirtexTM II Based WILDSTARTM II VME or PCI, the VirtexTM based FIREBIRDTM PCI, or the VirtexTM E based WILDSTARTM VME.



Features

- 8 Bit A/D Conversion with MAX 104 or MAX 108 Converter
- 1.0 or 1.5 GHz Max Input Sample Rate
- 1 VirtexTM II FPGA Processing Element - XC2V1000-5 or 6 or XC2V3000-5 or 6
- 1 VirtexTM E FPGA Processing Element - XCVE1000-8 or XCVE2000-8
- Full CoreFireTM Board Support Package, including FFTs, for Easy Application Programming
- Flexible Analog Input Options
- Internal or External Clock Options
- 4 SMA Connectors on Front Panel
 - 1 Analog Signal Input, 1 Low Precision I/O, 1 External Clock/Reference, 1 High Precision A/D Trigger
- 4, 8, 16 or 32 MBytes ZBT SRAM
- 2 MBytes DDRII SRAM for Bridge PE
- 4.0 GBytes/Sec I/O Bandwidth to Mother Board
- Main Board with I/O card(s) Installed Occupies Only a Single VME or PCI Slot
- Board and FPGA Systems Speeds up to 150 MHz, depending on Main Board
- Optional RaceTM, Single Race++, and Dual Race++ Interface across the VME P2 Backplane Available Separately
- Heat Sink (VME/cPCI) or Fan with Heatsink (PCI) to cool ADC
- Low Precision I/O Input, LVTTTL, 50 ohm
- High Precision Trigger Input, PECL, 50 ohm
- VHDL Model Provided



