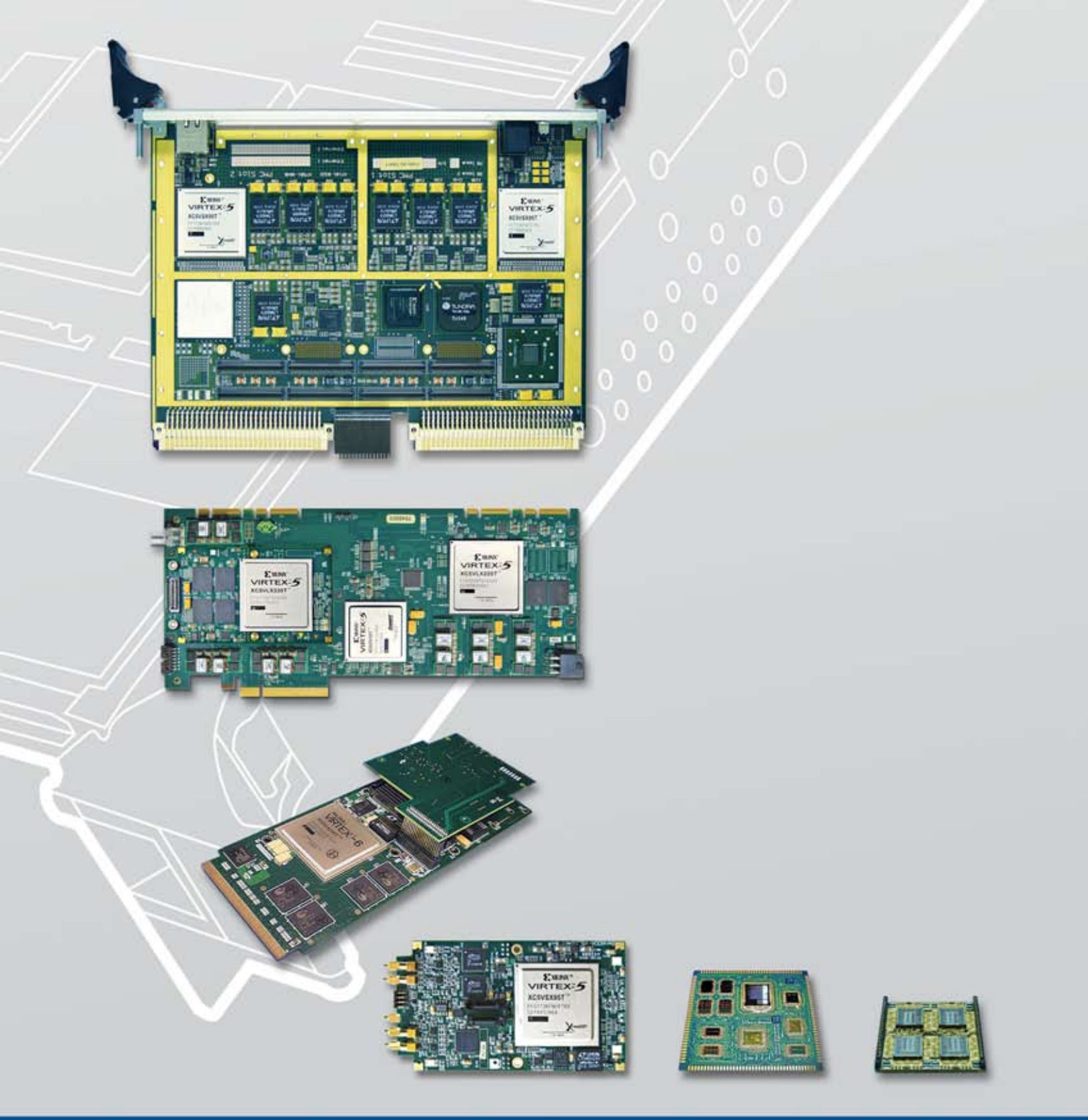


# High-Performance FPGA Solutions

Nallatech

An Interconnect Systems, Inc. Subsidiary

## Selector Guide and Table of Contents

Nallatech offers a comprehensive range of volume-deployable processor cards with up to three expansion sites to cost effectively tailor processing, memory, and I/O resources to the exact requirements of your application.

Expansion sites can be populated with FMC, PMC/XMC, or DIME-II cards as noted in the I/O & Expansion column below. Please refer to the listed pages, and product data sheets, for additional information.

