

ASMC-IMX8

NXP i.MX8M mini ARM Cortex-A53&Cortex M4,MIPI-DSI/MIPI-CSI/LVDS, LPDDR4,eMMC Flash, 3UART/4USB/1LAN



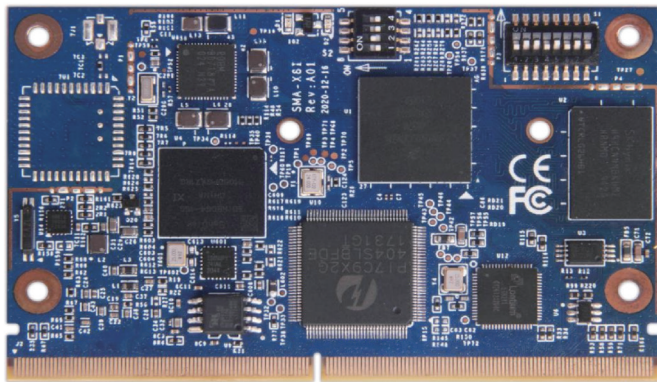
Fanless



Wide Temp.



ESG

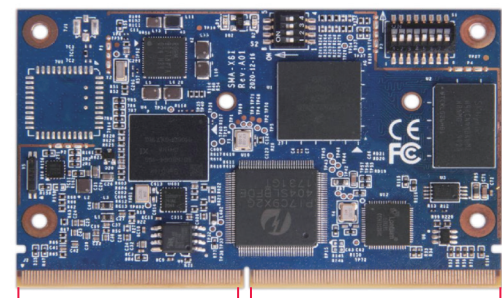


Key Features

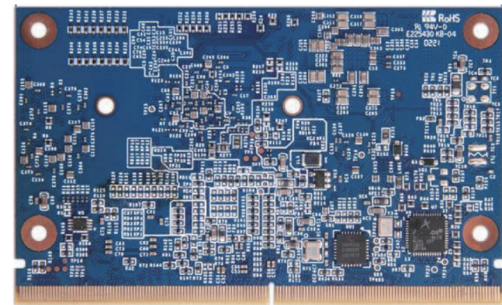
- Compliant with SMARC™ 2.1
- NXP i.MX8M mini chipset (Quad ARM Cortex-A53 & Cortex M4)
- 2GB LPDDR4, 32GB eMMC on board
- Rich peripheral I/O support
- Wide-range operating temperature Commercial field:0~ 85°C Industrial field: -40~85°C
- Validated with Android 10 & Yocto Sumo 2.5

Product Specification

System Processor/Chipset	
Chipset	NXP i.MX8M mini
Processor	
OS	Android 10 & Yocto Sumo 2.5
CPU	Quad ARM Cortex-A53 up to 1.8GHz & Cortex M4 up to 400MHz
GPU	GC2000
LPDDR4	2GB(1-4G Optional)
eMMC Flash	32GB(16-128G Optional)
SMARC 2.1	
Ethernet	1 xRGMII
PCIe	3 x PCIe (PCIe Switch)
USB2.0	4
USB OTG	1
MIPI CSI	1(4 lane)
LVDS	1(Dual Channel LVDS)
LVDS Backlight	1
I2S	2
MIPI DSI	1(multiplex with LVDS)
GPIO	12
SDIO	1
UART	3
SPI	2
I2C	3
Power	5V/3A
Environment	
Operating temperature	Commercial field:0~ 85°C Industrial field : -40~85°C
Relative humidity	5~95 %
Dimensions	82 x 50 mm

