VisionSOM-6ULL Datasheet and Pinout

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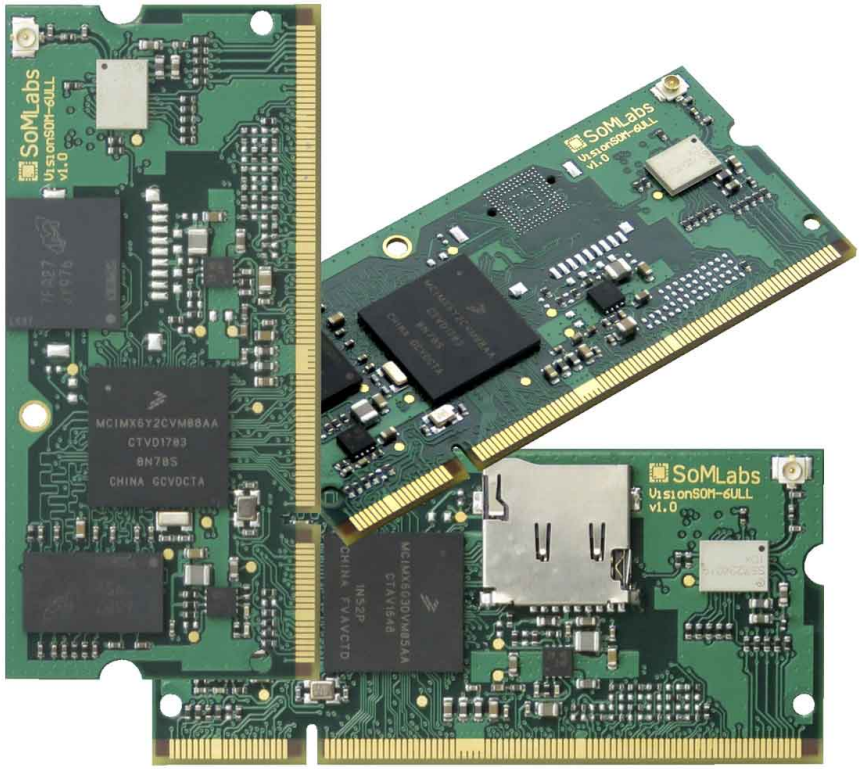
General description



The VisionSOM-6ULL family is a SODIMM-sized SoM based on the NXP i.MX6 ULL application processor which features an advanced implementation of a single ARM Cortex-A7 core (at speeds up to 900MHz).

The VisionSOM-6ULL is a low power highly integrated SoM (System on Module) featuring high computation power and 802.11b/g/n Wi-Fi and Bluetooth v5.1 connectivity. The option of integrated, fully certified Wi-Fi and Bluetooth module simplifies the carrier board design and is ideally suited for wireless application. The VisionSOM-6ULL provides a variety memory configuration including flexible range of DDR3L, NAND, eMMC and SD memory card that meets our customers requirements.

The SoM supports connections to a variety of interfaces: two high-speed USB on-the-go with PHY, dual Ethernet, audio, display with touch panel and serial interfaces. In addition, the system supports industrial grade targeting embedded application.

SOMLabs also provides a complete hardware and software development board for the SoM in the form of a carrier board and optional TFT display and touch panel.

Applications

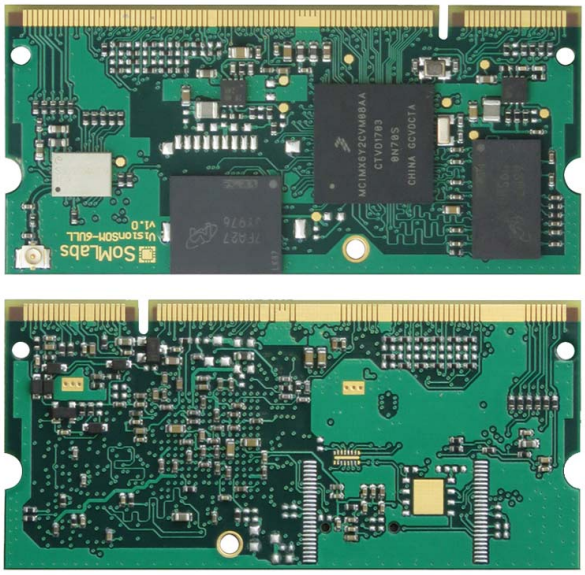
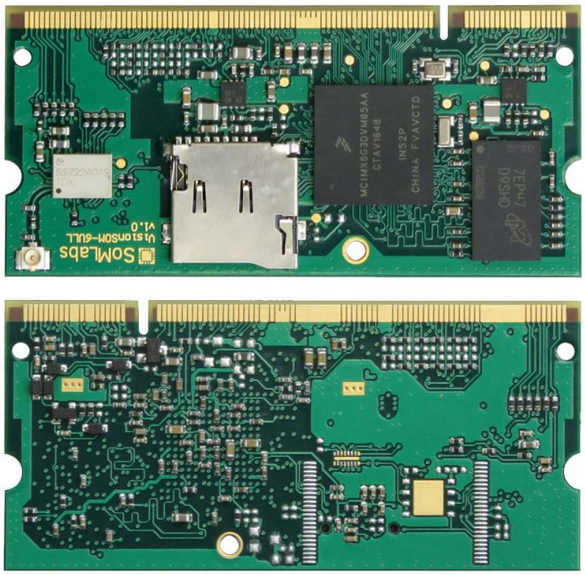
- Industrial embedded Linux computer
- Home Appliances
- Home Automation – Smart Home
- Human-machine Interfaces (HMI)
- Point-of-sales (POS) terminals

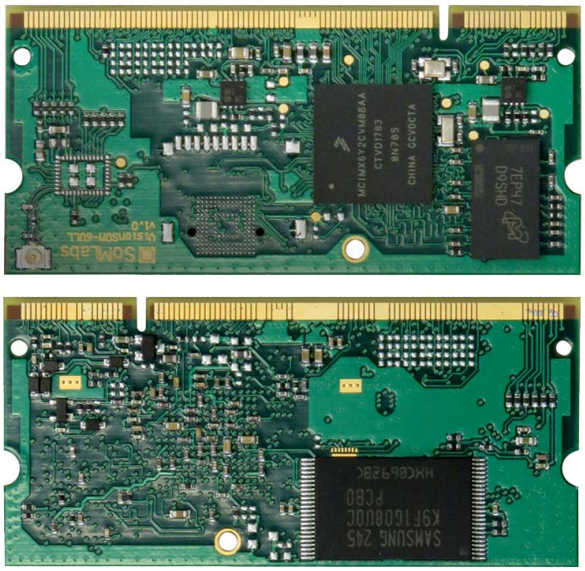
- Cash Register
- 2D barcode scanners and printers
- Smart grid infrastructure
- IoT gateways
- Residential gateways
- Machine vision equipment
- Robotics
- Fitness/outdoor equipment