### Embedded & Accelerated-Computing Capabilities

| Type | Solutions | Description | Page |
|---|---|---|---|
| Embedded | **Hardware, Software, & IP** | COTS to aggressively-small customized solutions | 4 |
| Accelerated Computing | **Board & Appliance Level** | Low latency, high performance per watt | 5 |

### Development Tools

| Type | Software | Description | Page |
|---|---|---|---|
| IP Implementation | **Framework Builder** | IP framework development tool | 15 |
| Programming & Compiler | **NAL & DIME-C** | High-level programming environment & VHDL compiler | 15 |

### Processor Cards

| Type | Product | FPGA | Memory/Configuration | I/O & Expansion | Page |
|---|---|---|---|---|---|
| Micro/ATCA | **AMC-420** | Virtex-6: LX/SX | SRAM & SDRAM | FMC site | 9 |
| PCIe, PCIx, & PCI | **PCIe-280** | Virtex-5: LX | SRAM & SDRAM | DIME-II expansion | 10 |
| | **PCIe-180** | Virtex-5: LX | SRAM & SDRAM | 10GbE, OC192 SONET | 10 |
| | **BenONE-PCIe** | Virtex-5: LX | DIME-II expansion | DIME-II expansion | 10 |
| | **PCIe-DATA-V5** | Virtex-5: LX | SRAM & SDRAM | High-speed serial, 2.5Gbps | 10 |
| | **BenONE-PCI** | DIME-II expansion | DIME-II expansion | DIME-II expansion | 11 |
| | **BenNUEY-PCI-X** | Virtex-4: FX | DIME-II expansion | 3X DIME-II expansion | 11 |
| VXS/VME | **VXS-610** | MPC8548E & 2X Virtex-5: LX/SX | SRAM & SDRAM | 2X PMC/XMC sites | 6 |
| | **VXS-620** | MPC8548E & Virtex-5: LX/SX | SRAM & SDRAM | 2X PMC/XMC sites | 6 |
| | **VXS-621** | MPC8548E Virtex-5: LX/SX | SRAM & SDRAM | 2X PMC/XMC sites | 6 |
| | **VXS-630** | Freescale MPC8548E | SDRAM | 2X PMC/XMC sites | 6 |
| | **BenNUEY-VME64-VXS** | DIME-II expansion | DIME-II expansion | 3X DIME-II expansion | 7 |
| PCI-104 | **BenONE-PCI-104** | DIME-II expansion | Two-card stack | DIME-II expansion | 11 |
| | **BenNUEY-PCI-104** | Virtex-4: FX | Five-card stack | 3X DIME-II expansion | 11 |

### Expansion Modules and Cards

| Type | Product | FPGA & Memory Expansion | Data Capture, I/O, & IP | Page |
|---|---|---|---|---|
| DIME-II Modules | **DATA-V5** | Virtex-5: LX, SRAM & SDRAM | 8X high-speed I/O channels | 12 |
| | **BenADDA-16** | Virtex-5: LX/SX, SRAM | 2X analog I/O,16-bit | 12 |
| | **BenADC-3G** | Virtex-4: LX/SX, SRAM | 2X analog capture channels, 3 GSPS, 8 bit | 12 |
| | **BenADC-1.5G** | Virtex-4: LX/SX, SRAM | 4X analog capture channels, 1.5 GSPS, 8 bit | 12 |
| | **BenBLUE-V4** | 2X Virtex-4: LX, SRAM | SRAM FPGA IP core | 13 |
| | **BenDATA-V4** | Virtex-4: LX/SX, SRAM & SDRAM | SRAM FPGA IP core | 13 |
| | **BenADC-V4** | Virtex-4: LX/SX, SRAM | 4X ADC channels, 250 MSPS | 13 |
| | **BenIO-V4** | Virtex-4: LX/SX, SRAM | Up to 152 digital I/O lines | 13 |
| | **BenDVI** | Virtex II Pro 70-6, SRAM | Independent DVI I/O channels, 1600 x 1200 UXGA | 14 |
| | **BenTEST** | Test board, no FPGA or memory | Over 300 external digital I/O lines | 14 |
| PMC/XMC Cards | **XMC-210** | Virtex-5: LX/SX, SDRAM | 2X ADC, 3 GSPS | 7 |
| | **XMC-220** | Virtex-5: SX, SDRAM | 2X ADC, 180 MSPS, 1X DAC 1 GSPS | 7 |
| | **XMC-230** | Virtex-5: SX, SDRAM | Processor expansion card with PCI & GTP links | 8 |
| | **XMC-231** | Virtex-5: SX, SDRAM | Processor expansion card with FPDP interface | 8 |
| | **XMC-240** | Virtex-5: SX, SDRAM | 4X ADC, 250 MSPS | 8 |

Nallatech

## High-Performance FPGA Hardware, Software, IP, and Custom Capabilities

Nallatech provides volume-deployable FPGA solutions for commercial and military applications. Extensive FPGA design expertise and vertically-integrated manufacturing facilitate cost effective solutions for a wide range of production quantities.

Custom-solution-development capabilities include FPGA programming, algorithm development, architecture optimization, and miniaturization. A unique co-development methodology supports delivering quick-turn custom solutions:

- On a turnkey concept-through-production basis.
- When customers' existing development boards and prototypes need to be migrated into deployable solutions.

A comprehensive suite of design tools includes IP cores and frameworks that significantly reduce the time customers spend on routine tasks such as programming interfaces.

