

NXPのSoCを使用したVarisciteのSOM一覧表

2019年11月

SOM名	DART-6UL	DART-MX6	DART-MX8M-MINI	DART-MX8M	VAR-SOM-6UL	VAR-SOM-MX6	VAR-SOM-SOLO/DUAL	VAR-SOM-MX7	VAR-SOM-MX8	VAR-SOM-MX8X	SPEAR-MX8
キャリアボード	○	○	○	○	○	○	○	○	○	○	○
開発キット	○	○	○	○	○	○	○	○	○	○	○
CPU											
CPU名	NXP/Freescale i.MX6 UltraLite/ i.MX 6ULL/ i.MX 6ULZ	NXP/Freescale i.MX6	NXP i.MX8M Mini	NXP i.MX 8M	NXP i.MX6 UltraLite/ i.MX 6ULL/ i.MX 6ULZ	NXP/Freescale i.MX6	NXP/Freescale i.MX6	NXP/Freescale i.MX7	NXP iMX 8QuadMax/ 8QuadPlus	NXP iMX 8X	NXP i.MX8 : 8QuadMax/ 8QuadPlus
CPUタイプ	Cortex™-A7	Cortex™-A9	Cortex™-A53	Cortex™-A53	Cortex™-A7	Cortex™-A9	Cortex™-A9	Cortex™-A7	2x Cortex™-A72 + 4x Cortex™-A53	4x Cortex-A35	2x Cortex™-A72 + 4x Cortex™-A53
CPUコア数	1 Core	2-4 Cores	4 Cores	4 Cores	1 Core	1-4 Cores	1-2 Cores (2-4 cores supported by the VAR-SOM-MX6 V2 SoM)	2 Cores	4-6 Cores	4 Cores	4-6 Cores
最大CPUクロック	900MHz	800MHz	Up to 2GHz	1.5GHz	900MHz	1.2GHz	1GHz	1GHz	1.8GHz Cortex™-A72, 1.2GHz Cortex™-A53	1.2GHz Cortex™-A35	1.8GHz Cortex™-A72, 1.2GHz Cortex™-A53
DMIPS(整数演算)	Up to 1,710	Up to 8,000	Up to 18,400	Up to 13,800	Up to 1,710	Up to 12,000	Up to 5,000	Up to 3,800	Up to 28,650	Up to 8,540	Up to 28,650
実時間コプロセッサ			400MHz Cortex™-M4	266MHz Cortex™-M4				1x 200MHz Cortex™-M4	2x 266MHz Cortex™-M4F	264MHz Cortex™-M4F	2x 266 MHz Cortex™-M4F
メモリ											
RAM	128 - 1024MB DDR3L	1024 - 2048MB LPDDR2	1 - 4GB LPDDR4	1 - 4GB LPDDR4	128 - 1024MB DDR3L	256 - 4096MB DDR3	256 - 1024MB DDR3	256 - 2048MB DDR3L	2 - 8GB LPDDR4	1 - 4GB LPDDR4	2 - 8GB LPDDR4
SLC NAND	128 - 512MB				128 - 512MB	128 - 1024MB SLC NAND	128 - 512MB SLC NAND	128 - 512MB			
eMMC	4 - 64GB	4 - 64GB	8 - 64GB	4 - 64GB	4 - 64GB	4 - 64GB	4 - 64GB	8 - 64GB	4 - 64GB	4 - 64GB	4 - 64GB
マルチメディア											
2D/3Dグラフィックス	2D pixel acceleration engine (PxP)	Vivante™ GC2000 Accelerated 2D and 3D	Vivante GC320/GC Nano	Vivante GC7000Lite	2D pixel acceleration engine (PxP)	Vivante™ GC2000 Accelerated 2D and 3D (note: in QuadPlus 50% enhanced performance)	Vivante GC 880 + Vivante GC 320	2D pixel acceleration engine (PxP)	Vivante GC7000VX	Vivante GC7000Lite	Vivante GC7000VX
ビデオコーデック		1080p60 H.264 Decode, 1080p30 H.264 Encode	1080p60 H.265/H.264/VP9 Decode, 1080p60 H.264/VP8 Encode	4K H.265/H.264/VP9 Decode plus HDR		Up to 1080p60 H.264 Decode, 1080p30 H.264 Encode	1080p30 H.264 Decode, 1080p30 H.264 Encode		4K H.265/H.264 Decode, 1080p60 H.264 Encode	4K H.265 Decode, 1080p H.264 Encode/Decode	4K H.265/H.264 Decode, 1080p60 h.264 Encode
カメラ I/F	1x 24bit CPI	1x CSI, 1x CPI	MIPI-CSI2	2x MIPI-CSI2	1x 24bit CPI	1x CSI, 2x CPI	1x CSI, 1x CPI	1x 24bit CPI, Dual lane MIPI	MIPI-CSI2	1x MIPI-CSI2, 1x parallel CSI 8/10-bit	2x MIPI-CSI2
ディスプレイ											
HDMI		v1.4 1920 x 1080		V2.0a up to 4Kp60			v1.4 1920 x 1080	v1.4 1920 x 1080		V2.0a up to 4Kp60	V2.0a up to 4Kp60
パラレルRGB	1366 x 768 24-bit				1366 x 768 24-bit			1920 x 1080 24-bit		Parallel LCD up to 720p60 24-bit	
LVDS		Dual 1920 x 1200 24-bit	Dual 1920x1080 24-bit	Dual 1920x1080 24-bit	1366 x 768 18-bit	Dual 1920 x 1200 24-bit	Dual 1366 x 768 24-bit		Dual 1920x1080 24-bit	Dual 1920 x 1080 24-bit	Dual 1920x1080 24-bit
MIPI DSI		1280 x 720 24-bit	MIPI-DSI 1920 x 1080 24-bit	MIPI-DSI 1920x1080 24-bit		1280 x 720 24-bit	1280 x 720 24-bit	1400 x 1050 24-bit	MIPI-DSI 1920x1080 24-bit	MIPI-DSI 1920 x 1200 24-bit	MIPI-DSI 1920x1080 24-bit
