Product Overview 2023
Embedded Boards

armStone™

SBC, 100x72mm, PicoITX
Single Voltage 5V, (opt. 24V PSU)
RGB, LVDS, MIPI-DSI, DVI,
5x USB, 2x CAN, 1/2x LAN, WLAN/BT, PCIe
Feature Connector 2,54mm

efus™

SOM, 47x62mm
Single Voltage 5V
RGB, LVDS, DVI, WLAN/BT
MXM2 Goldfinger Connector
230 Pins, 0,5mm
Pin compatible product family

OSM™

SOM, 30x30 mm
Single Voltage 5V
1,8V I/O
RGB, MIPI-DSI
332 contacts
Pin compatible product family

Overview

Product	armStone™A9	armStone™MX8MP	efus™A7UL	efus™A9X	efus™MX8X	efus™MX8MP	FS 8ULP OSM-SF	FS 8Mx OSM-SF Mini/Nano/Plus	FS 93 OSM-SF
State	Mass Production	Q1/2023	Mass Production	Mass Production	Samples	Q2/2023	Q3/2023	Q2/2023	Q3/2023
Processing Power	+++	++++	+	++	++++	++++	+++	++++	+++
Windows	Compact 7/2013*	10 IoT Enterprise*	Compact 2013	Compact 7/2013	---	10 IoT Enterprise*	---		---
Linux	Buildroot/ Yocto	Yocto/ FreeRTOS	Buildroot/Yocto	Buildroot/Yocto/ FreeRTOS	Yocto/ FreeRTOS	Yocto	Yocto	Buildroot/Yocto/ FreeRTOS	Yocto
CPU	NXP i.MX 6 Solo/DualLite/Quad	NXP i.MX 8M Plus Dual/Quad	NXP i.MX 6 UltraLite/ ULL	NXP i.MX 6SoloX	NXP i.MX 8 DualXPlus/QuadXPlus	NXP i.MX 8M Plus Dual/Quad	NXP i.MX 8ULP	NXP i.MX 8M Nano/Mini/Plus	NXP i.MX93
	Cortex-A9 – 1GHz	Cortex-A53 – 1,8GHz Cortex-M7	Cortex-A7 – 900MHz	Cortex-A9 – 1GHz Cortex-M4 – 200MHz	Cortex-A35 – 1,2GHz Cortex-M4	Cortex-A53 – 1,8GHz Cortex-M7	Dual Cortex-A35 Cortex-M33	Quad Cortex-A53 Cortex-M4/M7	Dual Cortex-A55 Cortex-M33
Special	2D, 3D, VPU	2D, 3D (2 shader), VPU, Machine learning NPU	NEON	2D, 3D	2D, 3D (4 shader), two independent displays, Integrated Security Engine	2D, 3D (2 shader), VPU Machine learning NPU	2D, 3D (1 shader) HIFI-4/Fusion DSP	2D, 3D, VPU	PXP Machine learning NPU
Flash (up to)	512MB SLC NAND [32GB eMMC] [I2C EEPROM]	32GB eMMC	512MB SLC NAND [32GB eMMC] [I2C EEPROM]	512MB SLC [32GB eMMC]	512MB SLC NAND [64GB eMMC] [I2C EEPROM]	512MB QSPI NAND 64GB eMMC [I2C EEPROM]	64GB eMMC	64GB eMMC [I2C EEPROM]	64 GB eMMC
RAM (up to)	4GB DDR3L	8GB LPDDR4	1GB DDR3L	2GB DDR3L	8GB LPDDR4 (x32)	8GB LPDDR4 (x32)	2GB LPDDR4 (x32)	8GB LPDDR4	1GB LPDDR4 (x16)
LAN	1 (Gbit)	2 (Gbit)	2	2 (Gbit)	2 (Gbit)	2 (Gbit)	1 (RMII)	1 (RGMII)	2 (RGMII)
WLAN/BT		[802.11 ac/ 5]	[802.11 ac/ 5]	[802.11 ac/ 5]	[802.11 ac/ 5]	[802.11 ac/ 5]	---	---	---
RS232/ Serial	5	3	6	4	4	4	4	4	4
USB Host	4	4 (2.0)	1	1	1 (USB 3.0)	1 (USB3.0)	1	1	1
USB Device	1	1 (3.0)	1	1	1	1	1	1	1
SDIO	1	1**	2	2	1	2		2	
SATA/mPCIe	[1]/1	---/1	---	---/1		---/1	---/---	---/1	---/---
Audio	IN/ OUT/ MIC	IN/ OUT/ MIC	I2S	I2S	I2S	I2S	I2S	I2S	I2S
CAN	2	2	2	2	2	2	FlexCAN	CAN-FD	CAN-FD
I^2C	1	4**	4	2	4	2	4	4	4
SPI	2	2	4	2	2	2	2	1 QSPI/1 SPI	2
ADC	[4]	[4]		[4]	[5]	[4]	[2]	---	[4]
LVDS	2x 24bit	2x 24bit	[18bit]	24bit	2x 24bit	2x 24bit	---	---	---
RGB	18bit	-	18bit [24bit]	18bit [24bit]		[18bit]	[18bit]	---	[18bit]
CRT/DVI/HDMI	DVI 1080p	DVI 1080p	-	-	-	DVI 1080p	---	---	---
MIPI-DSI		4 lanes			2x	-	4 lanes 1080p	1x 4 lanes 1080p	1x 4 lanes
Camera	MIPI-CSI	MIPI-CSI	Parallel 8bit	Parallel 8bit	MIPI-CSI	MIPI-CSI	1x 2 lanes MIPI-CSI	1x 4 lanes MIPI-CSI	1x 2 lanes MIPI-CSI