*Quick-turn solutions are facilitated by combining a broad array of hardware, software, and IP with extensive systems-level integration expertise and vertically-integrated manufacturing.*

*Many standard products are configurable to meet application-specific requirements and can also be used as platforms for the modified, custom, and miniaturized solutions described on pages 4 and 5.*

## Volume-Deployable FPGA Solutions for a Wide Range of Applications

### Embedded Real-Time Computing

*Signal Intelligence & Telecommunications*

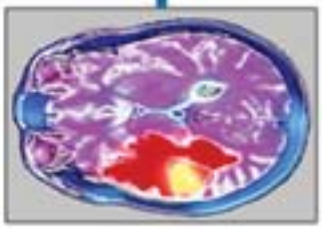
*Software Defined Radio*

*Cyber Security Deep Packet Inspection*

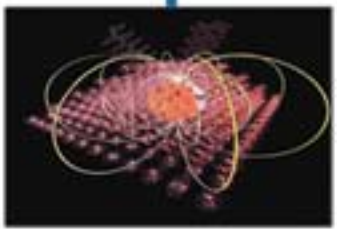
*Near Sensor Processing & Miniaturized Solutions*

### Algorithm Acceleration - High-Performance Computing

*Financial Modeling*



*Medical Imaging & Research*



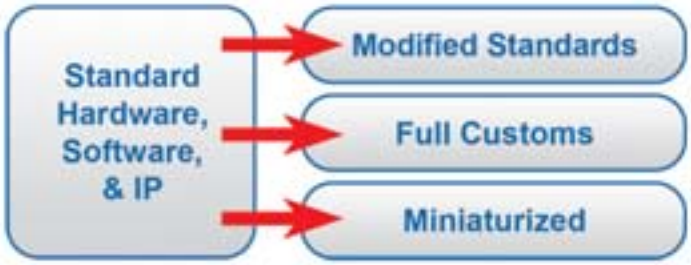
*Scientific Modeling*

*Seismic Analysis, Oil & Gas Exploration*

## From COTS to Aggressively Small Embedded Solutions

Embedded-solutions developers have the option of selecting Nallatech's volume-deployable, standard products or engaging with Nallatech to provide modified, full custom, or miniaturized FPGA solutions.

The capability to quickly deliver cost-effective miniaturized solutions is facilitated by the high-density-packaging expertise and vertically-integrated-manufacturing resources of Nallatech's parent company; Interconnect Systems, Inc.




*Nallatech's modified, custom, and miniaturized solutions cost effectively leverage an extensive array of proven off-the-shelf hardware, software, & IP.*

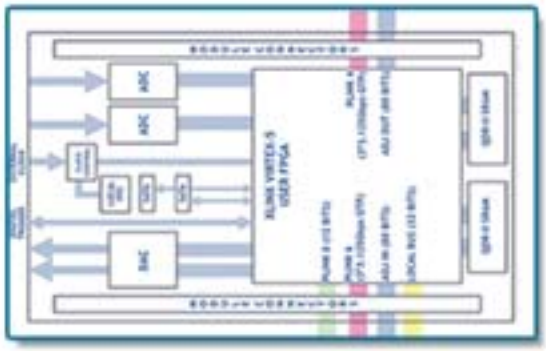
## One-Stop SWaP for Embedded Applications

Quick turn, cost-effective, customized solutions are facilitated by leveraging a broad range of COTS products as design platforms. In addition, an extensive library of IP cores and framework tools reduce the time needed to implement IP and interfaces.

A proven co-development process reduces SWaP (Size, Weight, and Power), cost, and deployment time. Development options include turnkey concept-through-production designs and migrating existing prototypes into deployable solutions.

### ❶ Rapid Prototype

Start solution co-development now with Nallatech's FPGA design experts and comprehensive range of hardware, firmware, and software.



### ❷ Optimize Design

Increase overall system performance and reliability while reducing component count, cost, and power consumption.

### ❸ Miniaturize & Ruggedize

Nallatech's parent company, Interconnect Systems, Inc., has a 20-year proven track record of delivering cost-effective and rugged, high-density packaging and interconnect.

### ❹ Deploy & Support

Vertically-integrated manufacturing supports expedited production ramps across a wide range of commercial and military quantity requirements.

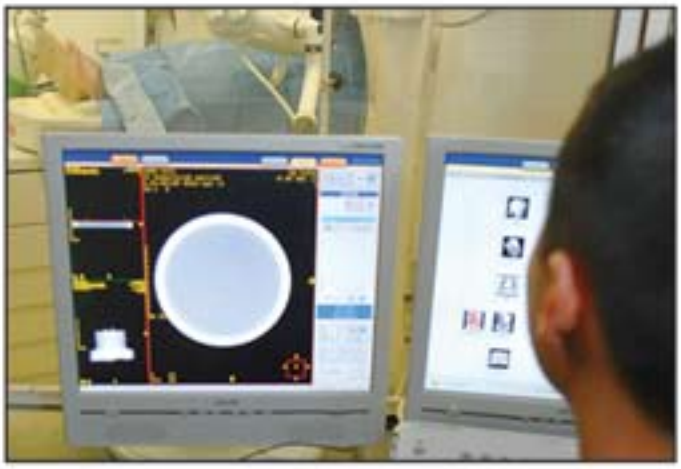
## Data-Centric Architectures Improve Performance & Save Energy

FPGA-based processing facilitates data-centric architectures that offload CPU workload to provide lower latencies, higher throughputs, and improved performance per watt.

