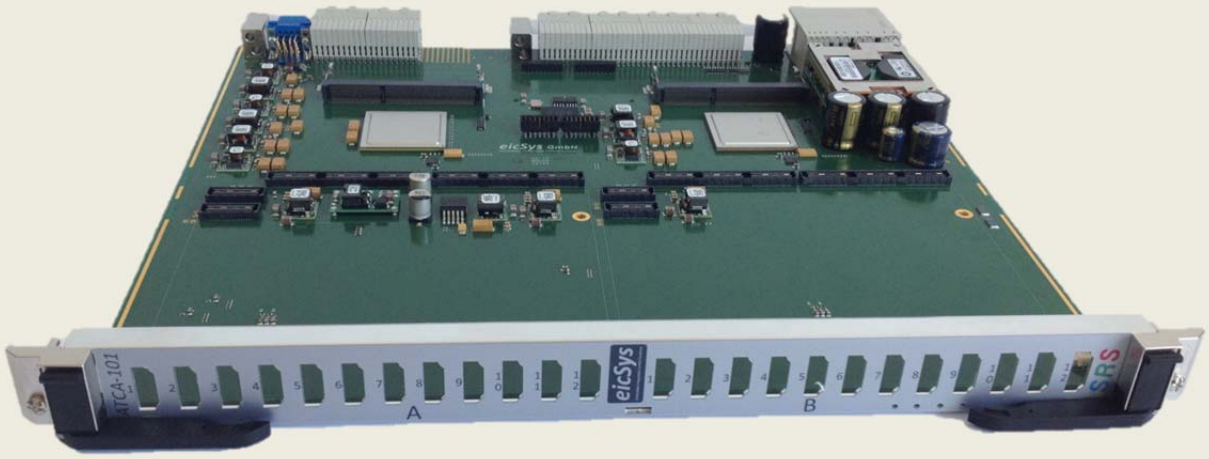
EATCA-101 Carrier Blade

General Description:

The EATCA-101 board is an universal carrier for custom mezzanine modules implemented in ATCA standard. The blade has been designed to optimize the data flow between mezzanines and processing units (2 x Virtex 6 FPGA), the backplane and rear transition modules (RTMs) for a fast, low latency, real time processing. Optional could be used also memory devices (DDR3 SODIMM).The primary application of the blade is trigger and data acquisition system for large scale detectors. The blade provides a high bandwidth, full mesh connectivity for exchanging data between boards in an ATCA crate. For these reasons it can also be used for efficient implementation of control systems - both real time and slow. When supported by ATCA Concentrator Unit it provides huge computation power for digital signal processing.
To provide stable, clean clock signals a configurable clock distribution with jitter attenuators is implemented. Read out Systems based on EATCA-101 could be configured for a wide range of data transfers and bandwidth in depend of utilized Mezzanines.

Picture EATCA-101



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Description			
Architecture			
Physical	Dimensions		288mm x 322mm 8U, 1,2”
Standards	PICMG 3.x ATCA Specification		ATCA Zone 3
Combatibility	**ATCA Zone 1** **ATCA Zone 2** **ATCA Zone 3**		ATCA Spec. ATCA Spec. RTM-100, RTM-101
Connectivity			
Blade Interfaces	**Frontpanel**	USB interface for board programing, diagnostic	
	Zone 1	➢ Power o 80W + up 120W for mezzanine modules ➢ Base interface	
	Zone 2	➢ Full-mesh connectivity ➢ P20: clock and trigger signal inputs ➢ 4 x GTX	
	Zone 3	➢ 14 x GTX, CLK IN	
	Mezzanine	➢ 2 slots for mezzanine, 12V, 60W each	
Configuration			
Chipset		2 x Virtex6 LX240T FPGA	
Memory		2 x SODIMM DDR2 memory up to 4GB	
Mezzanine Interface	➢ 5 banks of data to FPGA: o 8 x LVDS data lines up to 1GHz DDR o 2 x LVDS clock capable pins ➢ 8 x GTX ➢ 1 x clock from the blade (clock distribution) ➢ 16 x single CMOS lines ➢ Power management and board configuration		
Software support	firmware upgrade through Ethernet or RTM		
Others			
Environmental	Temperature Range	Operation: –40°C to +85°C Storage: –40°C to +90°C	
	Humidity	5-90%, non-condensing	
	Dimensions	WxH 288mm x 322mm Wight: 0,8Kg	
Ordering Information	**EATCA-101**		

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