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# VisionSOM-6ULL Datasheet and Pinout

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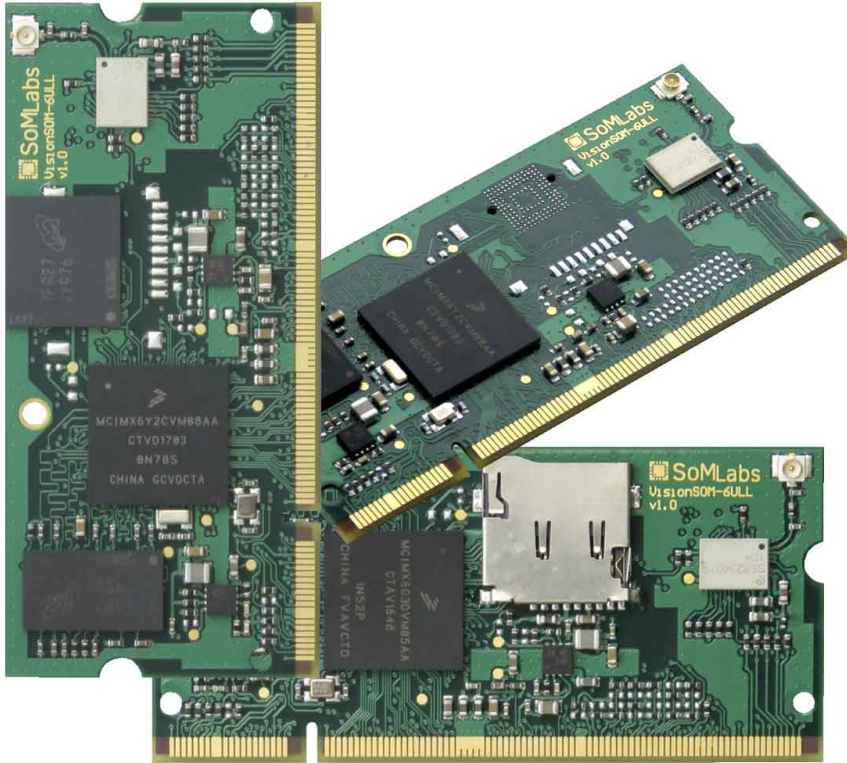
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# VisionSOM-6ULL Datasheet and Pinout

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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

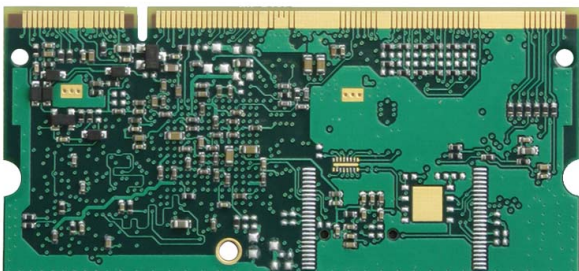
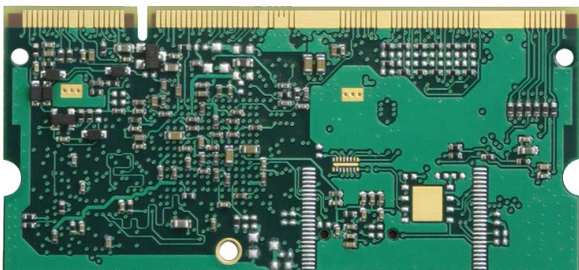
- Industrial embedded Linux computer
- Home Appliances
- Home Automation - Smart Home
- Human-machine Interfaces (HMI)
- Point-of-sales (POS) terminals