In addition to reducing processing-related electricity costs, performance-per-watt improvements decrease dissipated heat, reducing the power needed for cooling and enabling higher-density solutions.

Nallatech's accelerated-computing solutions include in-socket accelerators, co-processing and I/O boards, development tools, and domain-specific appliances utilizing workstations and blade servers from leading computing-platform manufacturers.

*Nallatech's 20+ years of FPGA accelerated-computing expertise spans a wide array of low latency, high-throughput applications.*



## Nallatech's Domain Expertise Includes Algorithm Development

The performance gains described in the following application examples are representative of the 20+ years of FPGA-solution expertise that Nallatech has provided to a wide array of customers and applications.

### Application 1: Encryption

- Advanced Encryption Standard (AES).
- *Virtex-5 LX330 throughput is 15Gbits per second compared to 2Gbits per second for a Xeon-core.*
- Less than 5% of Virtex-5 resources are needed to process AES algorithms.

### Application 2: Fast Fourier Transform (FFT)

- FFT complex multiply IFFT algorithm
- Single FPGA implementation utilizes less than 30% of the resources of a V5LX330.
- *Sustained 26 GFLOPS operation required less than 10 Watts power consumption.*
- 1.5X performance when compared to a 3GHz Intel Xeon 7300 processor.

### Application 3: Image Processing

- Detect and avoid image processing.
- Multi-FPGA implementation.
- 36 GFLOPS + 20 GOPS sustained operation required less than 160 Watts power consumption.
- *60X performance when compared to an Intel EM64T Xeon processor.*

# VXS/VME Solutions

Nallatech Rugged VME and XMC Solutions are designed to meet the demanding sensor and signal processing needs of SIGINT, software defined radio, and radar applications.

VXS Series processor cards combine PowerPC and FPGAs for high-performance digital signal processing with PMC/XMC slots for additional sensor I/O and processing resources.

XMC mezzanines combine FPGA processing resources with analog and digital sensor I/O capabilities. These volume deployable products are designed to support forced air or conduction-cooled applications.

## VXS Single & Multi-Processor Solutions

The VXS-610 provides two user-accessible FPGAs and a Freescale MPC8548E processor.

- FPGA-configured models utilize single or dual Virtex-5 SX95T or LX155T.
- Freescale MPC8548E PowerPC processor.
- Front panel and backplane Ethernet and RS232 ports.
- 2x PMC/XMC sites.
- Air-cooled and conduction-cooled versions.
- Development kits available for Linux and VxWorks.
- Connectivity includes Serial RapidIO, high-speed serial, VME, PCI, PowerPC Local Bus, Ethernet, and RS232.

| Model | Processor Configuration | FPGA Memory | PowerPC Memory |
|---|---|---|---|
| VXS-610 | Dual FPGA & PowerPC | Two banks 256MB DDR2-SDRAM and one bank 8MB DDR-II-SRAM per FPGA | 512MB DDR-II-SDRAM and 64MB flash |
| VXS-620 | FPGA & PowerPC | Two banks 256MB DDR2-SDRAM and one bank 8MB DDR-II-SRAM | 512MB DDR-II-SDRAM and 64MB flash |
| VXS-621 | FPGA & PowerPC | Two banks 4.5MB QDR-II-SRAM and one bank 32MB QDR-II-SRAM | 512MB DDR-II-SDRAM and 64MB flash |
| VXS-630 | PowerPC | N/A | 512MB DDR-II-SDRAM and 64MB flash |

## BenNUEY-VME64-VXS

VITA-41 FPGA Motherboard

- 3 DIME-II FPGA module expansion slots
- VITA-41 or VME64 dual width 6U card
- 32-bit/33MHz PCI to VME Tundra bridge chip
- Up to 35MB/s Host bandwidth
- Onboard Xilinx Virtex-II Pro 2VP50-6 user FPGA
- 4 high speed serial I/O channels via connector P0
- Dual front panel SFP connectors
- VXWorks, Windows and Linux Operating System Support

## XMC-210

FPGA and 2-Ch 8-Bit 3GSPS A/D PMC/XMC

- Virtex-5 SX95T or LX155T FPGA with 2 banks 256MB DDR2 SDRAM
- PCI-X/PCI64/PCI32 PCI bus
- Standalone or network boot
- 8x GTP XMC serial links
- 2x National Semiconductor ADC083000-bit 3 GSPS ADC.
- On-board clock management and external clock/trigger inputs
- Development Kits with Linux or VxWorks SDK, FPGA Development Kit and full documentation
- Air-cooled and rugged conduction cooled versions

## XMC-220

FPGA and 4-Ch 16-Bit A/D and D/A PMC/XMC

- Virtex-5 SX95T FPGA with 2 banks 256MB DDR2 SDRAM
- PCI-X/PCI64/PCI32 PCI bus
- Standalone or network boot
- 8 GTP XMC serial links
- 2x 16-bit 180MSPS A/D converters and 1x 16-bit up to 1GSPS D/A converter (1/2 ch)
- On-board clock management and external clock/trigger inputs
- Development Kits with Linux or VxWorks SDK, FPGA Development Kit and full documentation
- Air-cooled and rugged conduction cooled versions

