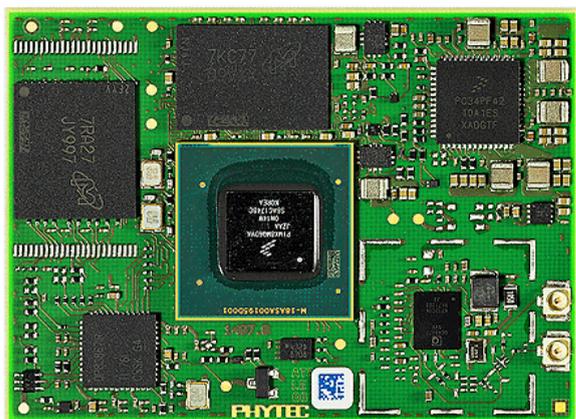# phyCORE® i.MX 8 System on Module Series

phyCORE-i.MX 8M SOM

phyCORE-i.MX 8M

Optimized low-power and fan-less operation with 20 channel 32-bit 384KHz audio and 4Kp60 HDR video streaming capabilities:

// NXP i.MX 8M Quad / i.MX 8M Dual / i.MX 8M QuadLite

// 32/64-bit ARM Cortex-A53/M4F, GC7000Lite GPU

// **Applications:** HMI, 4K UltraHD Video Streaming, Handheld/Mobile, High Fidelity Audio Devices

// DSD512 Audio Capability

// 2.4/5 GHz WiFi / BLE 4.2 on board (U.FL antenna)

// Low profile no-connector LGA footprint

// eMMC or SLC NAND

// Dimensions: 55 mm x 40 mm

phyCORE-i.MX 8

Ultimate in processing power and advanced virtualization, SafeAssure® Display, advanced vision and speech recognition:

// NXP i.MX 8Quad / i.MX 8DualPlus / i.MX 8DualMax

// 32/64-bit ARM Cortex-A53/A72/M4F, Tensilica® HiFi 4 DSP, Dual GC7000XSVX

// **Applications:** eCockpit, Navigation, High-end Infotainment, Robotics, Advanced Vision and Image Processing

// Vulkan, OpenCL 2.0, OpenVX, and OpenGL 3.1 support

// Dimensions: 73 mm x 45 mm

phyCORE-i.MX 8 SOM
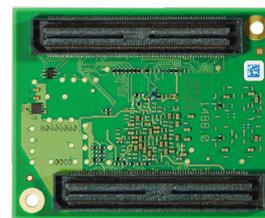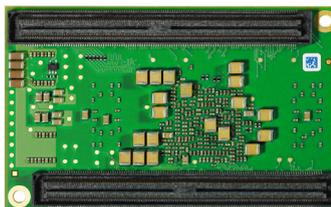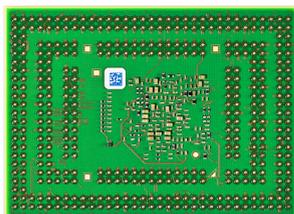

phyCORE-i.MX 8X SOM

phyCORE-i.MX 8X

Scalable, Secure and Economical for safety certifiable applications:

// NXP i.MX 8QuadXPlus / i.MX 8DualXPlus / i.MX 8DualX

// ARM Cortex-A35/M4F, Tensilica® HiFi 4 DSP, GC7000Lite

// **Applications**: Industrial automation and control, Safety critical HMI, robotics, automotive/avionic displays, Industry 4.0, Patient Monitoring

// SafeAssure® Display failover DSI, LVDS, and Parallel Display

// High Assurance Boot

// eMMC or SLC NAND

// Dimensions: 52 mm x 42 mm

PHYTEC

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www.phytec.de | contact@phytec.de | +49 (0) 6131 9221 32

phyCORE-i.MX 8 SOM Series Feature Overview:

	phyCORE-i.MX 8M	**phyCORE-i.MX 8**	**phyCORE-i.MX 8M**
Processor	NXP i.MX 8M Quad / i.MX 8M Dual / i.MX 8M QuadLite	NXP i.MX 8Quad / i.MX 8DualPlus / i.MX 8DualMax	NXP i.MX 8Quad / i.MX 8DualPlus / i.MX 8DualMax
Architecture	ARM Cortex-A53/M4F	ARM Cortex A53/A72/M4F	ARM Cortex A35/M4F
DSP, GPU	GC70000Lite GPU	Tensilica HiFi 4 DSP, Dual GC7000XSVX GPU	Tensilica HiFi 4 DSP, GC7000Lite
Memory / Storage			
RAM	4 GB MAX LPDDR4 RAM	8 GB MAX LPDDR4 RAM	4 GB MAX LPDDR4 RAM
NOR Flash	-	64 MB - 256 MB Octal SPI/DualSPI Flash	64 MB - 256 MB Octal SPI/DualSPI Flash
NAND Flash	128 MB - 1 GB (w/o eMMC)	-	128 MB - 1 GB (w/o eMMC)
eMMC	4 GB - 128 GB (w/o NAND Flash)	4 GB - 128 GB	4 GB - 128 GB (w/o NAND Flash)
Serial Interfaces			
CAN	-	2	3
USB	2x 3.0	1x 3.0, 1x 2.0 OTG	1x 3.0, 1x 2.0 OTG
Ethernet	1 10/100/1000	2 10/100/1000	2 10/100/1000
PCIe	1	2	1
Multimedia/ Display			
Display	HDMI Out, 1x DSI	2x LVDS, HDMI In/Out, 2x DSI	2x LVDS, 2x DSI, Parallel
Camera	2x CSI	2x CSI	1x CSI, Parallel
Graphics / Vision Acceleration	OpenGL/ES 3.1, Vulkan, OpenCL 1.2	OpenVX, OpenGL/ES 3.1, Vulkan, OpenCL 2.0	OpenGL/ES 3.1, Vulkan, OpenCL 1.2 EP
Video Decode	4Kp60 HDR (h.265, VP9), 4Kp30 (h.264, VP8)	4K h.264/h.265	4K (h.265), 1080p60 (h.264,VP8)
Video Encode	1080p30 (h.264)	1080p30 (h.264)	1080p30 (h.264)
Audio	32-bit 384 KHz	24-bit 192 KHz	24-bit 192 KHz
Mechanical			
Dimensions	55 mm x 40 mm	73 mm x 45 mm	52 mm x 42 mm
Connector	LGA (400 pins)	Samtec 0.5 mm pitch (480 pins)	Samtec 0.5 mm pitch (280 pins)
Supply	3.3 V	3.3 V	3.3 V
Temperature	-40ºC to +85ºC	-40ºC to +85ºC	
Software	Linux, Android	Linux, Android	Linux, Android
Availability	Preliminary	Limited Samples	Preliminary

SERVICES

Product developers with aggressive timelines or limited resources can employ PHYTEC's full range of design services, which include systems integration support with printed circuit board and software design services, Linux and Android expertise, and in-house manufacturing facilities.

PHYTEC