



KAL - Large IP Cores:

Analog IP Cores:

- Analog IP cores (ADC, DAC, PLL,) are available – Please contact us.
- We are expert in custom analog IP

CPU Cores:

- **8 bit - 8051**
- 8 bit- HC68HC11
- 8 bit - PIC Processor
- 8 bit – Z80
- 16 bit – D6800
- **DSP – MSP430**
- 32 bit - ARM 9xx/11xx

Memory Controllers:

- **SD/SDIO 2.0/3.0 Controller**
- SDRAM Controller
- DDR/DDR2/DDR3 SDRAM Controller
- NAND Flash Controller
- Flash/EEPROM/SRAM Controller
- PCMCIA/CompactFlash Host Adapter
- PCMCIA/CompactFlash Slave Controller

Clock Synchronization:

- IEEE 1588 Slave
- IEEE 1588 Master
- IEEE 1588 Master/Salve
- IEEE 1588 PTP Stack

The World's fastest 80251 CPU

Digital Core Design, a leading IP Core provider and System-on-Chip (SoC) design house from Poland, introduced the new DQ80251 Core. DCD's microprocessor is the World's fastest solution. Confirmation came after successful tests run on Dhrystone 2.1 benchmark program, which showed clearly, that Polish IP Core is up to 56.8 times faster than the original 8051 at the same clock frequency.

Digital Core Design introduced the newest 8051 implementation, which is significantly much more efficient than any other solution available on the market. Independent tests were carried out on Dhrystone 2.1 benchmark program, which is the most representative of general processor (CPU) performance. **Achieved results were recognized by many IT professionals as revolutionary.** DCD's DQ80251, which is quad-pipelined ultra-high performance IP Core is 56.8 times faster than the original 8051 at the same clock frequency. – ***Our DQ80251 runs at 300MHz without losing's breath. It was possible not because of adding higher frequency, but thanks to unique architecture we implemented. I can just mention that original 8051, to get equivalent performance, must be clocked with 17 000 MHz***– says Thomas Krzyzak, vice president of Digital Core Design. Moreover, Polish Core provides up to 0.54311 DMIPS/MHz (VAX MIPS) and uses only 14 500 ASIC gates, which locates DQ80251 light years away from other competitors. These unique

- IEEE 1588 L2/L3 Solution

Peripherals:

- Floating Point Unit
- I2C Master/Slave
- SPI Master/Slave
- CAN bus
- LIN bus
- Programmable Peripheral Interface
- UART, UART with FIFO
- PWM
- Timer 8254
- Programmable Timer
- Interrupt Controller
- Ethernet Controller 10/100/1000 BaseT
- DMA Controller
- USB 1.0/2.0 Host/Slave
- On Chip Bus Analyzer

PCI Bus Controllers and Peripherals:

- PCI Express
- PCI-X Host Bridge Master/Target
- PCI Host Bridge Master/Target
- PCI-PCI Bridge
- PCI-ISA Bridge
- PCI Bus Arbiter

Encryption:

- AES 128bit/256bit
- ECC

AHB/APB Peripherals:

- AHB Bus Master/Slave
- APB Bus Master/Slave
- AHB/AXI DMA Controller

features effect on DCD's solution as a **perfect choice for all embedded applications demanding cost effective and best possible solutions.**

DQ80251 family provides efficient real-time JTAG based DoCD debugger and is fully user configurable, which influences on its unique features, which are tailored to exact specification. Digital Core Design's 8051 have been sold to hundreds of customers during the last decade, among them Intel, Siemens, Philips, Toyota or General Electric. They have been provided by DQ80251 family as a heritage of DP8051/DQ8051.

DCD's DQ80251 family is available as VERILOG Source code, VHDL Source code and FPGA Netlist formats. As customers differ themselves, the same DCD's IP Cores are designed in a wide variety of additional packaging and flexible licensing options.

More information at <http://dcd.pl/ipcore/198/dq80251/>

Information about Digital Core Design:

Digital Core Design is a leading Intellectual Property (IP) Core provider and System-on-Chip (SoC) design house. The company was founded in 1999 and since the early beginning is considered as an expert in IP Cores architecture improvements. Thousands of customers became convinced by our unique solutions and billions of people worldwide use our technology in USB, MP3 players, mobile phones and many other.

The innovativeness of DCD's IP solutions has been confirmed by over 300 licenses sold to over 200 customers worldwide, such as: INTEL, SIEMENS, PHILIPS, TOYOTA, OSRAM, GENERAL ELECTRIC, SILICON GRAPHICS, RAFAEL, SAGEM or GOODRICH.

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-> [Contact us](#) for more information:

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- AXI Bus Master/Slave

MIPS CPU Interface:

- MIPS - SysAD Bus Slave
- MIPS - SysAD Bus to PCI Host bridge
- MIPS - EC interface to SDRAM Controller
- MIPS - EC Interface to PCI Host Bridge
- MIPS - EC Interface Bus Slave

PowerPC CPU Interface:

- Power PC Bus Master
- PowerPC to PCI Host bridge
- PowerPC Bus Arbiter
- PowerPC Bus Slave

ARC CPU Interface:

- ARC - Peripheral Controller for ARCTangent
- ARC – ARCTangent to PCI host Bridge

[Contact us for data sheet](#)

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Thanks yu for your attenstion.

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