## XMC-230

FPGA Processing PMC/XMC

- Virtex-5 SX95T FPGA with 2 banks 256MB DDR2 SDRAM
- PCI-X/PCI64/PCI32 PCI bus
- Standalone or network boot
- 8 GTP XMC serial links
- Development Kits with Linux or VxWorks SDK, FPGA Development Kit and full documentation
- Air-cooled and rugged conduction cooled versions

## XMC-231

FPGA Processing and FPDP PMC/XMC

- Virtex-5 SX95T FPGA with 2 banks 256MB DDR2 SDRAM
- PCI-X/PCI64/PCI32 PCI bus
- Standalone or network boot
- 8 GTP XMC serial links
- Single FPDP interface on front panel
- Development Kits with Linux or VxWorks SDK, FPGA Development Kit and full documentation
- Air-cooled and rugged conduction cooled versions

## XMC-240

FPGA and 4 Ch 14-Bit 250MSPS A/D PMC/XMC

- Virtex-5 SX95T FPGA with 2 banks 256MB DDR2 SDRAM
- PCI-X/PCI64/PCI32 PCI bus
- Standalone or network boot
- 8 GTP XMC serial links
- 4 Intersil KAD5514P-25 14-bit 250MSPS A/D converters
- On-board clock management and external clock/trigger inputs
- Development Kits with Linux or VxWorks SDK, FPGA Development Kit and full documentation
- Air-cooled and rugged conduction cooled versions

# AMC-420 Mid/Full-Size AMC Card with FMC Site

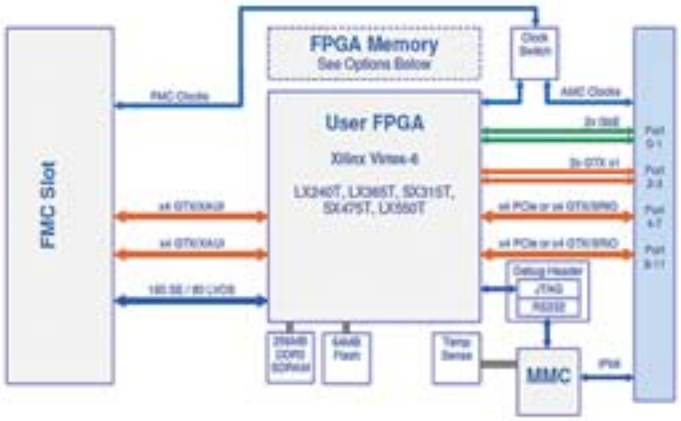
The AMC420 is designed to meet the processing needs of high-performance applications in the telecommunications and networking, video processing, and defense markets.

- Mid/Full size AMC designed to PICMG AMC.0 R2.0.
- Xilinx Virtex-6 FPGAs for high-performance processing.
- FMC site enables a broad range of I/O interfaces to be added to meet application needs.
- Easy system-level interconnect with built-in support for Gen2 PCIe and 1Gb Ethernet.
- A comprehensive suite of development tools accelerate implementation and time to market.

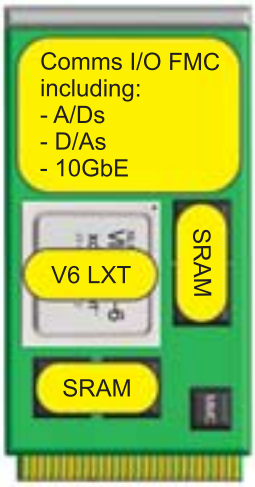
## Additional Features

- Xilinx Virtex-6 FPGA – LX240T, LX365T, LX550T, SX315T, SX475T devices supported.
- Flexible FPGA memory options with up to 1GB DDR3 SDRAM and up to 36MB QDR-II+ SRAM.
- AMC.1 PCI Express: two x4 PCIe Gen 2 links on ports 4-11.
- AMC.2 Gigabit Ethernet: two 1GbE on ports 0-1.
- High-pin count FMC site for addition of FPGA I/O including network, analog, digital and video interfaces.
- Embedded Xilinx Microblaze processor core for application control and management including Petalogix Linux OS.
- Pigeon Point MMC with integrated IPMI v1.5 support.
- Development kit includes FPGA IP framework with cores for processor node and all FPGA peripherals.

