



Available
In
H2/2021

Module
**VisionSOM-
RT**
**VisionSOM-
6ULL**
**VisionSOM-
STM32MPI**
**VisionSOM-
8MMini**
**SpaceSOM-
8MPlus**
MEMORY Configuration

RAM	32MB SDRAM (16bit)	128...512MB DDR3L (16bit)	128...512MB DDR3L (16bit)	1...8GB LPDDR4 (32bit)	2...8GB LPDDR4 (32bit)
FLASH (eMMC)	4..16GB	4...16GB	4...16GB	8...32GB	8...32GB
FLASH (NAND)	-	128...512MB	-	-	-
FLASH (QSPI)	4...16MB	-	-	-	-
Recommended SOM Configuration	MCU: I.MXRT1052/62 SRAM: 32MB QSP: 16MB	MPU: I.MX6ULL DDR3L:512MB Flash: 4GB eMMC	MPU: STM32MP157 DDR3L: 512MB Flash: 4GB eMMC	MPU: I.MX8MM Quad LPDDR4: 1 or 2 GB Flash: 8GB	TBD

SOM DETAILS

SOM Footprint	SODIMM200	SODIMM200	SODIMM200	SODIMM200	SODIMM260
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Module	VisionSOM-RT	VisionSOM-6ULL	VisionSOM-STM32MPI	VisionSOM-8MMini	SpaceSOM-8MPlus
Carrier Board	VisionCB-RT-STD	VisionCB-6ULL-STD VisionCB-6ULL-IND	VisionCB-STM32MP1-STD	VisionCB-8M-STD	TBD
Development Tool	VisionSTK-RT VisionDK-RT	VisionSTK-6ULL VisionDK-6ULL	VisionSTK-STM32MP1 VisionDK-STM32MP1	VisionSTK-8Mmini VisionDK-8Mmini	TBD
Longevity	2032	2031	2030	2034	TBD
Availability	In Production	In Production	In Production	In Production	H2/2021
Prices	From 23 USD	From 33 USD	From 37 USD	From 63 USD	TBD
SOM & CB Accessories					
RGB LCD	SL-TFT7-TP-800-480-P	SL-TFT7-TP-800-480-P	SL-TFT7-TP-800-480-P	-	-
MIPI LCD	-	-	SL-TFT7-TP-720-1280-MIPI	SL-TFT7-TP-720-1280-MIPI	SL-TFT7-TP-720-1280-MIPI
MIPI to LVDS/HDMI Converter	-	-	SL-MIPI-LVDS-HDMI-CNV	SL-MIPI-LVDS-HDMI-CNV	TBD
Camera Module	-	-	SL-MIPI-CSI-OV5640	SL-MIPI-CSI-OV5640	TBD
M.2 Adapter Module	-	-	-	SL-ADP-PCIe-M2	TBD
CPU DETAILS					
CPU Name	I.MX RT 1052 I.MX RT 1062	I.MX 6 ULL	STM32MP157 STM32MP151	I.MX 8 M Mini	i.MX 8M Plus
CPU Type	-	1x Arm Cortex A7	2x Arm Cortex A7	4x Arm Cortex A53	4x Arm Cortex A53
CPU Clock	-	900 MHz	650 MHz	1.8GHz	1.8GHz
MCU	Cortex-M7 (650 MHz)	-	Cortex-M4 (209 MHz)	Cortex-M4 (400 MHz)	Cortex-M7 (800 MHz)
CPU Clock (max.)	-	900 MHz	650 MHz	1.8GHz	1.8GHz

Module	VisionSOM-RT	VisionSOM-6ULL	VisionSOM-STM32MPI	VisionSOM-8MMini	SpaceSOM-8MPlus
Machine Learning Neural Processing	-	-	-	-	NN Accelerator 2.3TOPS
Process Technology	40nm	40nm	40nm	14nm	14nm
CONNECTIVITY					
Ethernet	2x 10/100 Ethernet with IEEE 1588	2x 10/100 Ethernet with IEEE 1588	1x 1Gb Ethernet (IEEE 1588)	1x Gb Ethernet (AVB & 1588)	1x Gb Ethernet 1x GBEthernet (AVB 1588)
USB 2.0	2x	2x	2x	2x	-
USB 3.0	-	-	-	-	2x
Bluetooth	-	4.2	4.2	4.2	4.2
Wi-Fi	-	802.11 b/g/n	802.11 b/g/n	802.11 b/g/n	802.11 b/g/n
PCIe	-	-	-	1x PCIe Gen 2	1xPCIe Gen3
I2C	4x	4x	6x	4x	5x
SPI	4x	4x	6x	3x	3x
UART	8x	8x	8x	4x	4x
PWM	4x	4x	2x	4x	4x
CAN	3x	2x	2x	-	2x
SDIO	2x	2x	3x	3x	3x
SECURITY					
eFuses	+	+	+	+	+