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

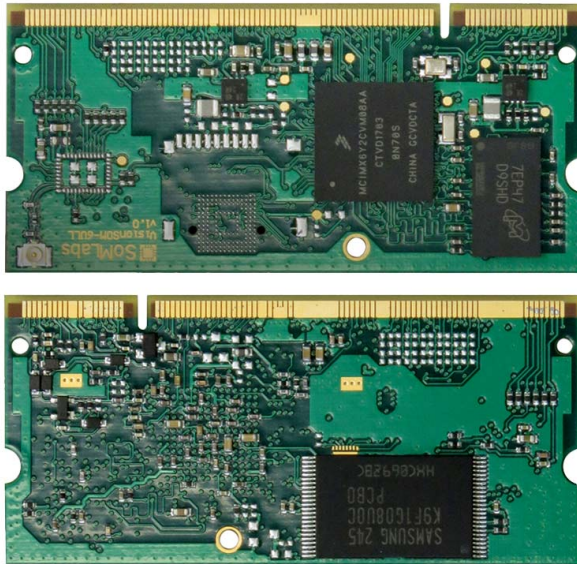
## Features

- 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



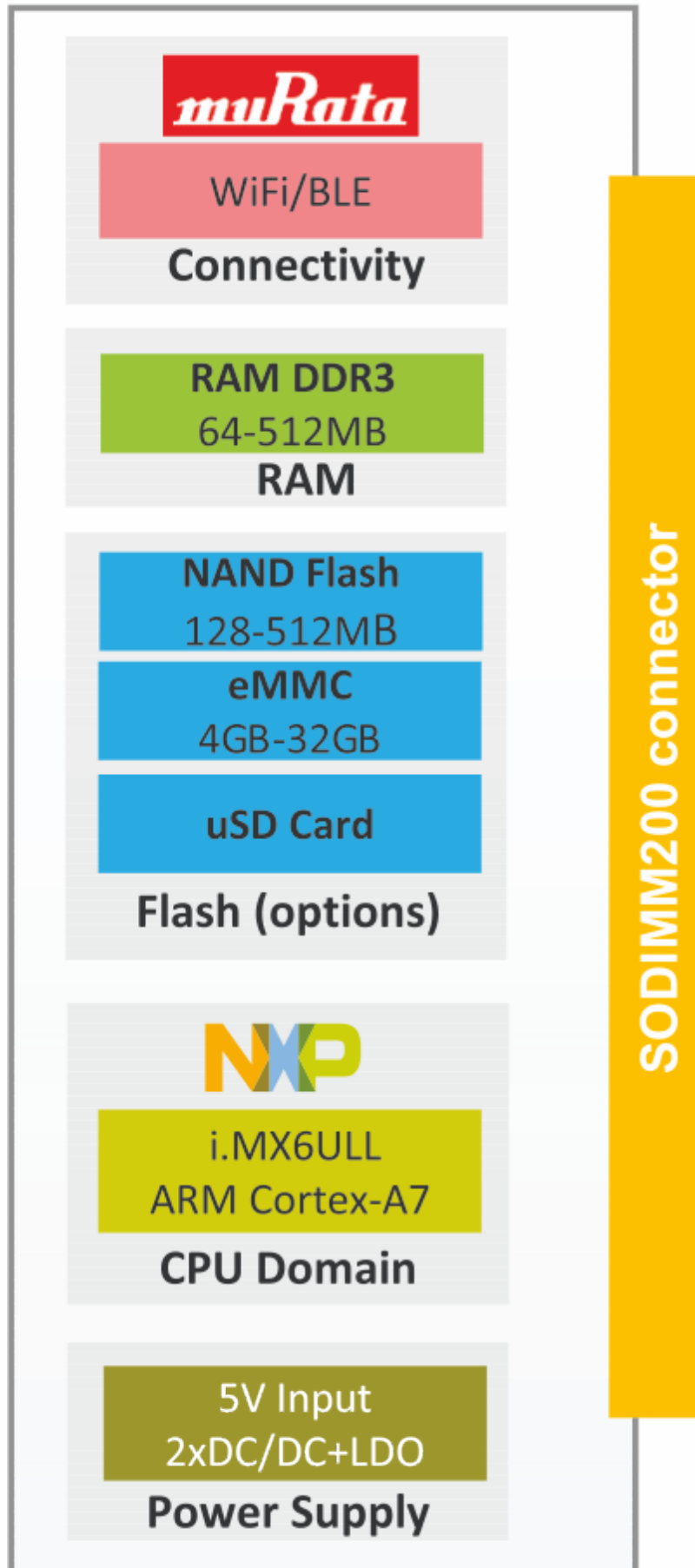
Wi-Fi is available for all memory variants configurations.

