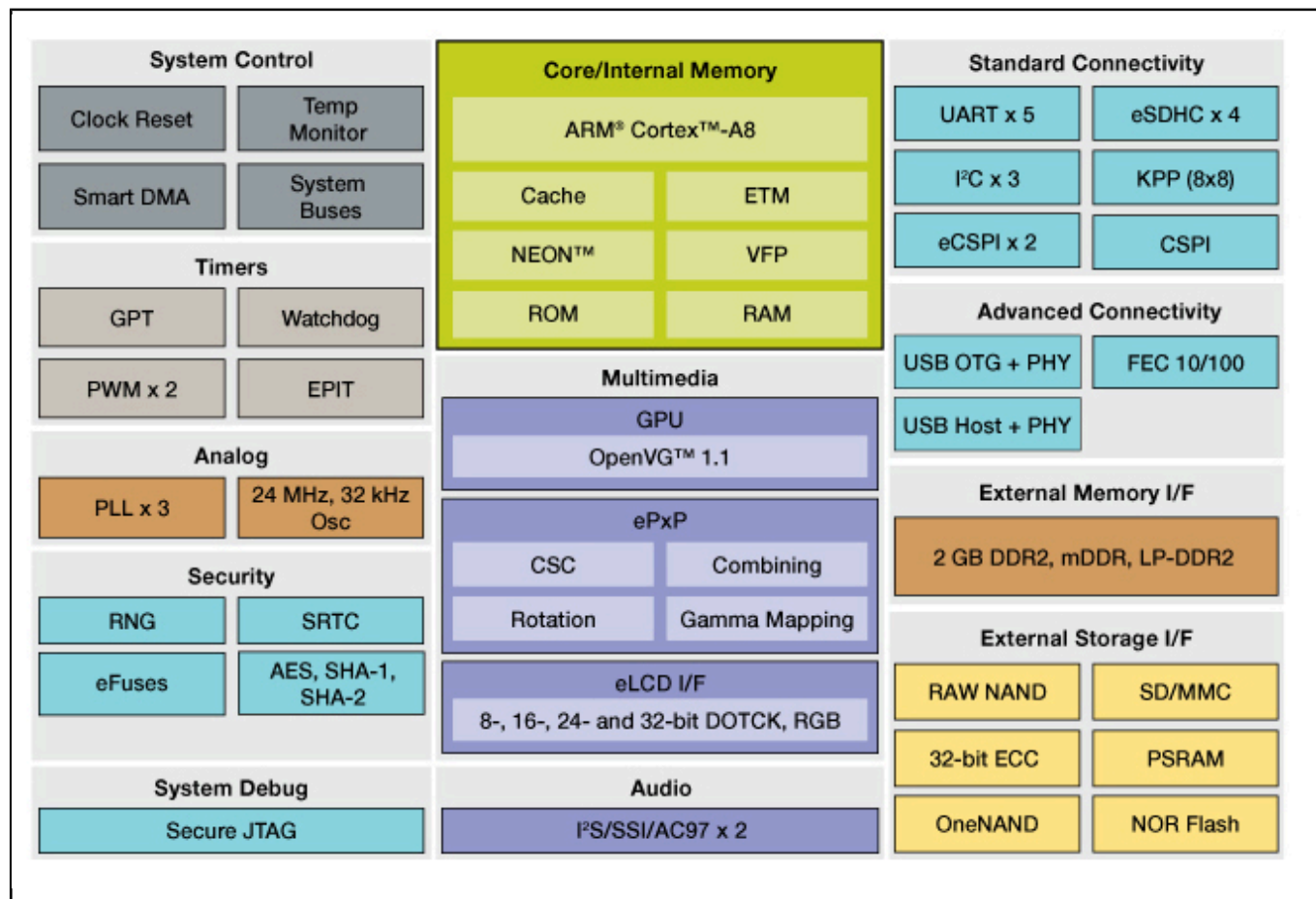# Multimedia Applications Processors - OpenVG™ 2D Graphics Acceleration Core, Sophisticated User Interface, Arm® Cortex®-A8 Core

i.MX503

Last Updated: Jan 15, 2026

Create more sophisticated user interfaces (UIs) with the i.MX503 processor. With all of the features of the i.MX502 processor and the added OpenVG™ 2D graphics acceleration core, the i.MX503 is appropriate for a variety of display-centric applications including portable navigation and home and office automation. The i.MX503 is supported by companion NXP® power management ICs (PMIC) MC34708 and MMPF0100.

i.MX503 Multimedia Applications Processor Block Diagram Block Diagram

System Control

| Clock Reset | Temp Monitor |
| Smart DMA | System Buses |

Timers

| GPT | Watchdog |
| PWM x 2 | EPIT |

Analog

| PLL x 3 | 24 MHz, 32 kHz Osc |

Security

| RNG | SRTC |
| eFuses | AES, SHA-1, SHA-2 |

System Debug

| Secure JTAG |

Core/Internal Memory

ARM® Cortex™-A8

Cache	ETM
NEON™	VFP
ROM	RAM

Multimedia

GPU
OpenVG™ 1.1

ePxP

| CSC | Combining |
| Rotation | Gamma Mapping |

eLCD I/F
8-, 16-, 24- and 32-bit DOTCK, RGB

Audio

I²S/SSI/AC97 x 2

Standard Connectivity

UART x 5	eSDHC x 4
I²C x 3	KPP (8x8)
eCSPI x 2	CSPI

Advanced Connectivity

| USB OTG + PHY | FEC 10/100 |
| USB Host + PHY | |

External Memory I/F

2 GB DDR2, mDDR, LP-DDR2

External Storage I/F

RAW NAND	SD/MMC
32-bit ECC	PSRAM
OneNAND	NOR Flash

View additional information for Multimedia Applications Processors - OpenVG™ 2D Graphics Acceleration Core, Sophisticated User Interface, Arm® Cortex®-A8 Core.

Note: The information on this document is subject to change without notice.