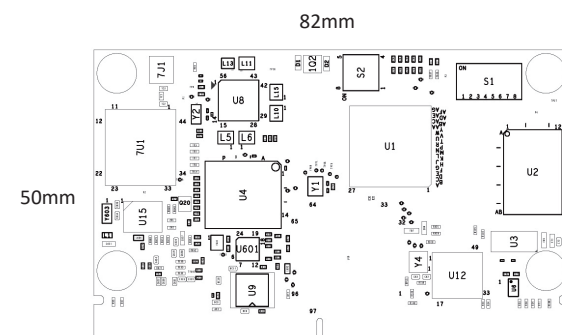


P1 P74 P75 P156



S158 S76 S75 S1

Dimensions



Ordering Information

Part Number	Description
ASMC-IMX8-MINO-L000-0000	SMARC Module, NXP i.MX8M Mini Processor,2G LPDDR4,32G eMMC,0~ 85°C
ASMC-IMX8-MINO-LT00-0000	SMARC Module, NXP i.MX8M Mini Processor,2G LPDDR4,32G eMMC,-40~85°C

*All specifications and photos are subject to change without prior notice

MODULE PIN-OUT MAP			
P1	SMB_ALERT#	S1	CSI1_TX+ / I2C_CAM1_CK
P2	GND	S2	CSI1_TX- / I2C_CAM1_DAT
P3	CSI1_CK+	S3	GND
P4	CSI1_CK-	S4	RSVD
P5	GBE1_SDP	S5	I2C_CAM0_CK / CSI0_TX+
P6	GBE0_SDP	S6	CAM_MCK
P7	CSI1_RX0+	S7	I2C_CAM0_DAT / CSI0_TX-
P8	CSI1_RX0-	S8	CSI0_CK+
P9	GND	S9	CSI0_CK-
P10	CSI1_RX1+	S10	GND
P11	CSI1_RX1-	S11	CSI0_RX0+
P12	GND	S12	CSI0_RX0-
P13	CSI1_RX2+	S13	GND
P14	CSI1_RX2-	S14	CSI0_RX1+
P15	GND	S15	CSI0_RX1-
P16	CSI1_RX3+	S16	GND
P17	CSI1_RX3-	S17	GBE1_MDI0+
P18	GND	S18	GBE1_MDI0-
P19	GBE0_MDI3-	S19	GBE1_LINK100#
P20	GBE0_MDI3+	S20	GBE1_MDI1+
P21	GBE0_LINK100#	S21	GBE1_MDI1-
P22	GBE0_LINK1000#	S22	GBE1_LINK1000#
P23	GBE0_MDI2-	S23	GBE1_MDI2+
P24	GBE0_MDI2+	S24	GBE1_MDI2-
P25	GBE0_LINK_ACT#	S25	GND
P26	GBE0_MDI1-	S26	GBE1_MDI3+
P27	GBE0_MDI1+	S27	GBE1_MDI3-
P28	GBE0_CTREF	S28	GBE1_CTREF
P29	GBE0_MDI0-	S29	PCIE_D_TX+ / SERDES_0_TX+
P30	GBE0_MDI0+	S30	PCIE_D_TX- / SERDES_0_TX-
P31	SPI0_CS1#	S31	GBE1_LINK_ACT#
P32	GND	S32	PCIE_D_RX+ / SERDES_0_RX+
P33	SDIO_WP	S33	PCIE_D_RX- / SERDES_0_RX-
P34	SDIO_CMD	S34	GND
P35	SDIO_CD#	S35	USB4+
P36	SDIO_CK	S36	USB4-
P37	SDIO_PWR_EN	S37	USB3_VBUS_DET
P38	GND	S38	AUDIO_MCK
P39	SDIO_D0	S39	I2S0_LRCK
P40	SDIO_D1	S40	I2S0_SDOUT
P41	SDIO_D2	S41	I2S0_SDIN
P42	SDIO_D3	S42	I2S0_CK
P43	SPI0_CS0#	S43	ESPI_ALERT0#
P44	SPI0_CK	S44	ESPI_ALERT1#
P45	SPI0_DIN	S45	MDIO_CLK
P46	SPI0_DO	S46	MDIO_DAT
P47	GND	S47	GND
P48	SATA_TX+	S48	I2C_GP_CK
P49	SATA_TX-	S49	I2C_GP_DAT
P50	GND	S50	I2S2_LRCK / HDA_SYNC
P51	SATA_RX+	S51	I2S2_SDOUT / HDA_SDO
P52	SATA_RX-	S52	I2S2_SDIN / HDA_SDI
P53	GND	S53	I2S2_CK / HDA_CK
P54	SPI1_CS0# / ESPI_CS0# / QSPI_CS0#	S54	SATA_ACT#
P55	SPI1_CS1# / ESPI_CS1# / QSPI_CS1#	S55	USB5_EN_OC#
P56	SPI1_CK / ESPI_CK / QSPI_CK	S56	ESPI_IO_2 / QSPI_IO_2
P57	SPI1_DIN / ESPI_IO_1 / QSPI_IO_1	S57	ESPI_IO_3 / QSPI_IO_3
P58	SPI1_DO / ESPI_IO_0 / QSPI_IO_0	S58	ESPI_RESET#
P59	GND	S59	USB5+