## Ordering info

**SLS****N****6****CpuType**\_Clock\_**RamSize**\_FlashSize\_**SF**\_TEMP\_**V**

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

## Block Diagram



## Operating ranges

| Parameter                            | Value     | Unit | Comment                           |
|--------------------------------------|-----------|------|-----------------------------------|
| Power Supply                         | 5.0       | V    | Connected to +5VIN SODIMM pin     |
| Input GPIO voltage                   | 3.3       | V    | -                                 |
| Environment temperature <sup>1</sup> | -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<br>signal name | Parameter                          | Value |      |                  | Units |
|--------------------|------------------------------------|-------|------|------------------|-------|
|                    |                                    | Min.  | Typ. | Max.             |       |
| +5VIN              | Supply Voltage                     | 4.0   | 5.0  | 5.5              | V     |
| +5VIN              | Total Supply Current <sup>1</sup>  | -     | 115  | 155              | mA    |
| VGPI0              | GPIO Input Voltage                 | 0     | 3.3  | 3.6 <sup>2</sup> | V     |
| +3.3VOUT           | SOM Internal LDO<br>Output Current | -     | -    | 0.5              | A     |
| USB-OTGx-VBUS      | USB Supply                         | 4.40  | -    | 5.5              | V     |
| VDD-COIN-3V        | SNVS Backup<br>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-DATAx pins are internally used for boot sequence configuration. We recommend to use LCD-DATAx lines as outputs or using eFuse boot configuration.
3. In module version v1.2 equipped with NAND Flash the LCD-DATAx pins are internally used for boot sequence configuration (like in v1.1). We recommend to use LCD-DATAx 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-DATAx 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<br>00 boot from fuses (default)<br>01 serial downloader<br>10 internal boot<br>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<br>00 boot from fuses (default)<br>01 serial downloader<br>10 internal boot<br>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.<br>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.<br>Leave open if not used.                                                                                                                                        |
| 38 | Power     | GND           | -              | -          | -                                                                                                                                                                                                                             |
| 39 |           | CLK1-P        | CCM_CLK1_P     | -          | General purpose differential high speed clock input/output.<br>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<br>WDOG1_WDOG_B<br>SPDIF_OUT<br>CSI_VSYNC<br>USDHC2_VSELECT<br>CCM_PMIC_RDY<br>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<br>PWM3_OUT<br>USB_OTG1_PWR<br>USDHC1_RESET_B<br>ENET2_1588_EVENT0_IN<br>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<br>PWM4_OUT<br>ANATOP_OTG2_ID<br>CSI_FIELD<br>USDHC1_VSELECT<br>ENET2_1588_EVENT0_OUT<br>UART5_RX | Universal GPIO with 3.3V logic levels.<br>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<br>ENET2_MDC<br>USB_OTG_HOST_MODE<br>CSI_PIXCLK<br>USDHC2_CD_BCCM_STOP<br>UART1_RTS_B                  | Universal GPIO with 3.3V logic levels.                                                    |
| 54 | JTAG      | JTAG-TCK     | JTAG_TCK     | -                                                                                                                | JTAG TCK input line or GPIO.<br>Connected to JTAG-TCK line (via separating resistor 10k). |
| 55 | GPIO      | GPIO-3       | GPIO1_IO03   | I2C1_SDA<br>GPT1_COMPARE3<br>USB_OTG2_OC<br>USDHC1_CD_B<br>CCM_DIO_EXT_CLK<br>SRC_TESTER_ACK                     | Universal GPIO with 3.3V logic levels.                                                    |
| 56 | GPIO      | GPIO-9       | GPIO1_IO09   | PWM2_OUT<br>WDOG1_WDOG_ANY<br>SPDIF_IN<br>CSI_HSYNC<br>USDHC2_RESET_B<br>USDHC1_RESET_B<br>UART5_CTS_B           | Universal GPIO with 3.3V logic levels.                                                    |

