

NXP i.MXシリーズSoCを使用したVarisciteのSOM一覧表

2022年9月現在

SOM 製品名	DART-MX8M	DART-MX8M-PLUS	DART-MX8M-MINI	DART-6UL	DART-MX6	SPEAR-MX8	VAR-SOM-MX8	VAR-SOM-MX8M-PLUS	VAR-SOM-MX8M-MINI	VAR-SOM-MX8M-NANO	VAR-SOM-MX8X	VAR-SOM-SOLO/DUAL	VAR-SOM-MX7	VAR-SOM-6UL	VAR-SOM-MX6
キャリアボード	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
評価キット	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
CPU															
CPU名	NXP i.MX 8M	NXP i.MX 8M Plus	NXP i.MX8M Mini	NXP/Freescale i.MX6 UltraLite/i.MX 6ULL/i.MX 6ULZ	NXP/Freescale i.MX6 Cortex™-A7	NXP i.MX8 : 8QuadMax/8QuadPlus	NXP i.MX 8QuadMax/8QuadPlus	NXP i.MX 8M Plus	NXP i.MX8M Mini	NXP i.MX8M Nano	NXP i.MX 8X	NXP/Freescale i.MX6	NXP/Freescale i.MX7	NXP i.MX6 UltraLite/i.MX 6ULL/i.MX 6ULZ	NXP/Freescale i.MX6
CPUタイプ	Cortex™-A53	Cortex™-A53	Cortex™-A53	Cortex™-A7	Cortex™-A9 MPCore™	2x Cortex™-A72 + 4x Cortex™-A53	2x Cortex™-A72 + 4x Cortex™-A53	Cortex™-A53	Cortex™-A53	Cortex™-A53	4x Cortex-A35	Cortex™-A9 MPCore™	Cortex™-A7	Cortex™-A7	Cortex™-A9 MPCore™
CPUコア数	4 Cores	4 Cores	4 Cores	1 Core	2-4 Cores	5-6 Cores	5-6 Cores	4 Cores	4 Cores	1-4 Cores	4 Cores	1-2 Cores	2 Cores	1 Core	1-4 Cores
最大CPUクロック	1.5 GHz	Up to 1.8GHz	Up to 1.8GHz	900 MHz	800 MHz	1.6 GHz Cortex™-A72, 1.2 GHz Cortex™-A53	1.6 GHz Cortex™-A72, 1.2 GHz Cortex™-A53	Up to 1.8GHz	Up to 1.8GHz	Up to 1.5GHz	1.2 GHz Cortex™-A35	1 GHz	1 GHz	900 MHz	1.2 GHz
DMIPS (整数演算性能)	Up to 13,800	Up to 16,560	Up to 16,560	Up to 1,710	Up to 8,000	Up to 28,650	Up to 28,650	Up to 16,560	Up to 16,560	Up to 13,800	Up to 8,540	Up to 5,000	Up to 3,800	Up to 1,710	Up to 12,000
実時間コプロセッサ	266MHz Cortex™-M4	800MHz Cortex™-M7	400MHz Cortex™-M4			2x 266 MHz Cortex™-M4F	2x 266MHz Cortex™-M4F	800MHz Cortex™-M7	400MHz Cortex™-M4	650MHz Cortex™-M7	264MHz Cortex™-M4F		1x 200MHz Cortex™-M4		
メモリ															
RAM	1 - 4 GB LPDDR4	1 - 8 GB LPDDR4	1 - 4 GB LPDDR4	128 - 1024 MB DDR3L	1024 - 2048 MB LPDDR2	2 - 8 GB LPDDR4	2 - 8 GB LPDDR4	1 - 8 GB LPDDR4	1 - 4 GB DDR4	512MB - 2GB DDR4	1 - 4 GB LPDDR4	256 - 1024 MB DDR3	256 - 2048 MB DDR3L	128 - 1024 MB DDR3L	256 - 4096 MB DDR3
SLC NAND				128 - 512 MB					256 - 512 MB	256 - 512 MB		128 - 512 MB SLC NAND	128 - 512 MB	128 - 512 MB	128 - 1024 MB SLC NAND
eMMC	8 - 64 GB	8 - 64 GB	8 - 64 GB	8 - 64 GB	8 - 64 GB	8 - 64 GB	8 - 64 GB	8 - 64 GB	8 - 64 GB	8 - 64 GB	8 - 64 GB	8 - 64 GB	8 - 64 GB	8 - 64 GB	8 - 64 GB
マルチメディア															