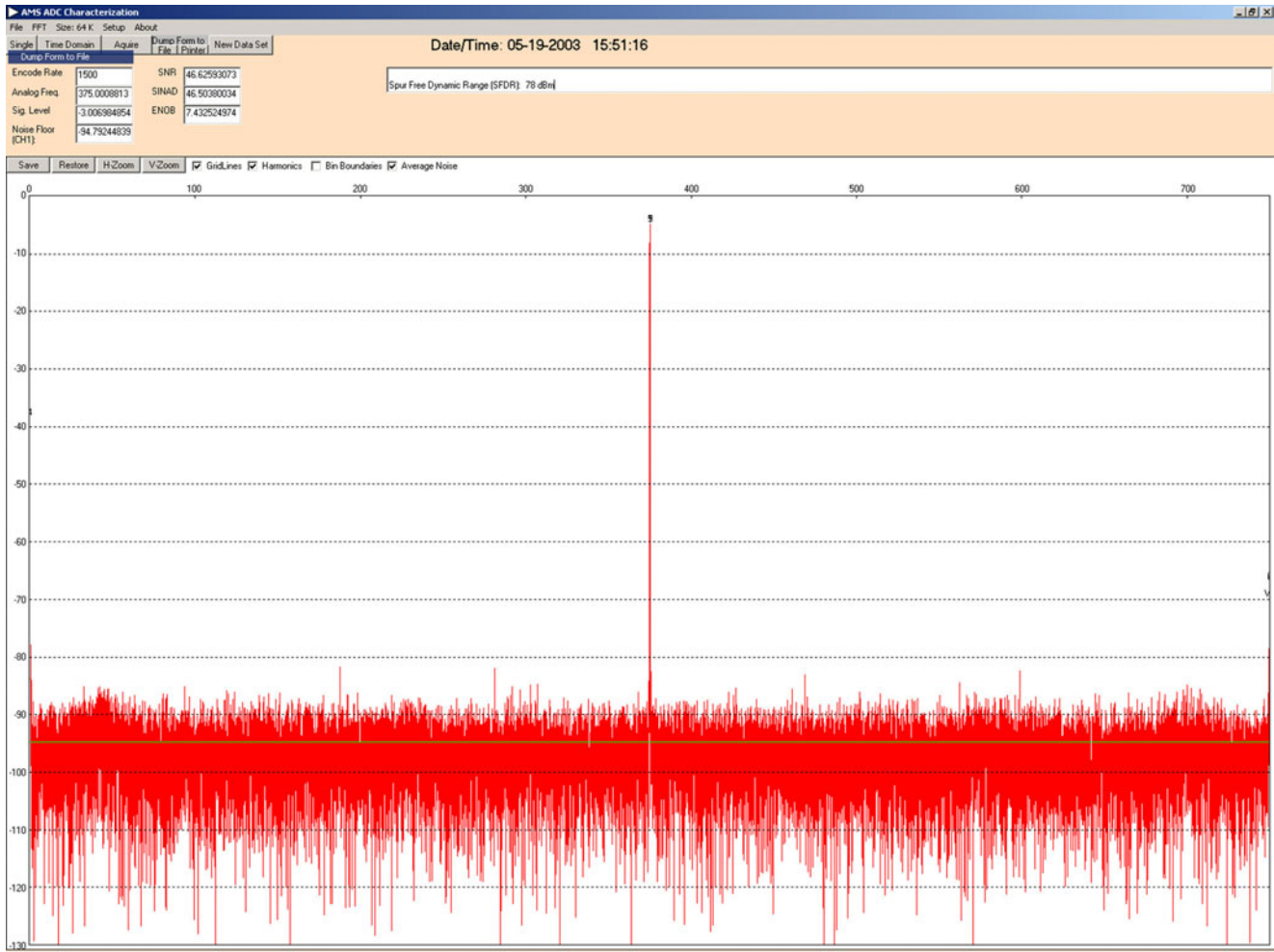
Made in the USA



Annapolis Micro Systems, Inc.