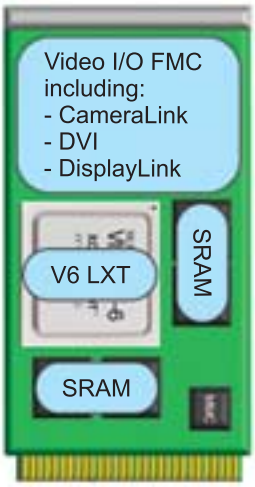
## Block Diagram



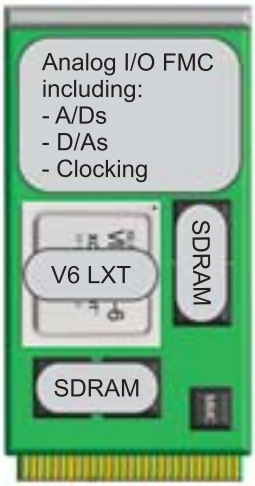

## Configurable Architecture Supports a Wide Range of Applications



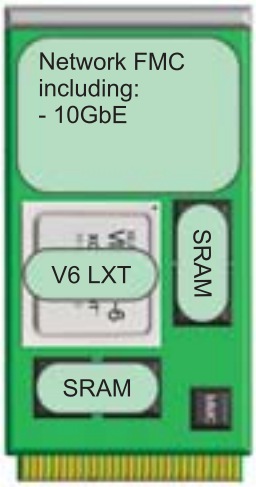

**Wireless Telecom**




**Video Processing**




**Military Communications**




**Wireline & Networking**

## PCIe-280

8-Lane PCI Express 2.0 FPGA Accelerator Card

**Up to 5GB/s total host bandwidth**

- 8-lane PCI Express 2.0 form factor
- Virtex-5 LX330T-2 or LX220T-2 user FPGA
- Up to 5GB/s total Host bandwidth
- 2 independent banks of QDR-II SRAM memory
- Up to 2 banks of DDR2 SDRAM memory
- Card-to-Card high speed serial I/O
- 1 DIME-II FPGA module expansion slot, shown with DATA-V5 populated
- Linux 64-bit Operating System support

## PCIe-180

10GbE I/O, Virtex-5 and Memory Card

**Half height, half width, 10GbE solution**

- Low profile PCI Express form factor
- XFP supporting 10GbE and OC192 SONET
- Up to 2.2GB/s total Host bandwidth
- Onboard Xilinx Virtex-5 LX155-1 user FPGA
- 5 independent banks of DDR-II SRAM memory
- 1 bank of DDR2 SDRAM memory
- Linux 64-bit Operating System support
- Optional 10GbE MAC IP core

## BenONE-PCIe

8-Lane PCI Express FPGA Motherboard

- 1 DIME-II FPGA module expansion slot
- 8-lane PCI Express 1.1
- Up to 2.38GB/s total Host bandwidth
- Multiple off-card digital I/O headers
  - Single-ended and differential digital I/O
  - High speed serial I/O and RS232
- Windows and Linux Operating System Support

## PCIe-DATA-V5

8-Lane PCI Express 1.1 FPGA Accelerator Card

- Up to 2.38GBytes/s total host bandwidth
- Xilinx Virtex-5 LX330T-2 user FPGA
- 1 GB DDR2 SDRAM – 2 independent banks
- 18 MB QDR-II SRAM – 2 independent banks
- 13GB/s total SDRAM and SRAM memory bandwidth
- 8-lanes of high speed serial I/O operating at 2.5Gbps

## BenONE-PCI

PCI and USB FPGA Motherboard

- 1 DIME-II FPGA module expansion slot
- 32-bit/33MHz PCI
- Up to 80MB/s Host bandwidth
- Optional USB connectivity with standalone power supply
- Multiple off-card digital I/O headers
  - Single-ended and differential digital I/O
- Windows and Linux Operating System Support

## BenNUEY-PCI-X

PCI-X and Digital I/O FPGA Motherboard

- 3 DIME-II FPGA module expansion slots
- Full length 64-bit/133MHz PCI-X card
- Up to 600MB/s Host bandwidth
- Onboard Xilinx Virtex-4 FX60-11 or FX100-11 user FPGA
- Digital I/O PCI backplate with single-ended and differential digital I/O and external clock input
- Windows and Linux Operating System Support

## BenONE-PCI-104

PCI-104 FPGA Motherboard

- 1 DIME-II FPGA module expansion slot
- 2 card PCI-104 stack
- 32-bit/33MHz PCI
- Up to 80MB/s Host bandwidth
- Multiple off-card digital I/O headers
  - Single-ended and differential digital I/O
- Linux Operating System Support
- Optional Single Board Computer (SBC) package

## BenNUEY-PCI-104

PCI-104 FPGA Motherboard

- 3 DIME-II FPGA module expansion slots
- 5 card PCI-104 stack
- 32-bit/33MHz PCI
- Up to 80MB/s Host bandwidth
- Onboard Xilinx Virtex-4 FX60-11 or FX100-11 user FPGA
  - Off-stack digital I/O
- Single-ended and differential digital I/O
- Linux Operating System Support
- Optional Single Board Computer (SBC) package
- Optional Variable Height Software (VHS) Tool
  - Adjust stack height by adding or removing cards

## DATA-V5

SDRAM, SRAM and High Speed Serial I/O

- Onboard Xilinx Virtex-5 user FPGA
  - LX330T-2 or LX220T-2
- 1 GB DDR2 SDRAM – 2 independent banks
- 18 MB QDR-II SRAM – 2 independent banks
- 13 GB/s total SDRAM and SRAM memory bandwidth
- Includes SDRAM and SRAM FPGA IP cores
- 8 high speed serial I/O channels via digital header
- Compatible with the BenONE-PCIe DIME-II motherboard