タッチコントローラ	Resistive, Capacitive	Capacitive	Resistive, Capacitive	Resistive, Capacitive	Resistive, Capacitive (capacitive touch is natively supported through I2C in the base configuration)	Resistive, Capacitive (capacitive touch is natively supported through I2C in the base configuration)	Resistive, Capacitive (capacitive touch is natively supported through I2C in the base configuration)	Resistive, Capacitive (capacitive touch is natively supported through I2C in the base configuration)	Resistive, Capacitive (capacitive touch is natively supported through I2C in the base configuration)	Resistive, Capacitive (capacitive touch is natively supported through I2C in the base configuration)	Resistive, Capacitive
その他				eDP1.4/DPI.3 up to 4Kp60				EPDC	eDP1.4/DPI.3 up to 4Kp60		eDP1.4/DPI.3 up to 4Kp60
ネットワーク											
Ethernet	2x 10/100 Mbps	10/100/1000 Mbps RGMII	10/100/1000 Mbps	10/100/1000 Mbps	2x 10/100 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	2x 10/100/1000 Mbps	2x 10/100/1000 Mbps	2x 10/100/1000 Mbps	2x 10/100/1000 Mbps
Wi-Fi	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 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	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 802.11 ac/a/b/g/n	Certified 802.11 ac/a/b/g/n	Certified 802.11 ac/a/b/g/n
Bluetooth	4.2/ BLE	4.1 + CSA2 support/ BLE	4.2/ BLE	4.2/ BLE	4.2/ BLE	4.1 + CSA2 support/ BLE	4.1 + CSA2 support/ BLE	4.2/ BLE	4.2/ BLE	4.2/ BLE	4.2/ BLE
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
マイク入力	Analog	Digital	Digital, Analog (stereo)	Digital, Analog (stereo)	Analog	Digital	Digital	Analog	Digital, Analog (stereo)	Digital, Analog (stereo)	Digital, Analog (stereo)
デジタルオーディオ	SSI(AUDMUX)/ SPDIF	S/PDIF	5 x I2S(SAI)/ SPDIF, PDM	I2S(SAI)/ SPDIF	SSI(AUDMUX)/ SPDIF	S/PDIF	S/PDIF	SAI/MQS	I2S(SAI)	ESAI/4x I2S(SAI)/ SPDIF	I2S(SAI)/ SPDIF
ライン入出力		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
USB	USB 2.0 : 1x Host, 1x OTG	USB 2.0 : 1x Host, 1x OTG	USB2.0: 2x OTG	USB 3.0/2.0: 2x OTG	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	USB 3.0/2.0: 1x OTG, USB 2.0: 1x Host	USB 3.0/2.0: 1x OTG, USB 2.0: 1x Host/ Device	USB 3.0: 1x OTG, USB 2.0: 1x OTG, 1x Host plus HSIC port
S-ATA						SATA 2					S-ATA 3
UART	x8, up to 5Mbps	x5, up to 5Mbps	x4, up to 4Mbps	x4, up to 4 Mbps	x8, up to 5Mbps	x5, up to 5Mbps	x5, up to 5Mbps	x7, up to 4Mbps	x5, up to 4Mbps	x6, up to 4Mbps	x5, up to 4Mbps
I2C	x4	x3	x3	x3	x4	x3	x3	x4	x4	x6	x4
SPI	x4	x4	x3	x3	x4	x3	x3	x4	x4	x4	x4
CANバス	x2	x2			x2	x2	x2	x2	2x CAN/ CAN-FD (Flexible Data-	3 x CAN/ CAN-FD (Flexible Data-	3x CAN/ CAN-FD (Flexible Data-
ADコンバータ	12-bit 2 x 10 channel				12-bit 2 x 10 channel					6 x 12bit	
RTC	On carrier	On carrier	On carrier	On carrier	On carrier	On carrier	On carrier	On carrier	On carrier	On carrier	On carrier
PCI-Express		Gen 2.0	Gen 2.0	2 x Gen 2.0		Gen 2.0	Gen 2.0	Gen 2.0	Gen 3.0	Gen 3.0	2x Gen 3.0
OS											
Linux	Yocto	Yocto, Ubuntu	Yocto	Yocto	Yocto	Yocto, Ubuntu	Yocto, Ubuntu	Yocto	Yocto	Yocto	Yocto
Android	N/A	Yes	Yes	Yes	N/A	Yes	Yes	N/A	Coming soon	Yes	Coming soon
物理仕様											
基板寸法(W x L)	50.0 x 25.0 mm	50.0 x 20.0 mm	55.0 x 30.0 mm	55.0 x 30.0 mm	67.6 x 33.0 mm	67.8 x 51.5 mm	67.8 x 33.0 mm	67.8 x 38.6 mm	67.6 x 51.6 mm	67.6 x 51.6 mm	68.0 x 55.0 mm
電圧仕様											
電源電圧	3.3 V	3.7 V	3.5 - 5 V	3.4 - 4.5 V	3.3 V	3.3 V	3.3 V	3.3 V	3.3 V	3.3 V	3.4 - 4.5 V
デジタルI/O電圧	3.3 V	3.3 V	3.3 V/1.8V	3.3 V	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											
民生用途	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
拡張仕様		-20 to 85° C				-20 to 70° C	-20 to 70° C	-20 to 70° C	-20 to 85° C	-20 to 85° C	-20 to 85° C
産業用途	-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