Features

- Powered by NXP i.MX 6ULL application processor
- Core clock up to 900MHz
- Up to 512MB SDRAM DDR3L
- Up to 512MB NAND Flash / 32GB eMMC / uSD memory card
- Optional Murata 802.11b/g/n Wi-Fi and Bluetooth v5.2 module
- Power-efficient and cost-optimized solution
- Ideal for industrial IoT and embedded applications
- Integrated security features

Pictures of SOM versions

Version	Photo
eMMC	
micro-SD	

NAND Flash	

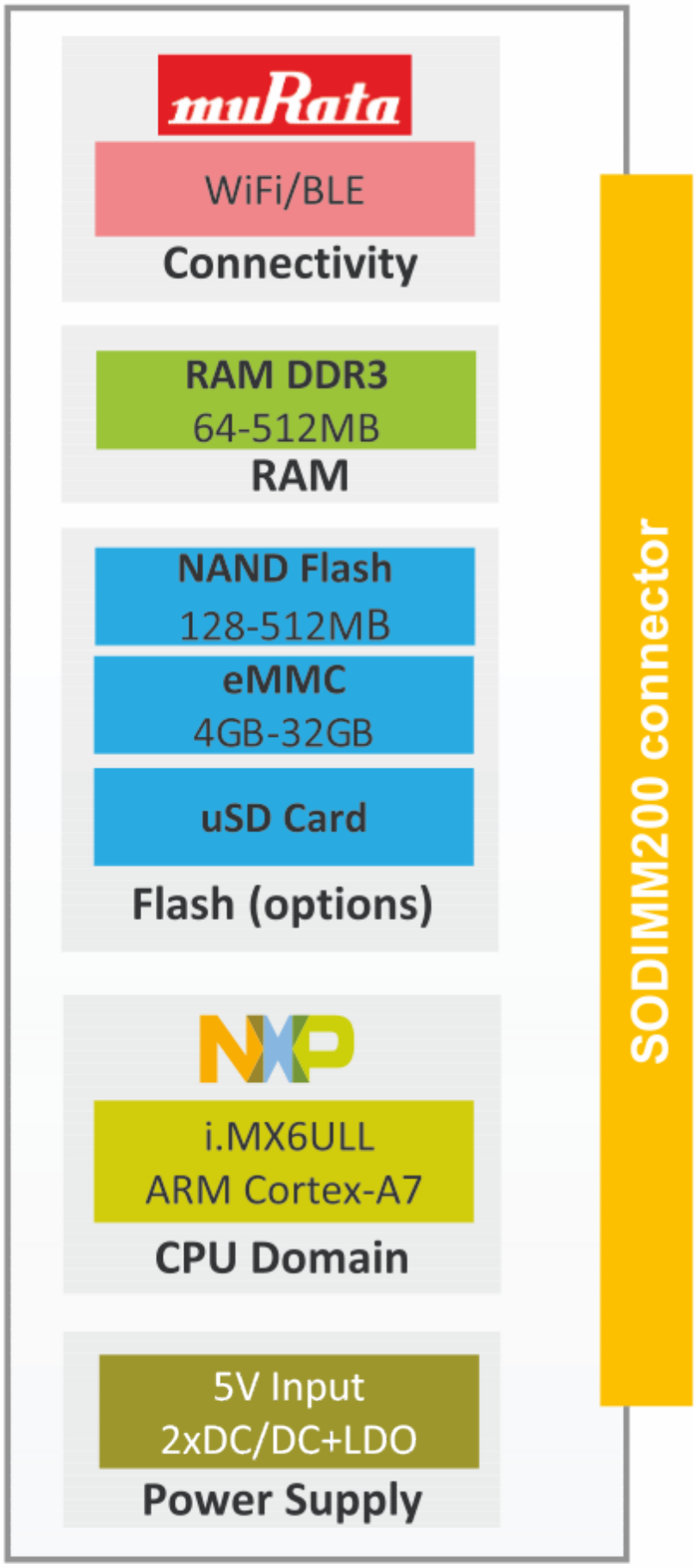
Wi-Fi is available for all memory variants configurations.

Ordering info

SLSN6CpuType_Clock_RamSize_FlashSize_SF_TEMP_V

SLS	Product type SLS - System on Module
N	SOM Name 1 - VisionSOM SODIMM200
6	CPU Family 6 - i.MX6
CpuType	CPU Type Y0 - i.MX6 ULL Y0 Y1 - i.MX6 ULL Y1 Y2 - i.MX6 ULL Y2
Clock	CPU Clock Speed 528C - 528MHz 792C - 792MHz 900C - 900MHz
RamSize	DDR3 RAM Size 64R - 64MB 128R - 128MB 256R - 256MB 512R - 512MB
FlashSize	Flash Size Type and Density SD - MicroSD connector 128N - 128MB NAND 256N - 256MB NAND 512N - 512MB NAND 04GE - 4GB eMMC 08GE - 8GB eMMC 16GE - 16GB eMMC 32GE - 32GB eMMC
SF	Special Features 0SF - No Special Features 1WB - Built-in 802.11b/g/n Wi-Fi and Bluetooth v5.1 Module
TEMP	Operating Temperature C - Consumer: 0 to +70 C E - Extended with Wi-Fi: -25 to +70 C I - Industrial: -40 to +85 C
V	SOM Version A - Version 1.0 B - Version 1.1

Block Diagram


muRata
WiFi/BLE
Connectivity
RAM DDR3
64-512MB
RAM
NAND Flash
128-512MB
eMMC
4GB-32GB
uSD Card
Flash (options)
NXP
i.MX6ULL
ARM Cortex-A7
CPU Domain
5V Input
2xDC/DC+LDO
Power Supply
SODIMM200 connector

Operating ranges

Parameter	Value	Unit	Comment
Power Supply	5.0	V	Connected to +5VIN SODIMM pin
Input GPIO voltage	3.3	V	-
Environment temperature[1]	-40...+85	°C	Industrial range w/o WiFi module
	-25...+70		Industrial range with WiFi module
	0...+70		Consumer range

Note:
1. Maximum MPU junction temperature is +105°C (industrial version) or +95°C (consumer version).

Electrical parameters

SOM signal name	Parameter	Value			Units
		Min.	Typ.	Max.	
+5VIN	Supply Voltage	4.0	5.0	5.5	V
+5VIN	Total Supply Current[1]	-	115	155	mA
VGPIO	GPIO Input Voltage	0	3.3	3.6[2]	V
+3.3VOUT	SOM Internal LDO Output Current	-	-	0.5	A
USB-OTGx-VBUS	USB Supply	4.40	-	5.5	V
VDD-COIN-3V	SNVS Backup Battery Supply	2.66	-	3.6	V
-	ADC Inputs Voltage	0	-	3.3	V

Notes:
1. Excluding external load connected to +3.3VOUT lines.
2. Applying the maximum voltage 3.6V results in shorten lifetime. Recommended value is smaller than 3.5V.