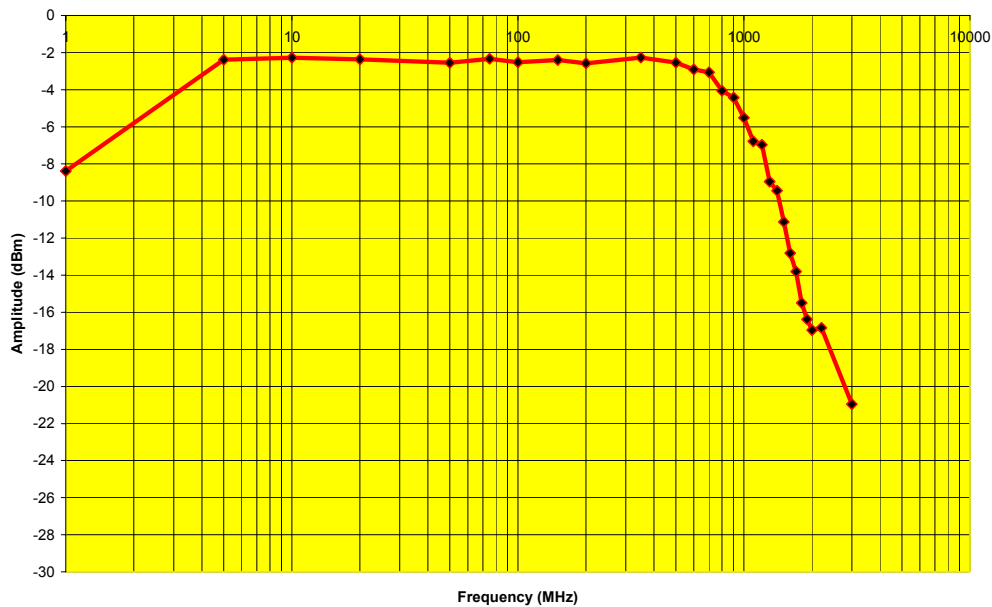
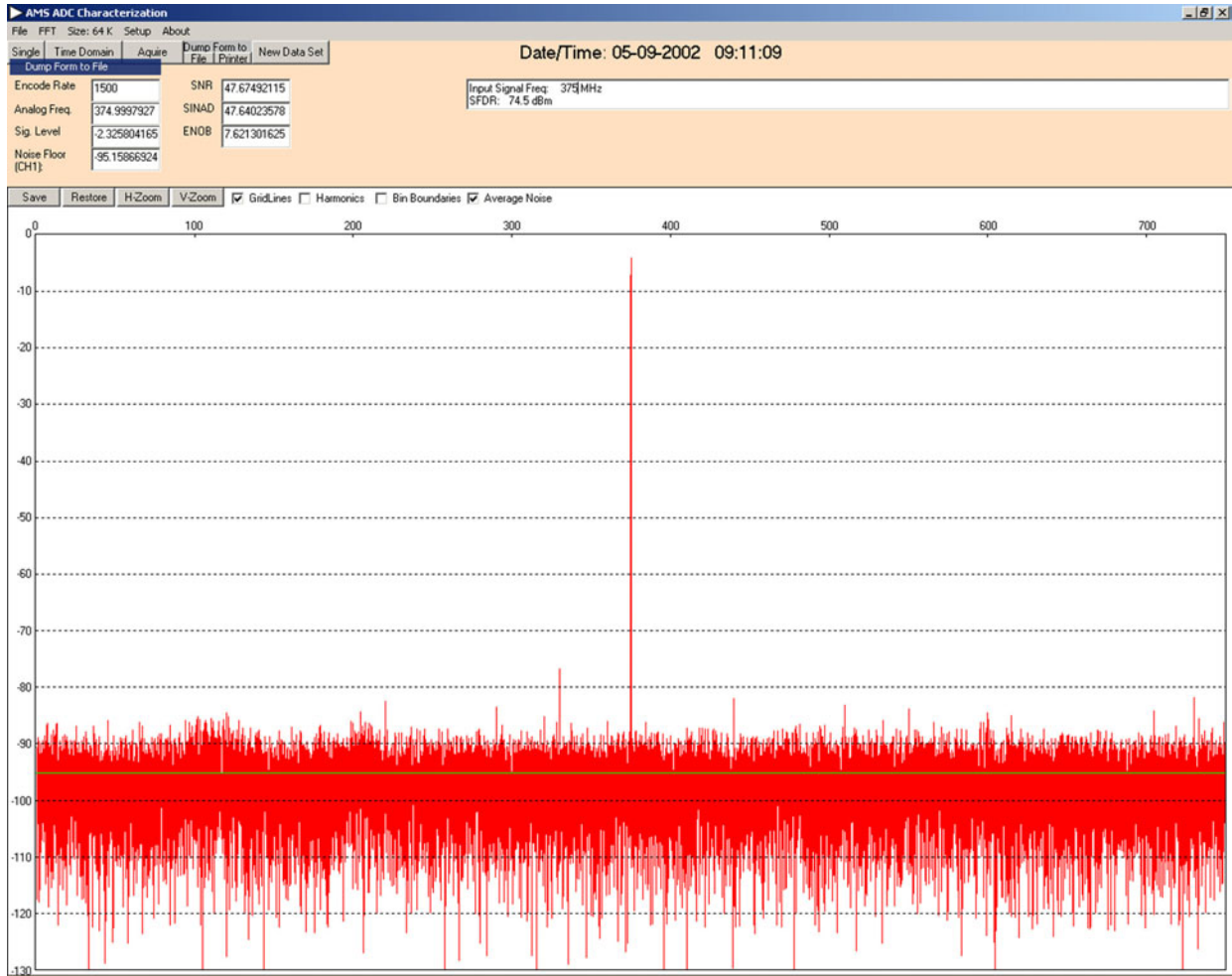


