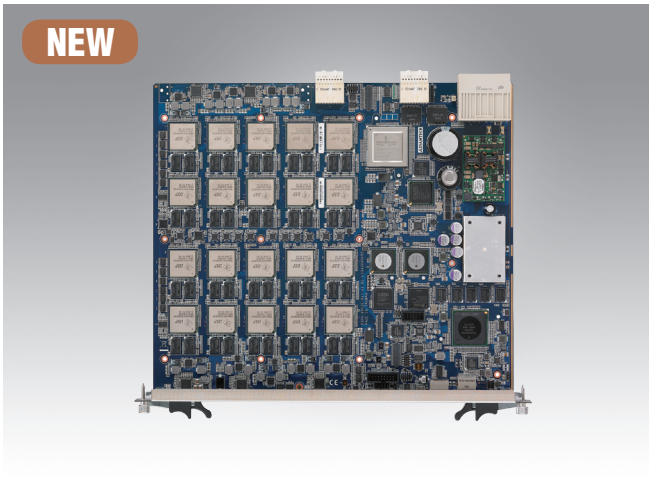
DSP-8901

AdvancedTCA® DSP Blade Provides Industry's Most Powerful DSP Farm for Voice and Video Processing



Features

- Twenty Texas Instruments TMS320C6678 DSPs
- 512 MB ~ 2 GB DDR3 memory per DSP
- BCM56321 10 GbE switch for both Fabric Interface and Base Interface
- Freescale QorIQ™ P2020 for Local Management Processor (LMP)
- IDT Tsi577 Serial RapidIO switches
- Pigeon Point System IPMI 2.0
- Wind River Linux PNE-LE 4.0 support for P2020
- Single slot PICMG 3.0/ 3.1 compliant

Introduction

The DSP-8901 is designed with 20 TI TMS320C6678 DSPs. With its twenty onboard TMS320C6678 DSPs at 1.0 GHz core frequency, the DSP-8901 provides 160 cores of processing power to reach the higher levels of performance density needed to build the highest capacity wireless media gateways. The DSP-8901 significantly reduces overall system power dissipation and system cost, and frees up valuable slots in gateway elements for additional subscriber capacity and throughput. The DSP-8901 includes a high-performance Freescale QorIQ P2020 processor. The powerful Broadcom BCM56321 switch terminates the 10 gigabit Ethernet fabric connections and distributes traffic to the twenty DSPs. The DSP-8901 offers unrivaled packet and media processing capabilities.

For increasing demand in high end video conferencing, broadcasting and telepresence fields, the DSP-8901 ATCA blade also offers unrivaled image processing performance for compression and decompression, image analysis, filtering and format conversion.

