Qualcomm

Qualcomm® Quatro™ 5300 Printer Platform

Highly integrated, programmable platform for designing feature-rich printers, scanners, and all-in-ones.

Develop a next-generation product portfolio of connected printers and scanners using the Quatro 5300 Printer Platform.

With the programmable cores of the Quatro 5300 System-on-Chip (SoC), developers can implement unique features that allow original equipment manufacturers (OEMs) to differentiate their product offerings. And with a single firmware base, OEMs can efficiently build cost-effective controllers for a wide range of easy-to-connect products, from single-function printers to multifunction all-in-one (AIO) printers and scanners.

Develop feature-rich printers and scanners using the highly-integrated Quatro 5300 Printer Platform, which embeds a high-performance Arm CPU core for processing page description languages (PDLs) and two Quatro SIMD DSP cores for print acceleration and copy/scan image processing. With the Quatro programmable architecture, developers can implement their unique image processing algorithms and mechanism control.

Quatro 5300 Printer Platform targets low to mid performance applications:

- Monochrome laser/LED printers and AIOs up to 60ppm
- Color laser/LED printers and AIOs up to 30ppm
- Inkjet printers and AIOs
- Document scanners

High-end applications are addressed by the Quatro 5500 Printer Platform.

Solution Highlights

Build connected printers that support anywhere printing

Make anywhere printing a reality with smart printers and scanners that seamlessly connect to a variety of smartphones and tablets, as well as computers. Quatro system controller solutions make it easy for OEMs to build leading smart printer products.

Flexible solutions for a broad product portfolio

The programmable cores in Quatro SoCs support developers in implementing unique features that allow OEMs to differentiate their product offerings. Key product customization areas, such as copy/scan image processing algorithms and mechanical control, are fully programmable.

Modular firmware platform for design simplicity

Build cost-effective controllers for a wide variety of products using a modular firmware platform that supports the real-time processing capability required by high-performance printers, AIOs and scanners.

Optimized PDL print performance

Qualcomm® IPS™ Universal Print Interpreter*, the industry's most widely used print language software, is designed to support the latest language features for all standard formats. IPS is optimized for the Quatro Printer Platform to maximize PDL printing performance.

*IPS must be licensed separately.

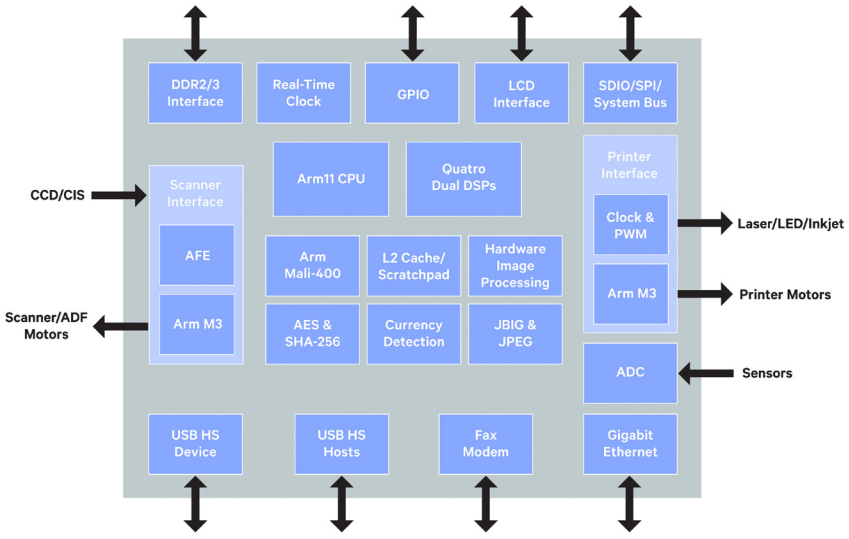
Quatro 5300 Printer Platform Applications

- Laser Printers
- Inkjet Printers
- All-In-Ones
- Scanners

Features

- Family of SoCs that cover a broad product range with a single modular firmware base
- Programmable architecture for implementing unique features and algorithms
- Optimized PDL interpreters
- Integrated analog and mechanism control for low controller BOM cost
- High reuse across wide range of products supports low development cost
- Reference implementation to help reduce time to market
- Proven, widely-adopted solution
- The programming environment includes tools for the Quatro DSP – C Compiler, Assembler, Simulator, Debugger and library of optimized image processing algorithms

Quatro 5300 Block Diagram



Quatro 5300 Specifications

CPU & GPU	Arm11 CPU core with MMU & FPU @ up to 600 MHz Arm Mali-400 GPU
Memory	512-KB L2 cache / scratchpad; 16-bit DDR3 interface Flash interface to serial NOR and parallel NAND
Image Processing	Dual Quatro 4-datapath SIMD DSP cores Hardware image processing pipeline Dual JBIG compression/decompression cores JPEG hardware assist core
Printer Interface	Support for laser (up to 4) and LED print heads Integrated frequency generator, synchronizers, PWMs, LVDS drivers Arm Cortex-M3 processor core for printer motor control
Scanner Interface	Integrated scanner AFE; Support for CCD & CIS sensors Support for single- and dual-sided scanning Arm Cortex-M3 processor core for scanner motor control
Other Interfaces	USB 2.0 HS device & host (x2) ports Gigabit Etnernet; Integrated DAC and ADC Fax modem core, LCD interface; Serial ports, SPI, SDIO, GPIO
Miscellaneous	Hardware encryption assist (AES & SHA-256) Integrated DAC, real-time clock, currency detection core
Package	23mm 498 ball BGA or 14mm aQFN

Quatro 5300 Printer SoCs

Quatro 5300 Series - Arm11 up to 600 MHz

- 5305 Laser/LED printers and scanners
- 5310 Laser/LED/inkjet AIOs

To learn more visit: qualcomm.com

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