SOM pinout (v1.1 and v1.2)

Important notes
1. Detail pin configurations description you can find, edit and arrange in dedicated MEX files (with free "i.MX Pin Tool" configurational tool): VisionSOM-6ULL without WiFi module and no SDIO1 on edge connector or VisionSOM-6ULL without WiFi module and with SDIO1 on edge connector or VisionSOM-6ULL witht WiFi module on-board.
2. In module version v1.1 the LCD-DATAxx pins are internally used for boot sequence configuration. We recommend to use LCD-DATAxx lines as outputs or using eFuse boot configuration.
3. In module version v1.2 equipped with NAND Flash the LCD-DATAxx pins are internally used for boot sequence configuration (like in v1.1). We recommend to use LCD-DATAxx lines as outputs or using eFuse boot configuration.
4. In module version v1.2 equipped with eMMC the boot sequence configuration is stored in eFuse (OTP memory in MPU). All LCD-DATAxx pins can be used freely like all others GPIOs.

SODIMM PIN	Functional domain	Function name	i.MX6 UltraLite/ ULL Pad Name	Alternate functions	Description (refer to i.MX6 UltraLite/ULL manuals for details)
1	Power	GND	-	-	-
2	Power	GND	-	-	-
3	Ctrl	PMIC-STBY-REQ	CCM_PMIC_STBY_REQ	-	Output, leave open if not used.
4	Ctrl	MX6-POR-B	-	-	External warm reset input, active L.
5	Ctrl	PMIC-ON-REQ	SNVS_PMIC_ON_REQ	-	Output, leave open if not used.
6	Power	VDD-SNVS-3V3	VDD_SNVS_IN	-	SNVS backup power supply must be held between 2.9V and 3.3V if the system requires keeping real time and other data on OFF state. Internally connected to +3.3V, leave open.
7	BOOT	BOOT-MODE1	BOOT_MODE1	GPIO5_IO11	BOOT-MODE1 BOOT-MODE0 00 boot from fuses (default) 01 serial downloader 10 internal boot 11 reserved
8	Power	VDD-COIN-3V	VDD_SNVS_IN	-	Optional external coin battery for SNVS power domain, must be held between 2.9V and 3.3V if the system requires keeping real time and other data on OFF state. Leave open if not used.
9	BOOT	BOOT-MODE0	BOOT_MODE0	GPIO5_IO10	BOOT-MODE1 BOOT-MODE0 00 boot from fuses (default) 01 serial downloader 10 internal boot 11 reserved
10	GPIO-SNVS	SNVS-TAMPER9	SNVS_TAMPER9	GPIO5_IO09	Tamper input (SNVS power domain) or GPIO 3.3V.
11	USB	USB-OTG2-VBUS	USB_OTG2_VBUS	-	+5V USB bus. Leave open if not used.
12	GPIO-SNVS	SNVS-TAMPER5	SNVS_TAMPER5	GPIO5_IO05	Tamper input (SNVS power domain) or GPIO 3.3V.

13	USB	USB-OTG1-VBUS	USB_OTG1_VBUS	-	+5V USB bus. Leave open if not used.
14	Ctrl	ONOFF	SRC_RESET_B		Input for power interrupt generation. Leave open if not used.
15	Power	GND	-	-	-
16	Ctrl	POR-B	POR_B	-	Cold reset negative logic input resets all modules and logic in the IC. May be used in addition to internally generated power on reset signal (logical AND, both internal and external signals are considered active low).
17	Power	GND	-	-	-
18	GPIO-SNVS	SNVS-TAMPER8	SNVS_TAMPER8	GPIO5_IO08	Tamper input (SNVS power domain) or GPIO 3.3V.
19	USB	USB-OTG2-DP	USB_OTG2_DP	-	Leave open if not used.
20	Power	GND	-	-	-
21	USB	USB-OTG2-DN	USB_OTG2_DN	-	Leave open if not used.
22	Power	GND	-	-	-
23	Power	GND	-	-	-
24	GPIO-SNVS	SNVS-TAMPER7	SNVS_TAMPER7	GPIO5_IO07	Tamper input (SNVS power domain) or GPIO 3.3V.
25	USB	USB-OTG1-DP	USB_OTG1_DP	-	Leave open if not used.
26	Power	GND	-	-	-
27	USB	USB-OTG1-DN	USB_OTG1_DN	-	Leave open if not used.
28	Power	GND	-	-	-
29	Power	GND	-	-	-
30	GPIO-SNVS	SNVS-TAMPER4	SNVS_TAMPER4	GPIO5_IO04	Tamper input (SNVS power domain) or GPIO 3.3V.
31	USB	nUSB-OTG-CHD	USB_OTG1_CHD_B	-	Leave open if not used.
32	GPIO-SNVS	SNVS-TAMPER1	SNVS_TAMPER1	GPIO5_IO01	Tamper input (SNVS power domain) or GPIO 3.3V.
33	JTAG	JTAG-MOD	JTAG_MOD	-	Leave open if not used.
34	GPIO-SNVS	SNVS-TAMPER3	SNVS_TAMPER3	GPIO5_IO03	Tamper input (SNVS power domain) or GPIO 3.3V.
35	Power	GND	-	-	-
36	GPIO-SNVS	SNVS-TAMPER0	SNVS_TAMPER0	GPIO5_IO00	Tamper input (SNVS power domain) or GPIO 3.3V.
37		CLK1-N	CCM_CLK1_N	-	General purpose differential high speed clock input/output. Leave open if not used.
38	Power	GND	-	-	-
39		CLK1-P	CCM_CLK1_P	-	General purpose differential high speed clock input/output. Leave open if not used.
40	Power	GND	-	-	-
41	Power	GND	-	-	-