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

|    |          |           |               |                                                                                                           |                                                                     |
|----|----------|-----------|---------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| 66 | COM-GPIO | UART1-CTS | UART1_CTS_B   | ENET1_RX_CLK<br>USDHC1_WP<br>CSI_DATA04<br>ENET2_1588_EVENT1_IN<br>GPIO1_IO18<br>USDHC2_WP<br>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<br>I2C4_SDA<br>CSI_DATA07<br>GPT1_CAPTURE2<br>GPIO1_IO21<br>SJC_DONE<br>ECSP13_SCLK         | Default: UART2 RxD input or universal GPIO with 3.3V logic levels.  |
| 68 | COM-GPIO | UART5-RXD | UART5_RX_DATA | ENET2_COL<br>I2C2_SDA<br>CSI_DATA15<br>CSU_CSU_INT_DEB<br>GPIO1_IO31<br>ECSP12_MISO<br>EPDC_PWRCTRL03     | Default: UART5 RxD input or universal GPIO with 3.3V logic levels.  |
| 69 | COM-GPIO | UART3-TXD | UART3_TX_DATA | ENET2_RDATA02<br>CSI_DATA01<br>UART2_CTS_B<br>GPIO1_IO24<br>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<br>FLEXCAN2_TXCSI_DATA08<br>GPT1_COMPARE2<br>GPIO1_IO22<br>SJC_DE_B<br>ECSP13_MOSI              | Default: UART2 CTS output or universal GPIO with 3.3V logic levels. |
| 73 | COM-GPIO | UART3-RXD | UART3_RX_DATA | ENET2_RDATA03<br>CSI_DATA00<br>UART2_RTS_B<br>GPIO1_IO25<br>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<br>USDHC1_CD_BCSI_DATA05<br>ENET2_1588_EVENT1_OUT<br>GPIO1_IO19<br>USDHC2_CD_B<br>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<br>I2C1_SCL<br>CSI_DATA12<br>CSU_CSU_ALARM_AUT02<br>GPIO1_IO28<br>ECSP12_SCLK               | Default: UART4 TxD output or universal GPIO with 3.3V logic levels. |
| 76 | COM-GPIO | UART3-CTS | UART3_CTS_B   | ENET2_RX_CLK<br>FLEXCAN1_TX<br>CSI_DATA10<br>ENET1_1588_EVENT1_IN<br>GPIO1_IO26<br>EPIT2_OUT              | Default: UART3 CTS output or universal GPIO with 3.3V logic levels. |

|    |          |           |               |                                                                                                              |                                                                     |
|----|----------|-----------|---------------|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| 77 | COM-GPIO | UART4-RXD | UART4_RX_DATA | ENET2_TDATA03<br>I2C1_SDA<br>CSI_DATA13<br>CSU_CSU_ALARM_AUT01<br>GPIO1_IO29<br>ECSP12_SS0<br>EPDC_PWRCTRL01 | Default: UART4 RxD input or universal GPIO with 3.3V logic levels.  |
| 78 | COM-GPIO | UART2-RTS | UART2_RTS_B   | ENET1_COL<br>FLEXCAN2_RX<br>CSI_DATA09<br>GPT1_COMPARE3<br>GPIO1_IO23<br>SJC_FAIL<br>ECSP13_MISO             | Default: UART2 RTS input or universal GPIO with 3.3V logic levels.  |
| 79 | COM-GPIO | UART5-TXD | UART5_TX_DATA | GPIO1_IO30<br>ECSP12_MOSI<br>EPDC_PWRCTRL02<br>ENET2_CRS<br>I2C2_SCL<br>CSI_DATA14<br>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<br>FLEXCAN1_RX<br>CSI_DATA11<br>ENET1_1588_EVENT1_OUT<br>GPIO1_IO27<br>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<br>PWM1_OUT<br>CSI_DATA16<br>FLEXCAN1_TX<br>GPIO2_IO00<br>KPP_ROW00<br>USDHC1_LCTL<br>EPDC_SDCE04 | Ethernet MAC1-PHY<br>interface signal or universal<br>GPIO with 3.3V logic levels.                                         |
| 98  | Power    | +5VIN        | -              | -                                                                                                             | +4.0-5.5V input power<br>supply.                                                                                           |
| 99  | Ethernet | ENET1-RXD1   | ENET1_RX_DATA1 | UART4_CTS_B<br>PWM2_OUT<br>CSI_DATA17<br>FLEXCAN1_RX<br>GPIO2_IO01<br>KPP_COL00<br>USDHC2_LCTL<br>EPDC_SDCE05 | Ethernet MAC1-PHY<br>interface signal or universal<br>GPIO with 3.3V logic levels.                                         |
| 100 | Power    | +5VIN        | -              | -                                                                                                             | +4.0-5.5V input power<br>supply.                                                                                           |
| 101 | Ethernet | ENET1-CRS-DV | ENET1_RX_EN    | UART5_RTS_B<br>CSI_DATA18<br>FLEXCAN2_TX<br>GPIO2_IO02<br>KPP_ROW01<br>USDHC1_VSELECT<br>EPDC_SDCE06          | Ethernet MAC1-PHY<br>interface signal or universal<br>GPIO with 3.3V logic levels.                                         |
| 102 | Power    | +5VIN        |                |                                                                                                               | +4.0-5.5V input power<br>supply.                                                                                           |
| 103 | Power    | GND          | -              | -                                                                                                             | -                                                                                                                          |
| 104 | Power    | +5VIN        |                |                                                                                                               | +4.0-5.5V input power<br>supply.                                                                                           |
| 105 | Ethernet | ENET2-TX-CLK | ENET2_TX_CLK   | UART8_CTS_B<br>ECSPi4_MISO<br>ENET2_REF_CLK2<br>GPIO2_IO14<br>KPP_ROW07<br>ANATOP_OTG2_ID<br>EPDC_SDDO14      | Ethernet MAC2-PHY<br>interface signal or universal<br>GPIO with 3.3V logic levels.<br>10R resistor connected in<br>series. |
| 106 | Power    | +5VIN        |                |                                                                                                               | +4.0-5.5V input power<br>supply.                                                                                           |
| 107 | Power    | GND          | -              | -                                                                                                             | -                                                                                                                          |
| 108 | Power    | +5VIN        |                |                                                                                                               | +4.0-5.5V input power<br>supply.                                                                                           |
| 109 | Ethernet | ENET2-RXER   | ENET2_RX_ER    | UART8_RTS_B<br>ECSPi4_SS0<br>EIM_ADDR25<br>GPIO2_IO15<br>KPP_COL07<br>WD0G1_WDOG_ANY<br>EPDC_SDDO15           | Ethernet MAC2-PHY<br>interface signal or universal<br>GPIO with 3.3V logic levels.<br>Connected to WDOG-B line.            |
| 110 | Power    | +5VIN        | -              | -                                                                                                             | +4.0-5.5V input power<br>supply.                                                                                           |