P60	USB0+	S60	USB5-
P61	USB0-	S61	GND
P62	USB0_EN_OC#	S62	USB3_SSTX+
P63	USB0_VBUS_DET	S63	USB3_SSTX-
P64	USB0_OTG_ID	S64	GND
P65	USB1+	S65	USB3_SSRX+
P66	USB1-	S66	USB3_SSRX-
P67	USB1_EN_OC#	S67	GND
P68	GND	S68	USB3+
P69	USB2+	S69	USB3-
P70	USB2-	S70	GND
P71	USB2_EN_OC#	S71	USB2_SSTX+
P72	RSVD	S72	USB2_SSTX-
P73	RSVD	S73	GND
P74	USB3_EN_OC#	S74	USB2_SSRX+
P75	PCIE_A_RST#	S75	USB2_SSRX-
P76	USB4_EN_OC#	S76	PCIE_B_RST#
P77	PCIE_B_CKREQ#	S77	PCIE_C_RST#
P78	PCIE_A_CKREQ#	S78	PCIE_C_RX+ / SERDES_1_RX+
P79	GND	S79	PCIE_C_RX- / SERDES_1_RX-
P80	PCIE_C_REFCK+	S80	GND
P81	PCIE_C_REFCK-	S81	PCIE_C_TX+ / SERDES_1_TX+
P82	GND	S82	PCIE_C_TX- / SERDES_1_TX-
P83	PCIE_A_REFCK+	S83	GND
P84	PCIE_A_REFCK-	S84	PCIE_B_REFCK+
P85	GND	S85	PCIE_B_REFCK-
P86	PCIE_A_RX+	S86	GND
P87	PCIE_A_RX-	S87	PCIE_B_RX+
P88	GND	S88	PCIE_B_RX-
P89	PCIE_A_TX+	S89	GND
P90	PCIE_A_TX-	S90	PCIE_B_TX+
P91	GND	S91	PCIE_B_TX-
P92	HDMI_D2+ / DP1_LANE0+	S92	GND
P93	HDMI_D2- / DP1_LANE0-	S93	DP0_LANE0+
P94	GND	S94	DP0_LANE0-
P95	HDMI_D1+ / DP1_LANE1+	S95	DP0_AUX_SEL
P96	HDMI_D1- / DP1_LANE1-	S96	DP0_LANE1+
P97	GND	S97	DP0_LANE1-
P98	HDMI_D0+ / DP1_LANE2+	S98	DP0_HPD
P99	HDMI_D0- / DP1_LANE2-	S99	DP0_LANE2+
P100	GND	S100	DP0_LANE2-
P101	HDMI_CK+ / DP1_LANE3+	S101	GND
P102	HDMI_CK- / DP1_LANE3-	S102	DP0_LANE3+
P103	GND	S103	DP0_LANE3-
P104	HDMI_HPD / DP1_HPD	S104	USB3_OTG_ID
P105	HDMI_CTRL_CK / DP1_AUX+	S105	DP0_AUX+
P106	HDMI_CTRL_DAT / DP1_AUX-	S106	DP0_AUX-
P107	DP1_AUX_SEL	S107	LCD1_BKLT_EN
P108	GPIO0 / CAM0_PWR#	S108	LVDS1_CK+ / eDP1_AUX+ / DSI1_CLK+
P109	GPIO1 / CAM1_PWR#	S109	LVDS1_CK- / eDP1_AUX- / DSI1_CLK-
P110	GPIO2 / CAM0_RST#	S110	GND
P111	GPIO3 / CAM1_RST#	S111	LVDS1_0+ / eDP1_TX0+ / DSI1_D0+
P112	GPIO4 / HDA_RST#	S112	LVDS1_0- / eDP1_TX0- / DSI1_D0-
P113	GPIO5 / PWM_OUT	S113	eDP1_HPD / DSI1_TE
P114	GPIO6 / TACHIN	S114	LVDS1_1+ / eDP1_TX1+ / DSI1_D1+
P115	GPIO7	S115	LVDS1_1- / eDP1_TX1- / DSI1_D1-
P116	GPIO8	S116	LCD1_VDD_EN
P117	GPIO9	S117	LVDS1_2+ / eDP1_TX2+ / DSI1_D2+
P118	GPIO10	S118	LVDS1_2- / eDP1_TX2- / DSI1_D2-
P119	GPIO11	S119	GND
P120	GND	S120	LVDS1_3+ / eDP1_TX3+ / DSI1_D3+

