SINGLE-CHIP SYSTEM MODULE (SCM) COMPARISON TABLE

Single-Chip System Modules (SCM) is a disruptive new technology from NXP that provides an extremely high level of integration in a tiny form-factor. Built with industry-leading NXP technology, these SCMs include i.MX applications processors and PF series advanced power management devices. SCM devices are proven to significantly simplify your design, miniaturize your form factor and accelerate your product development.

Features	SCM-i.MX 6Quad	SCM-i.MX 6Dual	SCM-i.MX 6SoloX
CPU	4 x ARM® Cortex®-A9 core	2 x Cortex-A9 core	Cortex-A9 and Cortex-M-4 cores
Maximum clock speed	800 MHz	800 MHz	(A9) 800 MHz (M4) 227 MHz
I-Cache/D-Cache	32 KB/32 KB L1, 1 MB L2	32 KB/32 KB L1, 1 MB L2	(A9) 32 KB/32 KB L1, 256 KB L2 (M4) 16 KB/16 KB L1
Embedded SRAM	256 KB	256 KB	128 KB
Embedded SPI-NOR	16 MB	16 MB	-
Integrated power management	MMPF0100	MMPF0100	MMPF0100
External memory interface and DDR bus speed	2 x 32 LP-DDR2 up to 400 MHz	2 x 32 LP-DDR2 up to 400 MHz	1 x 32 LP-DDR2 up to 400 MHz
Flash support	rawNAND	rawNAND	rawNAND
Display interface	HDMI + PHY, 2x parallel, 2x LVDS, MIPI DSI	HDMI + PHY, 2 x parallel, 2 x LVDS, MIPI DSI	1 x parallel, 1 x LVDS
LCD resolution	2 x 4 XGA (2048 x 1536) or 2 x WXGA (1280 x 720)	2 x 4 XGA (2048 x 1536) or 2 x WXGA (1280 x 720)	2 x WXGA (1280 x 720)
Hardware video acceleration	HD1080p60 Video Decode, Dual HD720p Video Encode	HD1080p60 video decode, Dual HD720p video encode	SW Only
Hardware 2D/3D graphics acceleration	OpenGL® ES 1.1/2.0/3.0 OpenCL™ 1.1 EP OpenVG™ 1.1 2DBLT	OpenGL® ES 1.1/2.0/3.0 OpenCL™ 1.1 EP OpenVG™ 1.1 2DBLT	OpenGL® ES 1.1/2.0 OpenVG™ 1.1 2DBLT
Camera sensor interface (CSI)	Parallel CSI, MIPI CSI	Parallel CSI, MIPI CSI	Parallel CSI
Universal asynchronous receiver/transmitter (UART)	5	5	5
Serial peripheral interface (SPI)/I²C	5/3	5/3	5/4
USB controller	1 x HS USB 2.0 OTG + PHY 1 x HS USB 2.0 Host + PHY 2 x HS USB 2.0 Host (HSIC)	1 x HS USB 2.0 OTG + PHY 1 x HS USB 2.0 Host + PHY 2 x HS USB 2.0 Host (HSIC)	2 x HS USB 2.0 OTG + PHY
Number of linear/LDO regulators	7	7	3
Number of regulators-buck switching	6	6	3
Number of regulators-boost switching	1	1	1
Digital audio interface	SSI/I²S x 3, ESAI, S/PDIF, ASRC	SSI/I²S x 3, ESAI, S/PDIF, ASRC	SSI/I²S x 5, ESAI, S/PDIF, ASRC
Ethernet	1 Gbit/s + IEEE® 1588	1 Gbit/s + IEEE® 1588	1 Gbit/s + IEEE® 1588
PCI Express®	PCIe v2.0	PCIe® v2.0	-
CAN	2	2	2
Multimedia card (eMMC)/secure digital controller (SDIO)	4 x eMMC 4.5 / SD 3.0	4 x eMMC 4.5 / SD 3.0*	3 x eMMC 4.5 / SD 3.0*
Hard disk drive interface	S-ATA II 3 Gbit/s	S-ATA II 3 Gbit/s	-
Security	Secure Boot, RNG, tamper detection, secure storage AES-128, DES 3DES, ARC4, MD5, SHA-1, SHA-224, SHA-256 16 KB secure RAM, tamper-resistant RTC, secure debug, OTP space	Secure Boot, RNG, tamper detection, secure storage AES-128, DES 3DES, ARC4, MD5, SHA-1, SHA-224, SHA-256 16 KB secure RAM, tamper-resistant RTC, secure debug, OTP space	Secure Boot, RNG, tamper detection, secure storage AES-128, DES 3DES, ARC4, MD5, SHA-1, SHA-224, SHA-256 16 KB secure RAM, tamper-resistant RTC, secure debug, OTP space
Timer	3	3	3
Real-Time clock	Secure RTC	Secure RTC	Secure RTC
Pulse width modulation	4	4	8
Package	14 x 17 mm P0.65 mm 2D PoP	14 x 17 mm P0.65 mm 2D PoP	13 x 13 mm P0.75 mm 2D PoP
Qualifications	Commercial (0 °C to +85 °C) Industrial (-40 °C to +105 °C)	Commercial (0 °C to +85 °C) Industrial (-40 °C to +105 °C)	Commercial (0 °C to +85 °C) Industrial (-40 °C to +105 °C)

* SD4 not available in ePoP configuration

Please note: The product data sheet and reference manual are your best source for the most current and detailed technical data on the SCM products. For documentation on single-chip system modules, visit **www.nxp.com/SCM**.

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