|     |          |              |                |                                                                                                                      |                                                                                                                            |
|-----|----------|--------------|----------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| 111 | Ethernet | ENET2-RXD0   | ENET2_RX_DATA0 | UART6_TX<br>I2C3_SCL<br>ENET1_MDIO<br>GPIO2_IO08<br>KPP_ROW04<br>USB_OTG1_PWR<br>EPDC_SDDO08                         | Ethernet MAC2-PHY<br>interface signal or universal<br>GPIO with 3.3V logic levels.                                         |
| 112 | Power    | +5VIN        | -              | -                                                                                                                    | +4.0-5.5V input power<br>supply.                                                                                           |
| 113 | Ethernet | ENET2-RXD1   | ENET2_RX_DATA1 | UART6_RX<br>I2C3_SDA<br>ENET1_MDC<br>GPIO2_IO09<br>KPP_COL04<br>USB_OTG1_OCE<br>PDC_SDDO09                           | Ethernet MAC2-PHY<br>interface signal or universal<br>GPIO with 3.3V logic levels.                                         |
| 114 | Ethernet | ENET1-TXEN   | ENET1_TX_EN    | UART6_RTS_B<br>PWM6_OUT<br>CSI_DATA21<br>ENET2_MDC<br>GPIO2_IO05<br>KPP_COL02<br>WD0G2_WDOG_RST_B_DEB<br>EPDC_SDCE09 | Ethernet MAC1-PHY<br>interface signal or universal<br>GPIO with 3.3V logic levels.                                         |
| 115 | Power    | GND          | -              | -                                                                                                                    | -                                                                                                                          |
| 116 | Power    | GND          | -              | -                                                                                                                    | -                                                                                                                          |
| 117 | Ethernet | ENET2-CRS-DV | ENET2_RX_EN    | UART7_TX<br>I2C4_SCL<br>EIM_ADDR26<br>GPIO2_IO10<br>KPP_ROW05<br>ENET1_REF_CLK_25M<br>EPDC_SDDO10                    | Ethernet MAC2-PHY<br>interface signal or universal<br>GPIO with 3.3V logic levels.                                         |
| 118 | Ethernet | ENET1-TX-CLK | ENET1_TX_CLK   | UART7_CTS_B<br>PWM7_OUT<br>CSI_DATA22<br>ENET1_REF_CLK1<br>GPIO2_IO06<br>KPP_ROW03<br>GPT1_CLK<br>EPDC_SDOED         | Ethernet MAC1-PHY<br>interface signal or universal<br>GPIO with 3.3V logic levels.<br>10R resistor connected in<br>series. |
| 119 | Ethernet | ENET2-TXD1   | ENET2_TX_DATA1 | UART8_TX<br>ECSPi4_SCLK<br>EIM_EB_B03<br>GPIO2_IO12<br>KPP_ROW06<br>USB_OTG2_PWR<br>EPDC_SDDO12                      | Ethernet MAC2-PHY<br>interface signal or universal<br>GPIO with 3.3V logic levels.                                         |
| 120 | Power    | GND          | -              | -                                                                                                                    | -                                                                                                                          |
| 121 | Ethernet | ENET2-TXEN   | ENET2_TX_EN    | UART8_RX<br>ECSPi4_MOSI<br>EIM_ACLK_FREERUN<br>GPIO2_IO13<br>KPP_COL06<br>USB_OTG2_OC<br>EPDC_SDDO13                 |                                                                                                                            |