2D/3D グラフィクスアクセラレーション	Vivante GC7000Lite	GC7000UL/GC520L	Vivante GC320/GC NanoUltra	2D pixel acceleration engine (PxP)	Vivante™ GC2000 Accelerated 2D and 3D	2x Vivante GC7000VX	2x Vivante GC7000VX	GC7000UL/GC520L	Vivante GC320/GC NanoUltra	Vivante GC7000UL	Vivante GC7000Lite	Vivante GC 880 + Vivante GC 320	2D pixel acceleration engine (PxP)	2D pixel acceleration engine (PxP)	Vivante™ GC2000 Accelerated 2D and 3D (note: in QuadPlus 50% enhanced performance)
ビデオエンコード/デコード	Decode plus HDR : 4K H.265/H.264/VP9	Decode : 1080p60 H.265/ H.264/VP9/VP8 Encode : 1080p60 H.265/H.264	Decode : 1080p60 H.265/ H.264/VP9 Encode : 1080p60 H.264/ VP8		Decode : 1080p60 H.264 Encode : 1080p30 H.264	Decode : 4K H.265/H.264 Encode : 1080p60 h.264	Decode : 4K H.265/H.264 Encode : 1080p60 H.264	Decode : 1080p60 H.265/ H.264/VP9/VP8 Encode : 1080p60 H.265/ H.264	Decode : 1080p60 H.265/ H.264/VP9 Encode : 1080p60 H.264/ VP8		Decode : 4K H.265 Encode/Decode : 1080p H.264	Decode : 1080p30 H.264 Encode : 1080p30 H.264			Decode : 1080p60 H.264 Encode : 1080p30 H.264
カメラ インターフェイス	2x MIPI-CSI2	2x MIPI CSI2	MIPI-CSI2	1x 24bit CPI	1x CSI, 1x CPI	2x MIPI-CSI2	MIPI-CSI2	2x MIPI CSI2	MIPI-CSI2	MIPI-CSI2	1x MIPI-CSI2, 1x parallel CSI 8/10-bit	1x CSI, 1x CPI	1x 24bit CPI, Dual lane MIPI	1x 24bit CPI	1x CSI, 2x CPI
ディスプレイ															
HDMI	V2.0a up to 4Kp60	V2.0a up to 4Kp30			v1.4 1920 x 1080	V2.0a up to 4Kp60	V2.0a up to 4Kp60	V2.0a up to 4Kp30				v1.4 1920 x 1080			v1.4 1920 x 1080
パラレルRGB				1366 x 768 24-bit							Parallel LCD up to 720p60 24-bit		1920 x 1080 24-bit	1366 x 768 24-bit	
LVDS	Dual 1920x1080 24-bit	Dual 1920x1080 24-bit	Dual 1920x1080 24-bit		Dual 1920 x 1200 24-bit	Dual 1920x1080 24-bit	Dual 1920x1080 24-bit	Dual 1920x1080 24-bit	Dual 1920x1080 24-bit	Dual Flatlink 1920x1080 24-bit	Dual 1920x1080 24-bit	Dual 1366 x 768 24-bit		1366 x 768 18-bit	Dual 1920 x 1200 24-bit
DSI	MIPI-DSI 1920x1080 24-bit	MIPI-DSI 1920x1080 24-bit	MIPI-DSI 1920x1080 24-bit		MIPI-DSI 1280 x 720 24-bit	MIPI-DSI 1920x1080 24-bit	MIPI-DSI 1920x1080 24-bit	MIPI-DSI 1920x1080 24-bit	MIPI-DSI 1920x1080 24-bit	MIPI-DSI 1920x1080 24-bit	MIPI-DSI 1920x1200 24-bit	MIPI-DSI 1280 x 720 24-bit	MIPI-DSI 1400 x 1050 24-bit		MIPI-DSI 1280 x 720 24-bit
タッチコントローラ	Capacitive	Capacitive	Capacitive	Resistive, Capacitive	Capacitive	Capacitive	Resistive, Capacitive	Resistive, Capacitive	Resistive, Capacitive	Resistive, Capacitive	Resistive, Capacitive	Resistive, Capacitive	Resistive, Capacitive	Resistive, Capacitive	Resistive, Capacitive
その他	eDP1.4/DP1.3 up to 4Kp60					eDP1.4/DP1.3 up to 4Kp60	eDP1.4/DP1.3 up to 4Kp60						EPDC		
ネットワーク															