Option F: Optimized for Frequency Response



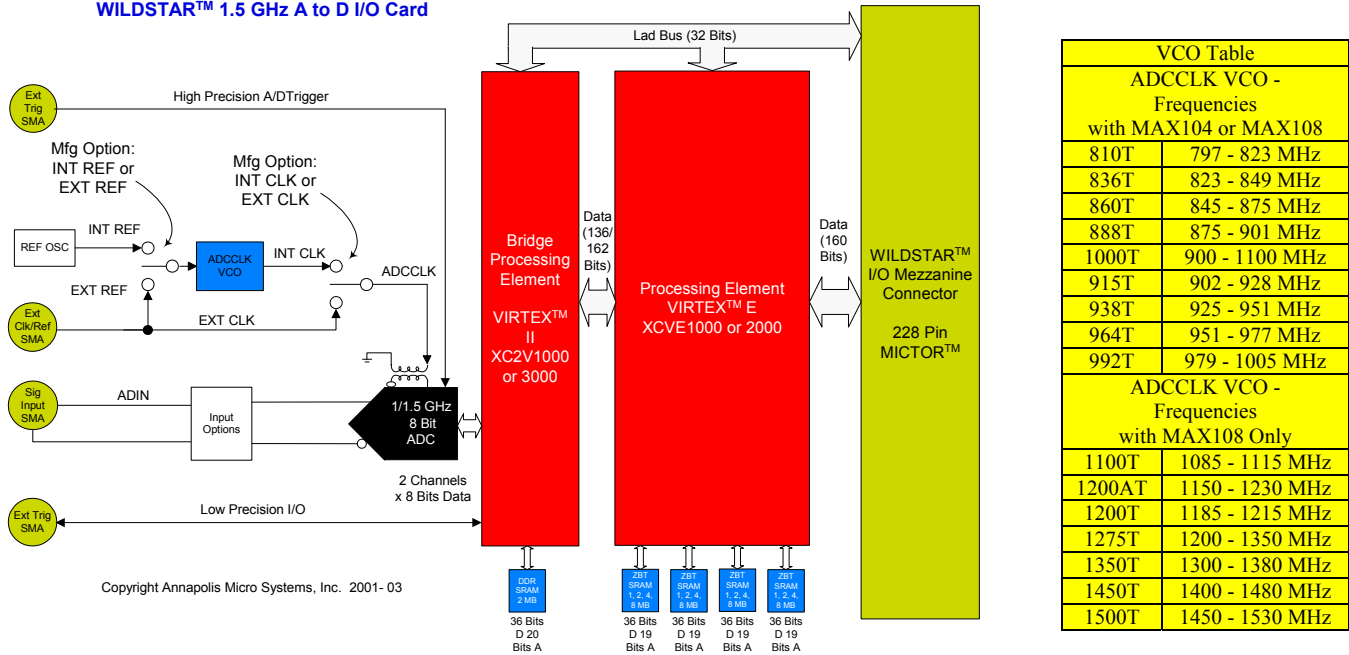
Single Tone Freq:
 375 MHz
 Sample Freq: 1.5 GHz
 ADC Clk Source: Ext
 SFDR: 78 dBm
 Eff Number of Bits: 7.43
 SINAD Ratio: 46.5 dBm
 SNR: 46.6 dBm
 Noise Floor:
 -94.8 dBm/Hz
 Insertion Loss 1dB:
 100-1600 MHz
 Insertion Loss 3dB:
 40-1900 MHz

Option B: Optimized for Effective Number of Bits



Single Tone Freq:
 375 MHz
 Sample Freq: 1.5 GHz
 ADC Clk Source: Ext
 SFDR: 74.5 dBm
 Eff Number of Bits: 7.62
 SINAD Ratio: 47.6 dBm
 SNR: 47.7 dBm
 Noise Floor:
 -95.2 dBm/Hz
 Insertion Loss 1dB:
 4-720 MHz
 Insertion Loss 3dB:
 3-1000 MHz

WILDSTAR™ 1.5 GHz A to D I/O Card



1.5 GHz A/D I/O Card Part Numbers		
Sample Part Number: WS/IOADC1G/VT3000-5/VE2000E-8/32-15/IC-1350T/IR-20/F/V		
Family	WS/	WILDSTAR™ Family
Board	IOADC1G/	1.5 GHz A/D I/O Card
Bridge Processing Element	VT1000-5,6 or VT3000-5,6	Virtex™ II XC2V1000-5, -6 or XC2V3000-5, -6
Processing Element	/VE1000E-8 or /VE2000E-8	Virtex™ E XCV1000E-8 or XCV2000E-8
Memory - ZBT SRAM	/4, /8, /16, /32	4, 8, 16, 32 MBytes ZBT SRAM
Max Input Sample Rate	-1/, -15/	1 for 1 GHz (Max 104: 200 - 1000 MHz), 15 for 1.5 GHz, (Max 108: 200 - 1500 MHz)
Clock Source and VCO	EC-00000, IC-810T through IC-1500T	EC-00000 = External Clock: Do Not Choose VCO; Sine Wave Input: -8 to +6 dBm; Do not use Square Wave Input; Input Impedance = 50 ohm IC-810T through IC-1500T = Internal Clock: VCO from Frequency Table
Reference Source	/ER-00, /IR-10, /IR-20	ER-00 = External Reference: Sine Wave Input: 10-20 MHz, -5 to 12 dBm; Square Wave Input: 0V to 3.3V; Input Impedance: 50 ohm IR-10 = 10 MHz Internal Reference, IR-20 = 20 MHz Internal Reference
Optimization	/B, /F	B = Optimized for Effective Number of Bits, F = Optimized for Frequency Response
Motherboard Type	/V, /6U, /3U, /P	V = VME, 6U = 6U CPCI, 3U = 3U CPCI, P = PCI
Heatsink/Fan Option for BPE	"Blank", H	Default (Blank) = No, H= Yes (Takes Up Space from Second Slot)