|     |          |            |                |                                                                                                                       |                                                                                                                                             |
|-----|----------|------------|----------------|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| 122 | Ethernet | ENET1-TXD0 | ENET1_TX_DATA0 | UART5_CTS_B<br>CSI_DATA19<br>FLEXCAN2_RX<br>GPIO2_IO03<br>KPP_COL01<br>USDHC2_VSELECT<br>EPDC_SDCE07                  | Ethernet MAC1-PHY<br>interface signal or universal<br>GPIO with 3.3V logic levels.                                                          |
| 123 | Ethernet | ENET2-TXD0 | ENET2_TX_DATA0 | UART7_RX<br>I2C4_SDA<br>EIM_EB_B02<br>GPIO2_IO11<br>KPP_COL05<br>EPDC_SDDO11                                          | Ethernet MAC2-PHY<br>interface signal or universal<br>GPIO with 3.3V logic levels.                                                          |
| 124 | Ethernet | ENET1-TXD1 | ENET1_TX_DATA1 | UART6_CTS_B<br>PWM5_OUT<br>CSI_DATA20<br>ENET2_MDIO<br>GPIO2_IO04<br>KPP_ROW02<br>WDOG1_WDOG_RST_B_DEB<br>EPDC_SDCE08 | Ethernet MAC1-PHY<br>interface signal or universal<br>GPIO with 3.3V logic levels.                                                          |
| 125 | Power    | GND        | -              | -                                                                                                                     | -                                                                                                                                           |
| 126 | Ethernet | ENET1-RXER | ENET1_RX_ER    | UART7_RTS_B<br>PWM8_OUT<br>CSI_DATA23<br>EIM_CRE<br>GPIO2_IO07<br>KPP_COL03<br>GPT1_CAPTURE2<br>EPDC_SDOEZ            | Ethernet MAC1-PHY<br>interface signal or universal<br>GPIO with 3.3V logic levels.                                                          |
| 127 | Power    | GND        | -              | -                                                                                                                     | -                                                                                                                                           |
| 128 | Power    | GND        | -              | -                                                                                                                     | -                                                                                                                                           |
| 129 | LCD      | LCD-DATA21 | LCD_DATA21     | UART8_RX<br>ECSP1_SS0<br>CSI_DATA13<br>EIM_DATA13<br>GPIO3_IO26<br>SRC_BT_CFG29<br>USDHC2_DATA1<br>EPDC_SDCE01        | LCD interface signal or<br>universal GPIO with 3.3V<br>logic levels.<br>Internally used as boot<br>configuration input (Notes 2,<br>3 & 4). |
| 130 | Power    | GND        | -              | -                                                                                                                     | -                                                                                                                                           |
| 131 | LCD      | LCD-DATA22 | LCD_DATA22     | MQS_RIGHT<br>ECSP1_MOSI<br>CSI_DATA14<br>EIM_DATA14<br>GPIO3_IO27<br>SRC_BT_CFG30<br>USDHC2_DATA2<br>USDHC2_DATA2     | LCD interface signal or<br>universal GPIO with 3.3V<br>logic levels.<br>Internally used as boot<br>configuration input (Notes 2,<br>3 & 4). |
| 132 | Power    | GND        | -              | -                                                                                                                     | -                                                                                                                                           |
| 133 | LCD      | LCD-DATA17 | LCD_DATA17     | UART7_RX<br>CSI_DATA00<br>EIM_DATA09<br>GPIO3_IO22<br>SRC_BT_CFG25<br>USDHC2_DATA7<br>EPDC_GDSP                       | LCD interface signal or<br>universal GPIO with 3.3V<br>logic levels.<br>Internally used as boot<br>configuration input (Notes 2,<br>3 & 4). |