Ethernet	10/100/1000 Mbps	2x 10/100/1000 Mbps (1x Ethernet with TSN support)	10/100/1000 Mbps	2x 10/100 Mbps	10/100/1000 Mbps RGMII	2x 10/100/1000 Mbps	2x 10/100/1000 Mbps	2x 10/100/1000 Mbps (1x Ethernet with TSN support)	10/100/1000 Mbps	10/100/1000 Mbps	2x 10/100/1000 Mbps	10/100/1000 Mbps	2x 10/100/1000 Mbps	2x 10/100 Mbps	10/100/1000 Mbps
Wi-Fi	Certified dual-band 802.11 ac/a/b/g/n	Certified single-band 802.11 b/g/n or dual-band 802.11 ac/a/b/g/n	Certified dual-band 802.11 ac/a/b/g/n	DART-6UL: Certified 802.11 b/g/n, DART-6UL-5G: Certified 802.11 ac/a/b/g/n	Certified 802.11 a/b/g/n + MIMO	Certified 802.11 ac/a/b/g/n	Certified 802.11 ac/a/b/g/n	Certified single-band 802.11 b/g/n or dual-band 802.11 ac/a/b/g/n	Certified single band 802.11 b/g/n or dual-band 802.11 ac/a/b/g/n	Certified single-band 802.11 b/g/n or dual-band 802.11 ac/a/b/g/n	Certified 802.11 ac/a/b/g/n	Certified 802.11 a/b/g/n + MIMO	VAR-SOM-MX7: Certified 802.11 b/g/n, VAR-SOM-MX7-5G: Certified 802.11 ac/a/b/g/n	Certified single 802.11 b/g/n or dual-band Wi-Fi 802.11 ac/a/b/g/n	Certified 802.11 a/b/g/n + MIMO
Bluetooth	BT/BLE 5.2	BT/BLE 5.2	BT/BLE 5.2	BT/BLE 5.2	5.1 + CSA2	BT/BLE 5.2	BT/BLE 5.2	BT/BLE 5.2	BT/BLE 5.2	BT/BLE 5.2	BT/BLE 5.2	5.1 + CSA2	BT/BLE 5.2	BT/BLE 5.2	5.1 + CSA2
オーディオ															
ヘッドフォンドライバ	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
マイク入力	Digital, Analog (stereo)	Digital, Analog (stereo)	Digital, Analog (stereo)	Analog	Digital	Digital, Analog (stereo)	Digital, Analog (stereo)	Digital, Analog (stereo)	Digital, Analog (stereo)	Digital, Analog (stereo)	Digital, Analog (stereo)	Digital	Analog	Analog	Digital
デジタルオーディオシリアル I/F	I2S(SAI), S/PDIF	6 x I2S(SAI), S/PDIF RX TX, PDM 8CH	5 x I2S(SAI), S/PDIF, PDM	SSI(AUDMUX), S/PDIF	S/PDIF	I2S(SAI), S/PDIF	I2S(SAI)	6 x I2S(SAI), S/PDIF RX TX, PDM 8CH	5 x I2S(SAI), S/PDIF, PDM 4CH	5 x I2S(SAI), S/PDIF, PDM 8CH	ESAI/4x I2S(SAI), S/PDIF	S/PDIF	SAI/MQS	SSI(AUDMUX), S/PDIF	S/PDIF
ライン入出力	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
接続性															
SD/MMC	x1	x1	x1	x1	x1	x1	x1	x1	x1	x1	x1	x1	x1	x1	x1
USB Host/Device	USB 3.0/2.0: 2x OTG	USB 3.0/2.0 2x OTG	USB2.0: 2x OTG	USB 2.0 : 1x Host, 1x OTG	USB 2.0 : 1x Host, 1x OTG	USB 3.0: 1x OTG, USB 2.0: 1x OTG, 1x Host plus HSIIC port	USB 3.0/2.0: 1x OTG, USB 2.0: 1x Host	USB 3.0/2.0 2x OTG	USB2.0: 2x OTG	USB2.0: 1x OTG	USB 3.0/2.0: 1x OTG, USB 2.0: 1x Host/Device	USB 2.0 : 1x Host, 1x OTG	USB 2.0 : 1x Host, 1x OTG	USB 2.0 : 1x Host, 1x OTG	USB 2.0 : 1x Host, 1x OTG
S-ATA						S-ATA 3									SATA 2