42	GPIO-SNVS	SNVS-TAMPER6	SNVS_TAMPER6	GPIO5_IO06	Tamper input (SNVS power domain) or GPIO 3.3V.
43	JTAG	JTAG-TDI	JTAG_TDI	-	JTAG TDI input line or GPIO.
44	GPIO-SNVS	SNVS-TAMPER2	SNVS_TAMPER2	GPIO5_IO02	Tamper input (SNVS power domain) or GPIO 3.3V.
45	GPIO	GPIO-8	GPIO1_IO08	PWM1_OUT WDOG1_WDOG_B SPDIF_OUT CSI_VSYNC USDHC2_VSELECT CCM_PMIC_RDY UART5_RTS_B	Universal GPIO with 3.3V logic levels.
46	JTAG	JTAG-TMS	JTAG_TMS	-	JTAG TMS input line or GPIO.
47	GPIO	GPIO-4	GPIO1_IO04	ENET1_REF_CLK1 PWM3_OUT USB_OTG1_PWR USDHC1_RESET_B ENET2_1588_EVENT0_IN UART5_TX	Universal GPIO with 3.3V logic levels.
48	JTAG	JTAG-nTRST	JTAG_TRST_B	-	JTAG TRST input line (active L) or GPIO.
49	GPIO	GPIO-5	GPIO1_IO05	ENET2_REF_CLK2 PWM4_OUT ANATOP_OTG2_ID CSI_FIELD USDHC1_VSELECT ENET2_1588_EVENT0_OUT UART5_RX	Universal GPIO with 3.3V logic levels. WLAN-ENABLE in SOM with WiFi/BT module
50	Power	GND	-	-	-
51	Power	GND	-	-	-
52	JTAG	JTAG-TDO	JTAG_TDO	-	JTAG TDO output line or GPIO.
53	GPIO	GPIO-7	GPIO1_IO07	ENET1_MDC ENET2_MDC USB_OTG_HOST_MODE CSI_PIXCLK USDHC2_CD_BCCM_STOP UART1_RTS_B	Universal GPIO with 3.3V logic levels.
54	JTAG	JTAG-TCK	JTAG_TCK	-	JTAG TCK input line or GPIO. Connected to JTAG-TCK line (via separating resistor 10k).
55	GPIO	GPIO-3	GPIO1_IO03	I2C1_SDA GPT1_COMPARE3 USB_OTG2_OC USDHC1_CD_B CCM_DI0_EXT_CLK SRC_TESTER_ACK	Universal GPIO with 3.3V logic levels.
56	GPIO	GPIO-9	GPIO1_IO09	PWM2_OUT WDOG1_WDOG_ANY SPDIF_IN CSI_HSYNC USDHC2_RESET_B USDHC1_RESET_B UART5_CTS_B	Universal GPIO with 3.3V logic levels.

57	COM-GPIO	UART1-TXD	UART1_TX_DATA	ENET1_RDATA02 I2C3_SCL CSI_DATA02 GPT1_COMPARE1 GPIO1_IO16 SPDIF_OUT UART5_TX	Default: UART1 TxD output or universal GPIO with 3.3V logic levels.
58	GPIO	GPIO-2	GPIO1_IO02	I2C1_SCL GPT1_COMPARE2 USB_OTG2_PWR ENET1_REF_CLK_25M USDHC1_WPS DMA_EXT_EVENT00 SRC_ANY_PU_RESET UART1_TX	Universal GPIO with 3.3V logic levels.
59	Power	GND	-	-	-
60	Power	GND	-	-	-
61	GPIO	GPIO-6	GPIO1_IO06	ENET1_MDIO ENET2_MDIO USB_OTG_PWR_WAKE CSI_MCLK USDHC2_WPCCM_WAIT CCM_REF_EN_B UART1_CTS_B	Universal GPIO with 3.3V logic levels.
62	GPIO	GPIO-1	GPIO1_IO01	I2C2_SDA GPT1_COMPARE1 USB_OTG1_OC ENET2_REF_CLK2 MQS_LEFT ENET1_1588_EVENT0_OUT SRC_EARLY_RESET WDOG1_WDOG_B	Universal GPIO with 3.3V logic levels.
63	COM-GPIO	UART1-RXD	UART1_RX_DATA	ENET1_RDATA03 I2C3_SDA CSI_DATA03 GPT1_CLK GPIO1_IO17 SPDIF_IN UART5_RX	Default: UART1 RxD input or universal GPIO with 3.3V logic levels.
64	GPIO	GPIO-0	GPIO1_IO00	I2C2_SCL GPT1_CAPTURE1 ANATOP_OTG1_ID ENET1_REF_CLK1 MQS_RIGHT ENET1_1588_EVENT0_IN SRC_SYSTEM_RESET WDOG3_WDOG_B	Universal GPIO with 3.3V logic levels.
65	COM-GPIO	UART2-TXD	UART2_TX_DATA	ENET1_TDATA02 I2C4_SCL CSI_DATA06 GPT1_CAPTURE1 GPIO1_IO20 ECSPI3_SS0	Default: UART2 TxD output or universal GPIO with 3.3V logic levels.

66	COM-GPIO	UART1-CTS	UART1_CTS_B	ENET1_RX_CLK USDHC1_WP CSI_DATA04 ENET2_1588_EVENT1_IN GPIO1_IO18 USDHC2_WP UART5_CTS_B	Default: UART1 CTS output or universal GPIO with 3.3V logic levels.
67	COM-GPIO	UART2-RXD	UART2_RX_DATA	ENET1_TDATA03 I2C4_SDA CSI_DATA07 GPT1_CAPTURE2 GPIO1_IO21 SJC_DONE ECSPI3_SCLK	Default: UART2 RxD input or universal GPIO with 3.3V logic levels.
68	COM-GPIO	UART5-RXD	UART5_RX_DATA	ENET2_COL I2C2_SDA CSI_DATA15 CSU_CSU_INT_DEB GPIO1_IO31 ECSPI2_MISO EPDC_PWRCTRL03	Default: UART5 RxD input or universal GPIO with 3.3V logic levels.
69	COM-GPIO	UART3-TXD	UART3_TX_DATA	ENET2_RDATA02 CSI_DATA01 UART2_CTS_B GPIO1_IO24 SJC_JTAG_ACT	Default: UART3 TxD input or universal GPIO with 3.3V logic levels.
70	Power	GND	-	-	-
71	Power	GND	-	-	-
72	COM-GPIO	UART2-CTS	UART2_CTS_B	ENET1_CRS FLEXCAN2_TXCSI_DATA08 GPT1_COMPARE2 GPIO1_IO22 SJC_DE_B ECSPI3_MOSI	Default: UART2 CTS output or universal GPIO with 3.3V logic levels.
73	COM-GPIO	UART3-RXD	UART3_RX_DATA	ENET2_RDATA03 CSI_DATA00 UART2_RTS_B GPIO1_IO25 EPIT1_OUT	Default: UART3 RxD input or universal GPIO with 3.3V logic levels.
74	COM-GPIO	UART1-RTS	UART1_RTS_B	ENET1_TX_ER USDHC1_CD_BCSI_DATA05 ENET2_1588_EVENT1_OUT GPIO1_IO19 USDHC2_CD_B UART5_RTS_B	Default: UART1 RTS input or universal GPIO with 3.3V logic levels.
75	COM-GPIO	UART4-TXD	UART4_TX_DATA	ENET2_TDATA02 I2C1_SCL CSI_DATA12 CSU_CSU_ALARM_AUT02 GPIO1_IO28 ECSPI2_SCLK	Default: UART4 TxD output or universal GPIO with 3.3V logic levels.
76	COM-GPIO	UART3-CTS	UART3_CTS_B	ENET2_RX_CLK FLEXCAN1_TX CSI_DATA10 ENET1_1588_EVENT1_IN GPIO1_IO26 EPIT2_OUT	Default: UART3 CTS output or universal GPIO with 3.3V logic levels.