x available [ ] optional * on request ** with restrictions low power products

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Product Overview 2023
Embedded Boards

NXP GOLD PARTNER

Windows Embedded Partner

PicoCOM

SOM, 40x50mm
Single Voltage 3,3V
ARM9 to Cortex-A9
Small, Compact
Robust Connector
80 Pins, 0,8 Pitch

PicoCore™

SOM, 35x40mm
Single Voltage 3,8V – 5,5V
2x 80/100 Pin Connector
WLAN/ BT, Gbit LAN
-40°C - +85°C
Pin compatible product family

SolderCore™

SOM, 35x35mm
Single Voltage 5V
220 LGA contacts
-40°C - +85°C
All CPU features available

Overview

Product	PicoCOMA7	PicoCOMA9X	PicoCore™MX7ULP	PicoCore™MX6UL100	PicoCore™MX8ULP	PicoCore™MX8MM/MN	PicoCore™MX8MP	PicoCore™MX93	SolderCore™8ULP
State	Mass Production	Mass Production	Mass Production	Mass Production	03/2023	Mass Production	Mass Production	Q2/2023	Samples
Processing Power	+	++	+	+	+++	++++	++++	+++	+++
Windows	Compact 7/ 2013	Compact 7/ 2013	---	Compact 7/ 2013	---	---	10 IoT Enterprise*	---	
Linux	Buildroot/Yocto	Buildroot/Yocto/ FreeRTOS	Buildroot/Yocto/ FreeRTOS	Buildroot/Yocto	Yocto/ FreeRTOS	Buildroot/Yocto/ FreeRTOS	Yocto/ FreeRTOS	Yocto/ FreeRTOS	Yocto/ FreeRTOS
CPU	NXP i.MX 6ULL	NXP i.MX 6SoloX	NXP i.MX 7ULP	NXP i.MX 6ULL	NXP i.MX 8ULP	NXP i.MX 8M Mini/Nano	NXP i.MX 8M Plus Dual/ Quad	NXP i.MX 93 Solo/ Dual	NXP i.MX 8ULP
	Cortex-A7 - 900MHz	Cortex-A9 – 1GHz Cortex-M4 – 200MHz	Cortex-A7 – 720MHz Cortex-M4	Cortex-A7 – 900MHz	Dual Cortex-A35 Cortex-M33	Quad Cortex-A53 Cortex-M4/M7	Cortex-A53 – 1,8GHz Cortex-M7 – 800MHz	Cortex-A55 – 1,7GHz Cortex-M33– 250MHz	Dual Cortex-A35 Cortex-M33
Special	NEON	2D, 3D	2D, 3D	NEON	2D, 3D (1 shader) HIFI-4/Fusion DSP	2D, 3D, VPU	2D, 3D, VPU, Machine learning NPU	PXP, Machine learning NPU	2D, 3D (1 shader) HIFI-4/Fusion DSP