UART	x4, up to 4 Mbps	x4, up to 5 Mbps	x4, up to 4 Mbps	x8, up to 5 Mbps	x5, up to 5 Mbps	x5, up to 4 Mbps	x5, up to 4 Mbps	x4, up to 5 Mbps	x4, up to 4 Mbps	x4, up to 4 Mbps	x6, up to 4 Mbps	x5, up to 5 Mbps	x7, up to 4 Mbps	x8, up to 5 Mbps	x5, up to 5 Mbps
I2C	x3	x5	x3	x4	x3	x4	x4	x5	x3	x4	x6	x3	x4	x4	x3
SPI	x3	x3	x3	x4	x4	x4	x4	x3	x3	x3	x4	x3	x4	x4	x3
CAN バス		x2 CAN/CAN-FD (Flexible Data-Rate)		x2	x2	3x CAN/CAN-FD (Flexible Data-Rate)	2x CAN/CAN-FD (Flexible Data-Rate)	x2 CAN/CAN-FD (Flexible Data-Rate)	CAN/CAN-FD (Flexible Data-Rate)	CAN/CAN-FD (Flexible Data-Rate)	3 x CAN/CAN-FD (Flexible Data-Rate)	x2	x2	x2	x2
ADコンバータ				12-bit 2 x 10 channel							6 x 12bit			12-bit 2 x 10 channel	
実時間クロック (RTC)	On carrier	On carrier	On carrier	On carrier	On carrier	On carrier	On carrier	On carrier	On carrier	On carrier	On carrier	On carrier	On carrier	On carrier	On carrier
PCI-Express	2 x Gen 2.0	Gen 3.0	Gen 2.0		Gen 2.0	2x Gen 3.0	Gen 3.0	Gen 3.0	Gen 2.0		Gen 3.0	Gen 2.0	Gen 2.0		Gen 2.0
OS サポート															
Linux	Yocto, Debian, Boot2Qt	Yocto, Debian, Boot2Qt	Yocto, Debian, Boot2Qt	Yocto, Debian, Boot2Qt	Yocto, Debian, Boot2Qt	Yocto, Debian, Boot2Qt	Yocto, Debian, Boot2Qt	Yocto, Debian, Boot2Qt	Yocto, Debian, Boot2Qt	Yocto, Debian, Boot2Qt	Yocto, Debian, Boot2Qt	Yocto, Debian, Boot2Qt	Yocto, Debian, Boot2Qt	Yocto, Debian, Boot2Qt	Yocto, Debian, Boot2Qt
Android	Yes	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A	Yes
機械的仕様															
寸法 (W x L)	55.0 x 30.0 mm	55.0 x 30.0 mm	55.0 x 30.0 mm	50.0 x 25.0 mm	50.0 x 20.0 mm	68.0 x 55.0 mm	67.6 x 51.6 mm	67.8 x 33mm	67.8 x 33.0 mm	67.8 x 33.0 mm	67.6 x 51.6 mm	67.8 x 33.0 mm	67.8 x 38.6 mm	67.6 x 33.0 mm	67.8 x 51.5 mm
電氣的仕様															
供給電源電圧	3.4 - 4.5 V	3.4V- 5V	3.5 - 5 V	3.3 V	3.7 V	3.4 - 4.5 V	3.3 V	3.3V	3.3 V	3.3 V	3.3 V	3.3 V	3.3 V	3.3 V	3.3 V
Digital I/O voltage	3.3 V	3.3V/1.8V	3.3 V/1.8V	3.3 V	3.3 V	3.3 V	3.3 V	3.3V	3.3 V	3.3 V	3.3 V	3.3 V	3.3 V	3.3 V	3.3 V
動作温度範囲															
民生用	0 to 70° C	0 to 70° C	0 to 70° C	0 to 70° C	0 to 70° C			0 to 70° C	0 to 70° C	0 to 70° C		0 to 70° C	0 to 70° C	0 to 70° C	0 to 70° C
拡張温度範囲		-25 to 85° C	-25 to 85° C		-20 to 85° C	-25 to 85° C	-25 to 85° C	-25 to 85° C	0 to 85° C	0 to 85° C	-25 to 85° C	-20 to 70° C			-20 to 70° C
産業用	-40 to 85° C	-40 to 85° C	-40 to 85° C	-40 to 85° C	-40 to 85° C	-40 to 85° C	-40 to 85° C	-40 to 85° C	-40 to 85° C	-40 to 85° C	-40 to 85° C	-40 to 85° C	-40 to 85° C	-40 to 85° C	-40 to 85° C
供給性															
供給保証年	2033年	2036年	2034年	2031年	2027年	2034年	2034年	2036年	2034年	2034年	2035年	2035年	2026年	2031年	2035年