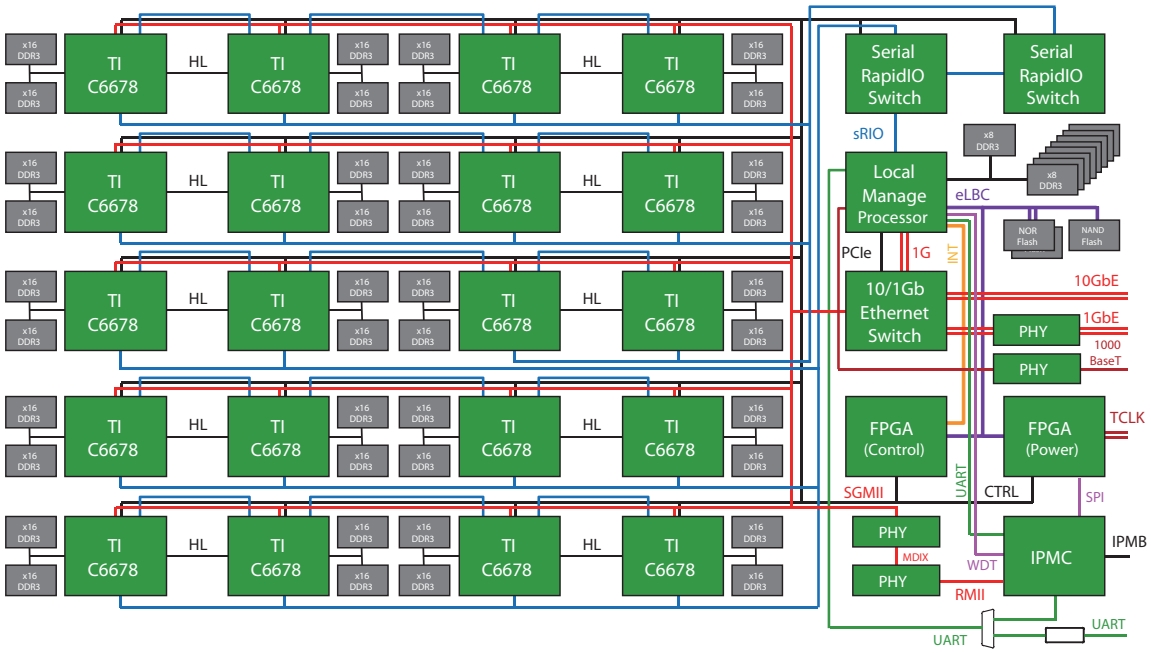
Specifications

DSP Farm	DSP	TI TMS320C6678
	Number of DSPs	20
	Speed of DSP	1.0 GHz
	Cores per DSP	8 x TMS320C66x DSP @ 1.0 GHz
	DDR3 Memory per DSP	512 MB ~ 2 GB
	Interface	Serial RapidIO interface 1000 Mbps Ethernet with SGMII
Zone 2	Fabric Interface/Base Interface	1 x Broadcom BCM56321 10 GbE switch 2 x 10 GbE XAUI for fabric interface 2 x 1000 Mbps for base interface
Serial RapidIO	Serial RapidIO Switch	2 x Tundra/IDT Tsi577 (16-port 3.125 Gb Serial RapidIO switch)
Local Management Processor (LMP)	Processor	1 x Freescale QorIQ P2020
	E500 Core Frequency	Up to 1.2 GHz
	DDR3 Memory	2 GB, 1 x 128 M*8 1 G 1333 MHz (ECC)
	Interface	Serial RapidIO interface 10/100/1000Mbps Ethernet interfaces PCIe interface USB 2.0 interface
	Boot Flash	Dual boot flashes (redundancy) Redundant pair of 128 MB
	Local Bus	1 x NAND Flash up to 1 GB
Front I/O Interface	Console Port	1 x RJ-45 (UART)
	USB Port	1 x Type A
	Ethernet Management Port	1 x RJ-45
Front LEDs	DSP Status	Per DSP Dual Color RED/GREEN DSP status (20 total LEDs)
	Health Status	Green
	Out of Service	Red/Yellow
	ATCA Hot Swap	Blue
Power	Watt	Max. 350 W
Cooling	Heatsink	Passive Aluminum Cooler
Software Support	Boot Loader	U-Boot
	H/W Management	Compliant with Pigeon Point System IPMI 2.0
	Operating System	WindRiver Linux PNE-LE 4.0/Freescale SDK
Physical Characteristics	Dimensions (W x D)	322.25 x 294.56 mm (12.69" x 11.60")
	Weight	3 kg
Environment	Operating Environment	Temperature: 0 to 45° C, Humidity: 20% to 90 % RH
	Storage Temperature	Temperature: -20 to 70° C, Humidity: 5% to 95 % RH
Compliance	EMC/Safety	CE mark (EN60950-2001) UL60950-1/CSAC22.2 FCC47 CFR Part15, Class A 55022/EN55024/EN300386
	PICMG	3.0/3.1

All product specifications are subject to change without notice

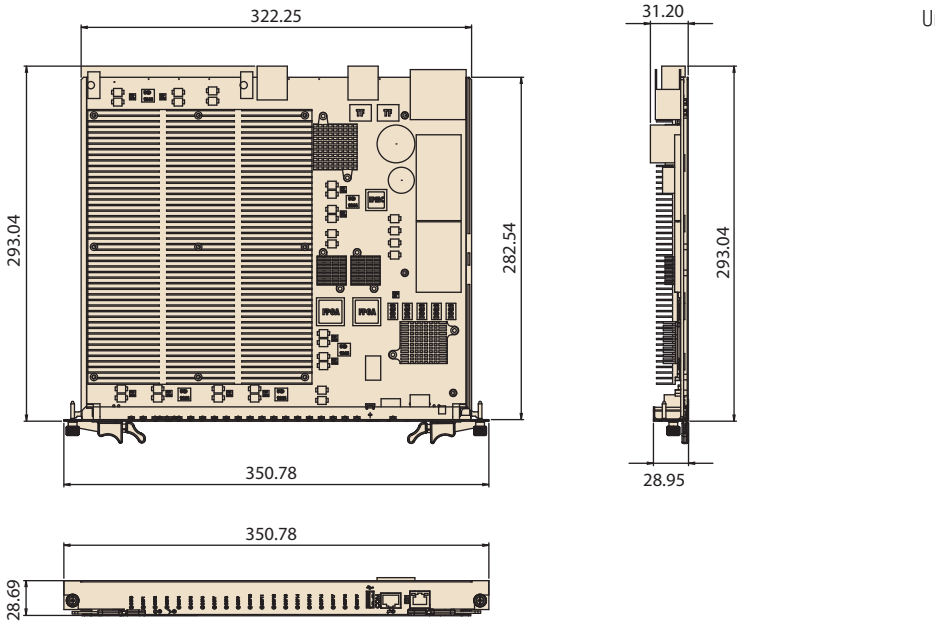
Last updated : 25-Dec-2014

Block Diagram



Dimensions

Unit: mm



Ordering Information

Part Number	Description
DSPA-8901E	AdvancedTCA TI TMS320C6678 DSP Blade w/ 32-bit memory for Voice and Video Processing