## BenADDA-16

16-Bit Dual ADC and DAC

- Onboard Xilinx Virtex-5 user FPGA
  - SX95T-2 or LX155T-2 (FX100T-2 optional)
- Dual 16-bit, 180 MSPS analog capture channels
- Dual 16-bit, 1 GSPS analog output channels
- External clock and digital trigger inputs
- Onboard high accuracy fixed oscillator and reference clock
- 18 MBytes QDR-II SRAM – 2 independent banks

## BenADC-3G

8-Bit 3 GSPS Dual ADC

- Onboard Xilinx Virtex-4 user FPGA
  - SX55-11 or LX160-11
- Dual 8-bit, 3 GSPS analog capture channels
- External clock and digital trigger inputs
- Onboard high accuracy fixed oscillator and reference clock
- 16 MBytes DDR-II SRAM – 2 independent banks

## BenADC-1.5G

8-Bit 1.5 GSPS Quad ADC

- Onboard Xilinx Virtex-4 user FPGA
  - SX55-11 or LX160-11
- Quad 8-bit, 1.5 GSPS analog capture channels
- External clock and digital trigger inputs
- Onboard high accuracy fixed oscillator and reference clock
- 16 MBytes DDR-II SRAM – 2 independent banks

## BenBLUE-V4
Dual FPGA and SRAM

- Two onboard Xilinx Virtex-4 user FPGAs
  - LX160-11
- 64 MB DDR-II SRAM
  - 8 independent banks
  - 4 banks per FPGA
- 12.8 GB/s total SRAM memory bandwidth
- Includes SRAM FPGA IP core

## BenDATA-V4
SDRAM and SRAM

- Onboard Xilinx Virtex-4 user FPGA
  - SX55-11 or LX160-11
- 1 GB DDR2 SDRAM – 2 independent banks
- 16 MB DDR-II SRAM – 2 independent banks
- 6.4 GB/s total SRAM and SDRAM memory bandwidth
- Includes SRAM and SDRAM FPGA IP cores

## BenADC-V4
12-Bit 250 MSPS Quad ADC

- Onboard Xilinx Virtex-4 user FPGA
  - SX55-11 or LX160-11
- Quad 12-bit, 250 MSPS analog capture channels
- External clock input
- Onboard high accuracy fixed oscillator
- 16 MBytes DDR-II SRAM – 2 independent banks

## BenIO-V4
Single Ended and Differential I/O

- Onboard Xilinx Virtex-4 user FPGA
  - SX55-11 or LX160-11
- Up to 152 digital I/O lines
  - 1x 68-way VHDCI SCSI connector
  - 2x 50-way Samtec FTS header
- 16 MBytes DDR-II SRAM – 2 independent banks

## BenDVI
Video Input and Output

- Onboard Xilinx Virtex-II Pro user FPGA
  - 2VP70-6
- Independent DVI input and output channels supporting resolutions up to 1600x1200 (UXGA)
- Off-module high speed serial I/O channels
- 32 MBytes ZBT SRAM – 2 independent banks
- IP cores for DVI capture, display and SRAM interfaces

## BenTEST
Debug and Test Digital I/O

- These simple modules are highly effective test and debug tools, for developing and verifying systems
- Both modules provide direct access to each of the DIME-II communication buses
- The BenTEST-H features over 300 0.1”pitch headers
- The BenTEST-M features 280 pins through 8 MICTOR connectors

## Framework Builder

IP Application Framework Development Tool

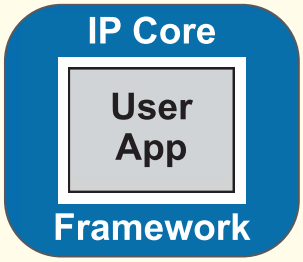
Framework Builder is an advanced development tool for the implementation of IP application frameworks on Rugged VME and XMC products, and selected Embedded-PCI products. User advantages include reduced design time and risk.

IP cores are easily selected and deployed with subsequent autogeneration of VHDL for the complete design. User application blocks can then simply be inserted into a ready to use framework design.

### Configure → Build → Deploy

**Use software design tool to configure framework**

- Select target product and FPGA.
- Configure interface and peripheral support.
- Auto-generate IP core framework VDHL.




**Use IP core framework to design & build bitstream**

- Add user application design to generated IP core framework.
- Build design using standard design flows to generate FPGA bitstream.