P121	I2C_PM_CK	S121	LVDS1_3- / eDP1_TX3- / DSI1_D3-
P122	I2C_PM_DAT	S122	LCD1_BKLT_PWM
P123	BOOT_SEL0#	S123	GPIO13
P124	BOOT_SEL1#	S124	GND
P125	BOOT_SEL2#	S125	LVDS0_0+ / eDP0_TX0+ / DSI0_D0+
P126	RESET_OUT#	S126	LVDS0_0- / eDP0_TX0- / DSI0_D0-
P127	RESET_IN#	S127	LCD0_BKLT_EN
P128	POWER_BTN#	S128	LVDS0_1+ / eDP0_TX1+ / DSI0_D1+
P129	SER0_TX	S129	LVDS0_1- / eDP0_TX1- / DSI0_D1-
P130	SER0_RX	S130	GND
P131	SER0_RTS#	S131	LVDS0_2+ / eDP0_TX2+ / DSI0_D2+
P132	SER0_CTS#	S132	LVDS0_2- / eDP0_TX2- / DSI0_D2-
P133	GND	S133	LCD0_VDD_EN
P134	SER1_TX	S134	LVDS0_CK+ / eDP0_AUX+ / DSI0_CLK+
P135	SER1_RX	S135	LVDS0_CK- / eDP0_AUX- / DSI0_CLK-
P136	SER2_TX	S136	GND
P137	SER2_RX	S137	LVDS0_3+ / eDP0_TX3+ / DSI0_D3+
P138	SER2_RTS#	S138	LVDS0_3- / eDP0_TX3- / DSI0_D3-
P139	SER2_CTS#	S139	I2C_LCD_CK
P140	SER3_TX	S140	I2C_LCD_DAT
P141	SER3_RX	S141	LCD0_BKLT_PWM
P142	GND	S142	GPIO12
P143	CAN0_TX	S143	GND
P144	CAN0_RX	S144	eDP0_HPD / DSI0_TE
P145	CAN1_TX	S145	WDT_TIME_OUT#
P146	CAN1_RX	S146	PCIE_WAKE#
P147	VDD_IN	S147	VDD_RTC
P148	VDD_IN	S148	LID#
P149	VDD_IN	S149	SLEEP#
P150	VDD_IN	S150	VIN_PWR_BAD#
P151	VDD_IN	S151	CHARGING#
P152	VDD_IN	S152	CHARGER_PRSNT#
P153	VDD_IN	S153	CARRIER_STBY#
P154	VDD_IN	S154	CARRIER_PWR_ON
P155	VDD_IN	S155	FORCE_RECOV#
P156	VDD_IN	S156	BATLOW#
		S157	TEST#
		S158	GND