77	COM-GPIO	UART4-RXD	UART4_RX_DATA	ENET2_TDATA03 I2C1_SDA CSI_DATA13 CSU_CSU_ALARM_AUT01 GPIO1_IO29 ECSPI2_SS0 EPDC_PWRCTRL01	Default: UART4 RxD input or universal GPIO with 3.3V logic levels.
78	COM-GPIO	UART2-RTS	UART2_RTS_B	ENET1_COL FLEXCAN2_RX CSI_DATA09 GPT1_COMPARE3 GPIO1_IO23 SJC_FAIL ECSPI3_MISO	Default: UART2 RTS input or universal GPIO with 3.3V logic levels.
79	COM-GPIO	UART5-TXD	UART5_TX_DATA	GPIO1_IO30 ECSPI2_MOSI EPDC_PWRCTRL02 ENET2_CRS I2C2_SCL CSI_DATA14 CSU_CSU_ALARM_AUT00	Default: UART5 TxD output or universal GPIO with 3.3V logic levels.
80	COM-GPIO	UART3-RTS	UART3_RTS_B	ENET2_TX_ER FLEXCAN1_RX CSI_DATA11 ENET1_1588_EVENT1_OUT GPIO1_IO27 WDOG1_WDOG_B	Default: UART3 RTS input or universal GPIO with 3.3V logic levels.
81	Power	GND	-	-	-
82	Power	GND	-	-	-
83	NC	-	-	-	-
84	Power	GND	-	-	-
85	Power	+3.3VOUT	-	-	+3.3V generated by SOM's LDO.
86	NC	-	-	-	-
87	Power	+3.3VOUT	-	-	+3.3V generated by SOM's LDO.
88	Power	+3.3VOUT	-	-	+3.3V generated by SOM's LDO.
89	Power	+3.3VOUT	-	-	+3.3V generated by SOM's LDO.
90	Power	+3.3VOUT	-	-	+3.3V generated by SOM's LDO.
91	Power	+3.3VOUT	-	-	+3.3V generated by SOM's LDO.
92	Power	+3.3VOUT	-	-	+3.3V generated by SOM's LDO.
93	Power	+3.3VOUT	-	-	+3.3V generated by SOM's LDO.
94	NC	-	-	-	-
95	NC	-	-	-	-
96	Power	+5VIN	-	-	+4.0-5.5V input power supply.

97	Ethernet	ENET1-RXD0	ENET1_RX_DATA0	UART4_RTS_B PWM1_OUT CSI_DATA16 FLEXCAN1_TX GPIO2_IO00 KPP_ROW00 USDHC1_LCTL EPDC_SDCE04	Ethernet MAC1-PHY interface signal or universal GPIO with 3.3V logic levels.
98	Power	+5VIN	-	-	+4.0-5.5V input power supply.
99	Ethernet	ENET1-RXD1	ENET1_RX_DATA1	UART4_CTS_B PWM2_OUT CSI_DATA17 FLEXCAN1_RX GPIO2_IO01 KPP_COL00 USDHC2_LCTL EPDC_SDCE05	Ethernet MAC1-PHY interface signal or universal GPIO with 3.3V logic levels.
100	Power	+5VIN	-	-	+4.0-5.5V input power supply.
101	Ethernet	ENET1-CRS-DV	ENET1_RX_EN	UART5_RTS_B CSI_DATA18 FLEXCAN2_TX GPIO2_IO02 KPP_ROW01 USDHC1_VSELECT EPDC_SDCE06	Ethernet MAC1-PHY interface signal or universal GPIO with 3.3V logic levels.
102	Power	+5VIN			+4.0-5.5V input power supply.
103	Power	GND	-	-	-
104	Power	+5VIN			+4.0-5.5V input power supply.
105	Ethernet	ENET2-TX-CLK	ENET2_TX_CLK	UART8_CTS_B ECSPI4_MISO ENET2_REF_CLK2 GPIO2_IO14 KPP_ROW07 ANATOP_OTG2_ID EPDC_SDDO14	Ethernet MAC2-PHY interface signal or universal GPIO with 3.3V logic levels. 10R resistor connected in series.
106	Power	+5VIN			+4.0-5.5V input power supply.
107	Power	GND	-	-	-
108	Power	+5VIN			+4.0-5.5V input power supply.
109	Ethernet	ENET2-RXER	ENET2_RX_ER	UART8_RTS_B ECSPI4_SS0 EIM_ADDR25 GPIO2_IO15 KPP_COL07 WDOG1_WDOG_ANY EPDC_SDDO15	Ethernet MAC2-PHY interface signal or universal GPIO with 3.3V logic levels. Connected to WDOG-B line.
110	Power	+5VIN	-	-	+4.0-5.5V input power supply.

111	Ethernet	ENET2-RXD0	ENET2_RX_DATA0	UART6_TX I2C3_SCL ENET1_MDIO GPIO2_IO08 KPP_ROW04 USB_OTG1_PWR EPDC_SDDO08	Ethernet MAC2-PHY interface signal or universal GPIO with 3.3V logic levels.
112	Power	+5VIN	-	-	+4.0-5.5V input power supply.
113	Ethernet	ENET2-RXD1	ENET2_RX_DATA1	UART6_RX I2C3_SDA ENET1_MDC GPIO2_IO09 KPP_COL04 USB_OTG1_OCE PDC_SDDO09	Ethernet MAC2-PHY interface signal or universal GPIO with 3.3V logic levels.
114	Ethernet	ENET1-TXEN	ENET1_TX_EN	UART6_RTS_B PWM6_OUT CSI_DATA21 ENET2_MDC GPIO2_IO05 KPP_COL02 WDOG2_WDOG_RST_B_DEB EPDC_SDCE09	Ethernet MAC1-PHY interface signal or universal GPIO with 3.3V logic levels.
115	Power	GND	-	-	-
116	Power	GND	-	-	-
117	Ethernet	ENET2-CRS-DV	ENET2_RX_EN	UART7_TX I2C4_SCL EIM_ADDR26 GPIO2_IO10 KPP_ROW05 ENET1_REF_CLK_25M EPDC_SDDO10	Ethernet MAC2-PHY interface signal or universal GPIO with 3.3V logic levels.
118	Ethernet	ENET1-TX-CLK	ENET1_TX_CLK	UART7_CTS_B PWM7_OUT CSI_DATA22 ENET1_REF_CLK1 GPIO2_IO06 KPP_ROW03 GPT1_CLK EPDC_SDOED	Ethernet MAC1-PHY interface signal or universal GPIO with 3.3V logic levels. 10R resistor connected in series.
119	Ethernet	ENET2-TXD1	ENET2_TX_DATA1	UART8_TX ECSPI4_SCLK EIM_EB_B03 GPIO2_IO12 KPP_ROW06 USB_OTG2_PWR EPDC_SDDO12	Ethernet MAC2-PHY interface signal or universal GPIO with 3.3V logic levels.
120	Power	GND	-	-	-
121	Ethernet	ENET2-TXEN	ENET2_TX_EN	UART8_RX ECSPI4_MOSI EIM_ACLK_FREERUN GPIO2_IO13 KPP_COL06 USB_OTG2_OC EPDC_SDDO13	