Module	VisionSOM-RT	VisionSOM-6ULL	VisionSOM-STM32MPI	VisionSOM-8MMini	SpaceSOM-8MPlus
TrustZone	-	-	+	+	+
Cryptography	AES128, SHA1/256	AES 128 (no DES)	AES256, SHA-1, SHA256 DES/TDES	AES256, HA256, DES/3DES	AES256, SHA256, DES/3DES
MULTIMEDIA					
GPU	-	-	Vivante OpenGL ES 2.0	Vivante GC NanoUltra, OpenGL ES 2.0	Vivante GC 7000UL, OpenGL ES 3.0 Vulkan
LCD Resolution	1366x768	1366x768	1366 × 768	1920x1080	1920x1080
RGB (Display)	+	+	+	-	-
MIPI (Display)	-	-	+	+	+
LVDS (Display)	-	-	Via Adapter	Via Adapter	+
HDMI (Display)	-	-	Via Adapter	Via Adapter	+
Camera Interface	16bit Parallel CSI	16bit Parallel CSI	14 bit Parallel CSI	MIPI-CSI (4 Lane)	2x MIPI-CSI (4 Lane)
Video Decoder	-	-	-	1080p60 HEVC, H.264, VP9, VP8	1080p60 H.265, H.264, VP9, VP8
Video Encoder	-	-	-	1080p60 H.264, VP8	1080p60 H.265, H.264
Audio Digital Interfaces	ESAI, 3x I2S/SAI, S/PDIF Tx/Rx	ESAI, 3x I2S/SAI, S/PDIF Tx/Rx	3x I2S, 4xSAI, S/PDIF Tx/Rx	20x I2S TDM (32b @384KHz), ASRC	20x I2S TDM (32b @384KHz), ASRC
Digital Microphone Interfaces	-	-	8xPDM	8xPDM	8xPDM
OPERATION SYSTEMS					
Android	-	-	-	+	+
Linux	-	+	+	+	+

Module	VisionSOM-RT	VisionSOM-6ULL	VisionSOM-STM32MPI	VisionSOM-8MMini	SpaceSOM-8MPlus
FreeRTOS	+	+	+	+	+
Windows	-	-	-	-	-

ELECTRICAL SPECIFICATION

Input Voltage	5V DC	5V DC	5V DC	5V DC	5V DC
GPIO	3.3V	3.3V	3.3V	1.8/3.3V	1.8/3.3V
Power Consumption	Depending on CPU Configuration	Depending on CPU Configuration	Depending on CPU Configuration	Depending on CPU Configuration	Depending on CPU Configuration

MECHANICAL & OTHERS

SOM Size	67mm x 32mm	67mm x 32mm	67mm x 32mm	67mm x 32mm	TBD
Temperature	Commercial: 0-70°C Extended: -25-70°C Industrial: -40-85°C	Commercial: 0-70°C Extended: -25-70°C Industrial: -40-85°C	Commercial: 0-70°C Extended: -25-70°C Industrial: -40-85°C	Commercial: 0-70°C Extended: -25-70°C Industrial: -40-85°C	Commercial: 0-70°C Extended: -25-70°C Industrial: -40-85°C
Weight	10g	12g	12g	13g	13g
Humidity	10% to 90% (operation)	10% to 90% (operation)	10% to 90% (operation)	10% to 90% (operation)	10% to 90% (operation)
MTTF	>200 000 Hours	>200 000 Hours	>200 000 Hours	>200 000 Hours	>200 000 Hours
Certification	ROHS/REACH	ROHS/REACH	ROHS/REACH	ROHS/REACH	ROHS/REACH
Altium Designer Library	+	+	+	+	+
Reference Design Files for Carrier Board	+	+	+	+	+



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