Flash (up to)	512MB SLC NAND	512MB SLC NAND [32GB eMMC], [SPI NOR]	64MB QSPI 32GB eMMC	512MB SLC NAND or 32GB eMMC [I2C EEPROM]	64GB eMMC	512MB SLC NAND or 64GB eMMC [I2C EEPROM]	64GB eMMC [I2C EEPROM]	32GB eMMC	64GB eMMC
RAM (up to)	1GB DDR3L	512MB DDR3L	1GB LPDDR3	1GB DDR3L	2GB LPDDR4 (x32)	1GB DDR3L/ 8GB LPDDR4 (x32/x16)	8GB LPDDR4 (x32)	1GB LPDDR4 (x16)	2GB LPDDR4 (x32)
LAN	1 [2]	1 [2] Gbit	-	2 (100Mbit) or RMII	1 or RMII	1/2 (Gbit) or RGMII	2 (Gbit) or RGMII	2 (Gbit) or RGMII	RMII
WLAN/BT	---	---	[802.11 ac/ 5]	[802.11 ac/ 5]	[802.11 ac/ 5]	[802.11 ac/ 5]	[802.11 ac/ 5.0]	[802.11 ax/ 5]	---
Security	---	---		[SE050]	Secure Enclave	[SE050]	[SE050]	Secure Enclave	Secure Enclave
RS232/Serial	3	3	5	4	4	4	4	8	8
USB Host	1	1		1	1	1 (Mini)	1 (3.0)	1	1
USB Device	1	1	1 OTG	1 OTG	1 OTG	1 OTG	1 OTG	1 OTG	1 OTG
SDIO	1	1	1**	1	2	2	1	1	2
SATA/mPCIe	---	---	---	---	---	---	---/1	---	---
Audio	IN/OUT	IN/OUT	IN/OUT/MIC/HP or I2S	IN/OUT/MIC or I2S	IN/OUT/MIC or I2S	IN/OUT/MIC/HP or I2S SPDIF/SAI/ESAI/SSI**	IN/OUT/MIC/HP or I2S SPDIF/SAI/ESAI/SSI**	IN/OUT/MIC/HP or I2S SPDIF/SAI/ESAI/SSI**	6x I2S 8x DMIC
CAN	2**	2**		2	FlexCAN	CAN-FD**	2x CAN-FD	2x CAN-FD	FlexCAN
I²C	2**	2**	4	4	4	4	4	6	8
SPI	1	1	1	2	2	2	2	8	6
LVDS				24bit	---	[1-2x 24bit]	1-2x 24bit	1x 24bit	---
RGB	18bit	18bit	x*	18/ 24bit	18 bit	---	---	18bit	24 bit
DVI/HDMI				---	---	---	DVI	---	E-Paper
MIPI-DSI			1x 2 lane	---	1x 4 lanes 1080p60	1x 4 lanes 1080p60	1x 4 lanes	1x 4 lanes	1x 4 lanes 1080p60
Camera				---	MIPI-CSI	MIPI-CSI	2x MIPI-CSI	MIPI-CSI/ parallel	MIPI-CSI

x available [ ] optional * on request ** with restrictions low power products

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