|     |       |            |            |                                                                                                                     |                                                                                                                              |
|-----|-------|------------|------------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 134 | LCD   | LCD-DATA23 | LCD_DATA23 | MQS_LEFT<br>ECSP11_MISO<br>CSI_DATA15<br>EIM_DATA15<br>GPIO3_IO28<br>SRC_BT_CFG31<br>USDHC2_DATA3<br>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<br>CA7_MX6ULL_EVENTO<br>CSI_DATA10<br>EIM_DATA10<br>GPIO3_IO23<br>SRC_BT_CFG26<br>USDHC2_CMD<br>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<br>WDOG1_WDOG_ANY<br>CSI_DATA11<br>EIM_DATA11<br>GPIO3_IO24<br>SRC_BT_CFG27<br>USDHC2_CLK<br>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<br>CSI_DATA21<br>EIM_DATA05<br>GPIO3_IO18<br>SRC_BT_CFG13<br>USDHC2_RESET_B<br>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<br>ECSP11_SCLK<br>CSI_DATA12<br>EIM_DATA12<br>GPIO3_IO25<br>SRC_BT_CFG28<br>USDHC2_DATA0<br>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<br>CSI_DATA22<br>EIM_DATA06<br>GPIO3_IO19<br>SRC_BT_CFG14<br>USDHC2_DATA4<br>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<br>CSI_DATA23<br>EIM_DATA07<br>GPIO3_IO20<br>SRC_BT_CFG15<br>USDHC2_DATA5<br>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<br>CSI_DATA16<br>EIM_DATA00<br>GPIO3_IO13<br>SRC_BT_CFG08<br>FLEXCAN1_TX<br>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<br>CSI_DATA01<br>EIM_DATA08<br>GPIO3_IO21<br>SRC_BT_CFG24<br>USDHC2_DATA6<br>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<br>CSI_DATA17<br>EIM_DATA01<br>GPIO3_IO14<br>SRC_BT_CFG09<br>FLEXCAN1_RX<br>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<br>CSI_DATA19<br>EIM_DATA03<br>GPIO3_IO16<br>SRC_BT_CFG11<br>FLEXCAN2_RX<br>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<br>ENET2_1588_EVENT2_OUT<br>SPDIF_OUT<br>GPIO3_IO10<br>SRC_BT_CFG05<br>ECSP11_SS1<br>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<br>CSI_DATA20<br>EIM_DATA04<br>GPIO3_IO17<br>SRC_BT_CFG12<br>ECSP11_RDY<br>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<br>ENET2_1588_EVENT3_IN<br>SPDIF_LOCK<br>GPIO3_IO11<br>SRC_BT_CFG06<br>ECSP11_SS2<br>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<br>CSI_DATA18<br>EIM_DATA02<br>GPIO3_IO15<br>SRC_BT_CFG10<br>FLEXCAN2_TX<br>EPDC_PWRCOM         | LCD interface signal or universal GPIO with 3.3V logic levels. Internally used as boot configuration input (Notes 2, 3 & 4). |