122	Ethernet	ENET1-TXD0	ENET1_TX_DATA0	UART5_CTS_B CSI_DATA19 FLEXCAN2_RX GPIO2_IO03 KPP_COL01 USDHC2_VSELECT EPDC_SDCE07	Ethernet MAC1-PHY interface signal or universal GPIO with 3.3V logic levels.
123	Ethernet	ENET2-TXD0	ENET2_TX_DATA0	UART7_RX I2C4_SDA EIM_EB_B02 GPIO2_IO11 KPP_COL05 EPDC_SDDO11	Ethernet MAC2-PHY interface signal or universal GPIO with 3.3V logic levels.
124	Ethernet	ENET1-TXD1	ENET1_TX_DATA1	UART6_CTS_B PWM5_OUT CSI_DATA20 ENET2_MDIO GPIO2_IO04 KPP_ROW02 WDOG1_WDOG_RST_B_DEB EPDC_SDCE08	Ethernet MAC1-PHY interface signal or universal GPIO with 3.3V logic levels.
125	Power	GND	-	-	-
126	Ethernet	ENET1-RXER	ENET1_RX_ER	UART7_RTS_B PWM8_OUT CSI_DATA23 EIM_CRE GPIO2_IO07 KPP_COL03 GPT1_CAPTURE2 EPDC_SDOEZ	Ethernet MAC1-PHY interface signal or universal GPIO with 3.3V logic levels.
127	Power	GND	-	-	-
128	Power	GND	-	-	-
129	LCD	LCD-DATA21	LCD_DATA21	UART8_RX ECSPI1_SS0 CSI_DATA13 EIM_DATA13 GPIO3_IO26 SRC_BT_CFG29 USDHC2_DATA1 EPDC_SDCE01	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
130	Power	GND	-	-	-
131	LCD	LCD-DATA22	LCD_DATA22	MQS_RIGHT ECSPI1_MOSI CSI_DATA14 EIM_DATA14 GPIO3_IO27 SRC_BT_CFG30 USDHC2_DATA2 USDHC2_DATA2	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
132	Power	GND	-	-	-
133	LCD	LCD-DATA17	LCD_DATA17	UART7_RX CSI_DATA00 EIM_DATA09 GPIO3_IO22 SRC_BT_CFG25 USDHC2_DATA7 EPDC_GDSP	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).

134	LCD	LCD-DATA23	LCD_DATA23	MQS_LEFT ECSPI1_MISO CSI_DATA15 EIM_DATA15 GPIO3_IO28 SRC_BT_CFG31 USDHC2_DATA3 EPDC_SDCE03	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
135	Power	GND	-	-	-
136	Power	GND	-	-	-
137	LCD	LCD-DATA18	LCD_DATA18	PWM5_OUT CA7_MX6ULL_EVENTO CSI_DATA10 EIM_DATA10 GPIO3_IO23 SRC_BT_CFG26 USDHC2_CMD EPDC_BDR01	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
138	LCD	LCD-DATA19	LCD_DATA19	PWM6_OUT WDOG1_WDOG_ANY CSI_DATA11 EIM_DATA11 GPIO3_IO24 SRC_BT_CFG27 USDHC2_CLK EPDC_VCOM00	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
139	LCD	LCD-DATA13	LCD_DATA13	SAI3_TX_BCLK CSI_DATA21 EIM_DATA05 GPIO3_IO18 SRC_BT_CFG13 USDHC2_RESET_B EPDC_BDR00	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
140	LCD	LCD-DATA20	LCD_DATA20	UART8_TX ECSPI1_SCLK CSI_DATA12 EIM_DATA12 GPIO3_IO25 SRC_BT_CFG28 USDHC2_DATA0 EPDC_VCOM01	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
141	LCD	LCD-DATA14	LCD_DATA14	SAI3_RX_DATA CSI_DATA22 EIM_DATA06 GPIO3_IO19 SRC_BT_CFG14 USDHC2_DATA4 EPDC_SDSHR	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
142	LCD	LCD-DATA15	LCD_DATA15	SAI3_TX_DATA CSI_DATA23 EIM_DATA07 GPIO3_IO20 SRC_BT_CFG15 USDHC2_DATA5 EPDC_GDRL	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).

143	LCD	LCD-DATA8	LCD_DATA08	SPDIF_IN CSI_DATA16 EIM_DATA00 GPIO3_IO13 SRC_BT_CFG08 FLEXCAN1_TX EPDC_PWRIRQ	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
144	LCD	LCD-DATA16	LCD_DATA16	UART7_TX CSI_DATA01 EIM_DATA08 GPIO3_IO21 SRC_BT_CFG24 USDHC2_DATA6 EPDC_GDCLK	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
145	LCD	LCD-DATA9	LCD_DATA09	SAI3_MCLK CSI_DATA17 EIM_DATA01 GPIO3_IO14 SRC_BT_CFG09 FLEXCAN1_RX EPDC_PWRWAKE	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
146	Power	GND	-	-	-
147	Power	GND	-	-	-
148	LCD	LCD-DATA11	LCD_DATA11	SAI3_RX_BCLK CSI_DATA19 EIM_DATA03 GPIO3_IO16 SRC_BT_CFG11 FLEXCAN2_RX EPDC_PWRSTAT	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
149	LCD	LCD-DATA5	LCD_DATA05	UART8_RTS_B ENET2_1588_EVENT2_OUT SPDIF_OUT GPIO3_IO10 SRC_BT_CFG05 ECSPI1_SS1 EPDC_SDDO05	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
150	LCD	LCD-DATA12	LCD_DATA12	SAI3_TX_SYNC CSI_DATA20 EIM_DATA04 GPIO3_IO17 SRC_BT_CFG12 ECSPI1_RDY EPDC_PWRCTRL00	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
151	LCD	LCD-DATA6	LCD_DATA06	UART7_CTS_B ENET2_1588_EVENT3_IN SPDIF_LOCK GPIO3_IO11 SRC_BT_CFG06 ECSPI1_SS2 EPDC_SDDO06	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
152	LCD	LCD-DATA10	LCD_DATA10	SAI3_RX_SYNC CSI_DATA18 EIM_DATA02 GPIO3_IO15 SRC_BT_CFG10 FLEXCAN2_TX EPDC_PWRCOM	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).