**Deploy completed design on Nallatech hardware**

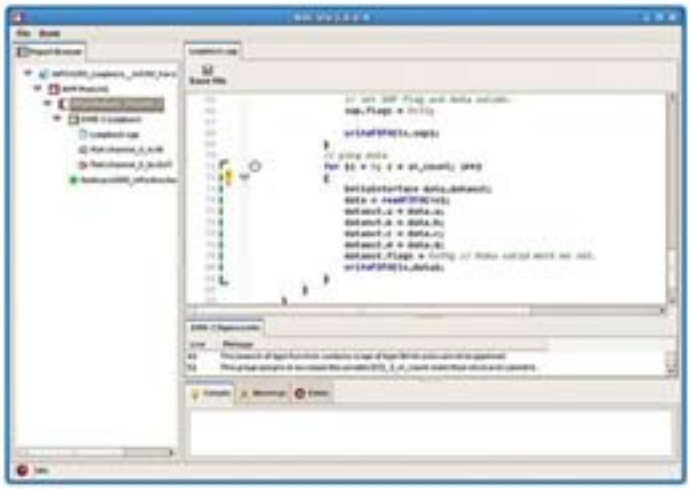
- Interface to design in runtime using Nallatech software libraries.

## Nallatech Application Layer (NAL) - DIME-C

C & C++ Programming Environment & ANSI-C to VHDL Compiler

NAL is a high-level-language tool that enables all aspects of FPGA system design to be described in C or C++ and tested on a PC before implementation on a PCIe-180 or PCIe-280.

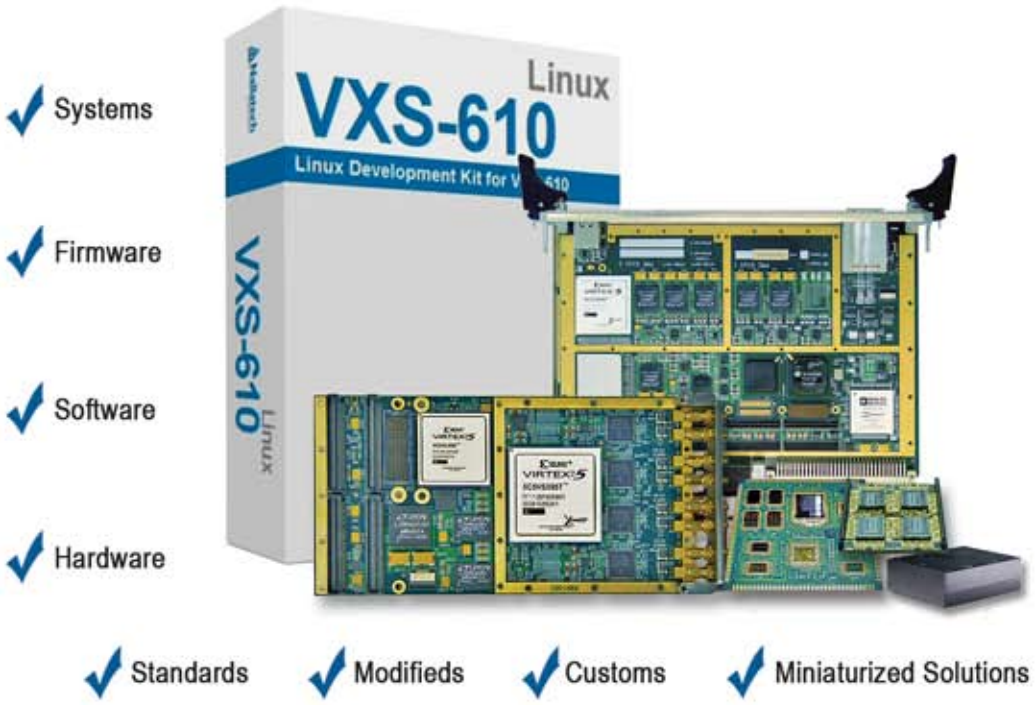
- Significantly reduces the time required for FPGA system design and implementation.
- Provides a single environment to develop, test, and implement a user application.
- Includes DIME-C, Nallatech's C-to-VHDL compiler.
- Non-cycle accurate implementation supports high-clock frequencies.
- Supports user IP import, VHDL or NGC.



## High-Performance FPGA Hardware, Software, IP, and Custom Capabilities

Nallatech's quick-turn, cost-effective solutions are facilitated by over 20 years of FPGA design expertise that includes: hardware, software, firmware, analog/digital, analog RF, serial gigabit, system I/O, memory systems, microprocessor host interfaces, and high-level tools and compilers.

Customers can engage with Nallatech's design teams to develop custom solutions that optimize performance while reducing size, weight, power consumption, and cost. A comprehensive library of optimized IP cores and software tools also contribute to accelerating customers' time to market.




Nallatech is a wholly-owned subsidiary of Interconnect Systems, Inc., headquartered in Camarillo, CA. Vertically-integrated manufacturing facilities are ISO 9001:2008 certified, ITAR registered, and have been approved by top-tier OEMs for a wide range of demanding commercial and military applications.

**Nallatech, Inc.**
759 Flynn Road
Camarillo, CA 93012
Tel:(805) 383-8997
Fax:(805) 384-4899
Toll Free:1-877-44-NALLA
contact@nallatech.com

**Nallatech, Inc.**
1 Napier Park
Cumbernauld
Glasgow G68 0BH UK
Tel:+44(0) 1236 789500
Fax:+44(0) 1236 789599
contact@nallatech.com

Nallatech
An Interconnect Systems, Inc. Subsidiary

Copyright© 2011 Nallatech, Inc.