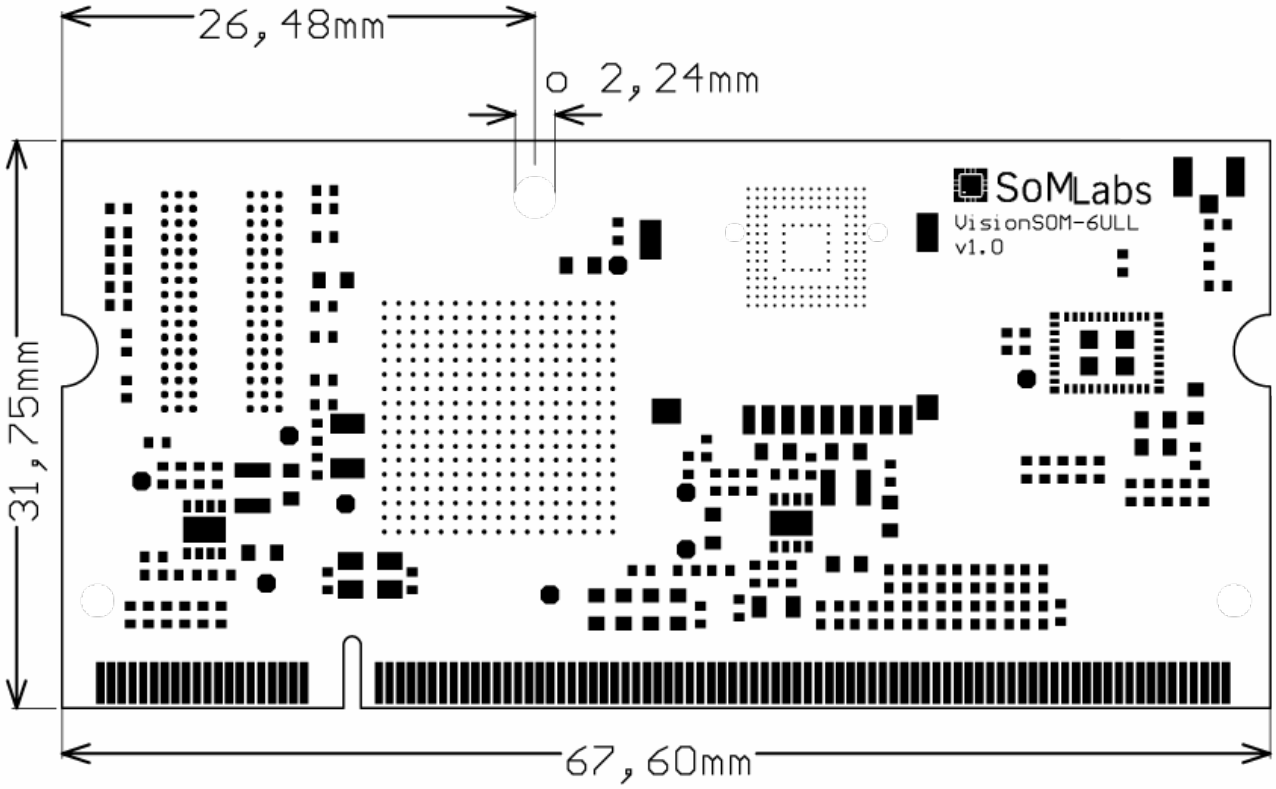
153	LCD	LCD-DATA0	LCD_DATA00	PWM1_OUT ENET1_1588_EVENT2_IN I2C3_SDA GPIO3_IO05 SRC_BT_CFG00 SAI1_MCLK EPDC_SDDO00	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
154	LCD	LCD-DATA3	LCD_DATA03	PWM4_OUT ENET1_1588_EVENT3_OUT I2C4_SCL GPIO3_IO08 SRC_BT_CFG03 SAI1_RX_DATA EPDC_SDDO03	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
155	LCD	LCD-DATA1	LCD_DATA01	PWM2_OUT ENET1_1588_EVENT2_OUT I2C3_SCL GPIO3_IO06 SRC_BT_CFG01 SAI1_TX_SYNC EPDC_SDDO01	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
156	Power	GND	-	-	-
157	LCD	LCD-RESET	LCD_RESET	LCDIF_CS CA7_MX6ULL_EVENT ISAI3_TX_DATA WDOG1_WDOG_ANY GPIO3_IO04 ECSPI2_SS3 EPDC_GDOE	LCD interface signal or universal GPIO with 3.3V logic levels.
158	LCD	LCD-DATA4	LCD_DATA04	UART8_CTS_B ENET2_1588_EVENT2_IN SPDIF_SR_CLK GPIO3_IO09 SRC_BT_CFG04 SAI1_TX_DATA EPDC_SDDO04	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
159	Power	GND	-	-	-
160	LCD	LCD-HSYNC	LCD_HSYNC	LCDIF_RS UART4_CTS_B SAI3_TX_BCLK WDOG3_WDOG_RST_B_DEB GPIO3_IO02 ECSPI2_SS1 EPDC_SDOE	LCD interface signal or universal GPIO with 3.3V logic levels.
161	LCD	LCD-CLK	LCD_CLK	LCDIF_WR_RWN UART4_TX SAI3_MCLK EIM_CS2_B GPIO3_IO00 WDOG1_WDOG_RST_B_DEB EPDC_SDCLK	LCD interface signal or universal GPIO with 3.3V logic levels. 10R resistor connected in series.
162	LCD	LCD-VSYNC	LCD_VSYNC	LCDIF_BUSY UART4_RTS_B SAI3_RX_DATA WDOG2_WDOG_B GPIO3_IO03 ECSPI2_SS2 EPDC_SDCE00	LCD interface signal or universal GPIO with 3.3V logic levels.

163	LCD	LCD-ENABLE	LCD_ENABLE	LCDIF_RD_E UART4_RX SAI3_TX_SYNC EIM_CS3_B GPIO3_IO01 ECSPI2_RDY EPDC_SDLE	LCD interface signal or universal GPIO with 3.3V logic levels.
164	LCD	LCD-DATA2	LCD_DATA02	PWM3_OUT ENET1_1588_EVENT3_IN I2C4_SDA GPIO3_IO07 SRC_BT_CFG02 SAI1_TX_BCLK EPDC_SDDO02	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
165	Power	GND	-	-	-
166	LCD	LCD-DATA7	LCD_DATA07	UART7_RTS_B ENET2_1588_EVENT3_OUT SPDIF_EXT_CLK GPIO3_IO12 SRC_BT_CFG07 ECSPI1_SS3 EPDC_SDDO07	LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4).
167	SDIO	SDIO1-D0	SD1_DATA0	GPT2_COMPARE3 SAI2_TX_SYNC FLEXCAN1_TX EIM_ADDR21 GPIO2_IO18 ANATOP_OTG1_ID	SDIO interface signal or universal GPIO with 3.3V logic levels. Used by WiFi/BT module if built-in SOM. Built-in internal pull-up 10k.
168	Power	GND	-	-	-
169	SDIO	SDIO1-D3	SD1_DATA3	GPT2_CAPTURE2 SAI2_TX_DATA FLEXCAN2_RX EIM_ADDR24 GPIO2_IO21 CCM_CLKO2 ANATOP_OTG2_ID	SDIO interface signal or universal GPIO with 3.3V logic levels. Used by WiFi/BT module if built-in SOM. Built-in internal pull-up 10k.
170	Power	GND	-	-	-
171	SDIO	SDIO1-D1	SD1_DATA1	GPT2_CLK SAI2_TX_BCLK FLEXCAN1_RX EIM_ADDR22 GPIO2_IO19 USB_OTG2_PWR	SDIO interface signal or universal GPIO with 3.3V logic levels. Used by WiFi/BT module if built-in SOM. Built-in internal pull-up 10k.
172	Power	GND	-	-	-
173	SDIO	SDIO1-CMD	SD1_CMD	GPT2_COMPARE1 SAI2_RX_SYNC SPDIF_OUT EIM_ADDR19 GPIO2_IO16 SDMA_EXT_EVENT00 USB_OTG1_PWR	SDIO interface signal or universal GPIO with 3.3V logic levels. Used by WiFi/BT module if built-in SOM. Built-in internal pull-up 10k.
174	Power	GND	-	-	-

175	SDIO	SDIO1-D2	SD1_DATA2	GPT2_CAPTURE1 SAI2_RX_DATA FLEXCAN2_TX EIM_ADDR23 GPIO2_IO20 CCM_CLKO1 USB_OTG2_OC	SDIO interface signal or universal GPIO with 3.3V logic levels. Used by WiFi/BT module if built-in SOM. Built-in internal pull-up 10k.
176	Power	GND	-	-	-
177	Power	GND	-	-	-
178	Power	GND	-	-	-
179	SDIO	SDIO1-CLK	SD1_CLK	GPT2_COMPARE2 SAI2_MCLK SPDIF_IN EIM_ADDR20 GPIO2_IO17 USB_OTG1_OC	SDIO interface signal or universal GPIO with 3.3V logic levels. Used by WiFi/BT module if built-in SOM.
180	Power	GND	-	-	-
181	Power	GND	-	-	-
182	Power	GND	-	-	-
183	CSI	CSI-PIXCLK	CSI_PIXCLK	USDHC2_WP RAWNAND_CE3_B I2C1_SCL EIM_OE GPIO4_IO18 SNVS_HP_VIO_5 UART6_RX ESAI_TX2_RX3	Video CMOS sensor signal or universal GPIO with 3.3V logic levels. BT-WAKE in SOM with WiFi/BT module
184	Power	GND	-	-	-
185	Power	GND	-	-	-
186	CSI	CSI-DATA6	CSI_DATA06	USDHC2_DATA6 ECSPI1_MOSI EIM_AD06 GPIO4_IO27 SAI1_RX_DATA USDHC1_RESET_BE SAI_TX5_RX0	Video CMOS sensor signal or universal GPIO with 3.3V logic levels. BT-PCM-OUT in SOM with WiFi/BT module
187	CSI	CSI-MCLK	CSI_MCLK	USDHC2_CD_B RAWNAND_CE2_B I2C1_SDA EIM_CS0_B GPIO4_IO17 SNVS_HP_VIO_5_CTL UART6_TX ESAI_TX3_RX2	Video CMOS sensor signal or universal GPIO with 3.3V logic levels. BT-ENABLE in SOM with WiFi/BT module
188	CSI	CSI-DATA7	CSI_DATA07	USDHC2_DATA7 ECSPI1_MISO EIM_AD07 GPIO4_IO28 SAI1_TX_DATA USDHC1_VSELECT ESAI_TX0	Video CMOS sensor signal or universal GPIO with 3.3V logic levels. BT-PCM-IN in SOM with WiFi/BT module
189	Power	GND	-	-	-

190	CSI	CSI-DATA5	CSI_DATA05	USDHC2_DATA5 USDHC2_DATA5 EIM_AD05 GPIO4_IO26 SAI1_TX_BCLK USDHC1_CD_BE SAI_TX_CLK	Video CMOS sensor signal or universal GPIO with 3.3V logic levels. BT-PCM-CLK in SOM with WiFi/BT module
191	CSI	CSI-DATA4	CSI_DATA04	USDHC2_DATA4 ECSPI1_SCLK EIM_AD04 GPIO4_IO25 SAI1_TX_SYNC USDHC1_WP ESAI_TX_FS	Video CMOS sensor signal or universal GPIO with 3.3V logic levels. BT-PCM-SYNC in SOM with WiFi/BT module
192	CSI	CSI-DATA3	CSI_DATA03	USDHC2_DATA3 ECSPI2_MISO EIM_AD03 GPIO4_IO24 SAI1_RX_BCLK UART5_CTS_B ESAI_RX_CLK	Video CMOS sensor signal or universal GPIO with 3.3V logic levels. BT-CTS in SOM with WiFi/BT module
193	CSI	CSI-DATA1	CSI_DATA01	USDHC2_DATA1 ECSPI2_SS0 EIM_AD01 GPIO4_IO22 SAI1_MCLK UART5_RX ESAI_RX_HF_CLK	Video CMOS sensor signal or universal GPIO with 3.3V logic levels. BT-TXD in SOM with WiFi/BT module
194	CSI	CSI-DATA2	CSI_DATA02	USDHC2_DATA2 ECSPI2_MOSI EIM_AD02 GPIO4_IO23 SAI1_RX_SYNC UART5_RTS_B ESAI_RX_FS	Video CMOS sensor signal or universal GPIO with 3.3V logic levels. BT-RTS in SOM with WiFi/BT module
195	CSI	CSI-DATA0	CSI_DATA00	USDHC2_DATA0 ECSPI2_SCLK EIM_AD00 GPIO4_IO21 SRC_INT_BOOT UART5_TX ESAI_TX_HF_CLK	Video CMOS sensor signal or universal GPIO with 3.3V logic levels. BT-RXD in SOM with WiFi/BT module
196	Power	CSI-VREF	-	-	Leave open if not used.
197	CSI	CSI-HSYNC	CSI_HSYNC	USDHC2_CMD I2C2_SCL EIM_LBA_B GPIO4_IO20 PWM8_OUT UART6_CTS_B ESAI_TX1	Video CMOS sensor signal or universal GPIO with 3.3V logic levels. WLAN-HWAKE in SOM with WiFi/BT module
198	CSI	CSI-VSYNC	CSI_VSYNC	SDHC2_CLK I2C2_SDA EIM_RW GPIO4_IO19 PWM7_OUT UART6_RTS_B ESAI_TX4_RX1	Video CMOS sensor signal or universal GPIO with 3.3V logic levels. BT-HWAKE in SOM with WiFi/BT module
199	Power	GND	-	-	-
200	Power	GND	-	-	-

Dimensions



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