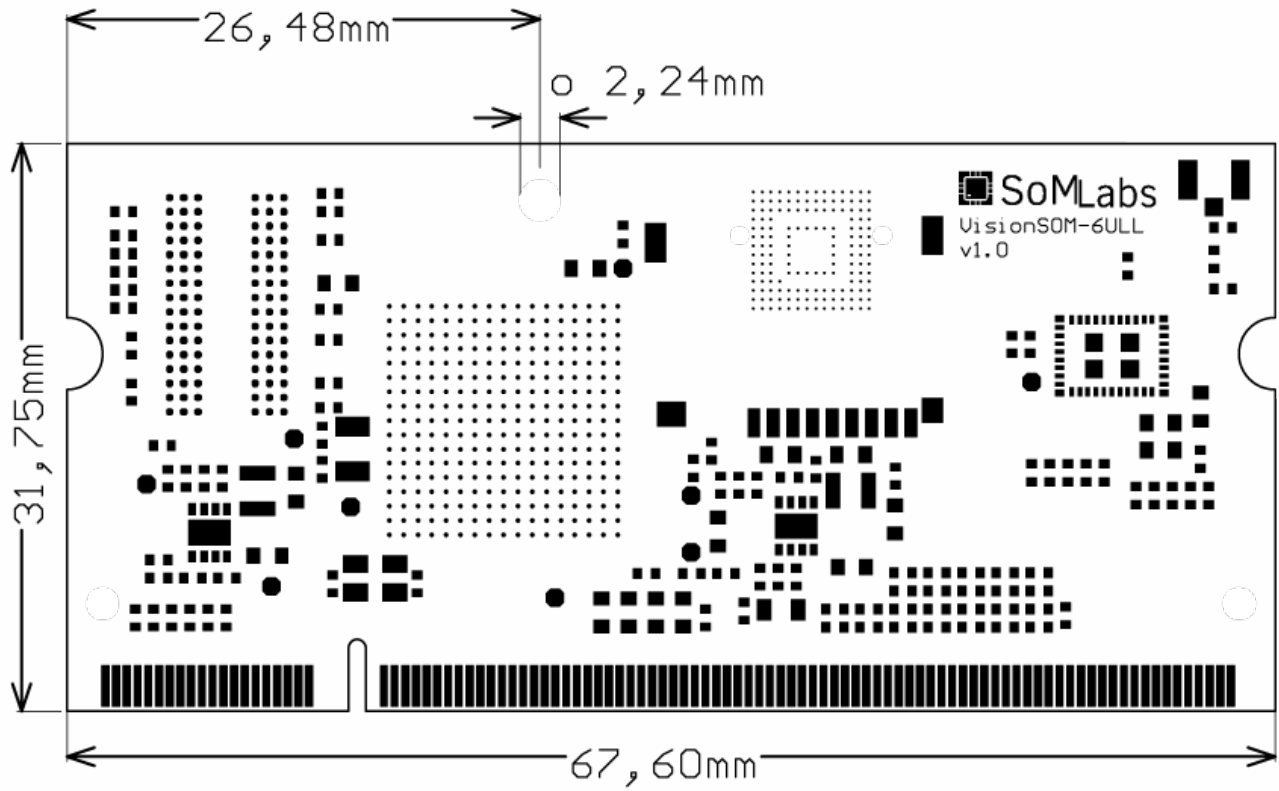
|     |       |           |            |                                                                                                                  |                                                                                                                              |
|-----|-------|-----------|------------|------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 153 | LCD   | LCD-DATA0 | LCD_DATA00 | PWM1_OUT<br>ENET1_1588_EVENT2_IN<br>I2C3_SDA<br>GPIO3_IO05<br>SRC_BT_CFG00<br>SAI1_MCLK<br>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<br>ENET1_1588_EVENT3_OUT<br>I2C4_SCL<br>GPIO3_IO08<br>SRC_BT_CFG03<br>SAI1_RX_DATA<br>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<br>ENET1_1588_EVENT2_OUT<br>I2C3_SCL<br>GPIO3_IO06<br>SRC_BT_CFG01<br>SAI1_TX_SYNC<br>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<br>CA7_MX6ULL_EVENT<br>ISAI3_TX_DATA<br>WDOG1_WDOG_ANY<br>GPIO3_IO04<br>ECSPi2_SS3<br>EPDC_GDOE         | LCD interface signal or universal GPIO with 3.3V logic levels.                                                               |
| 158 | LCD   | LCD-DATA4 | LCD_DATA04 | UART8_CTS_B<br>ENET2_1588_EVENT2_IN<br>SPDIF_SR_CLK<br>GPIO3_IO09<br>SRC_BT_CFG04<br>SAI1_TX_DATA<br>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<br>UART4_CTS_B<br>SAI3_TX_BCLK<br>WDOG3_WDOG_RST_B_DEB<br>GPIO3_IO02<br>ECSPi2_SS1<br>EPDC_SDOE         | LCD interface signal or universal GPIO with 3.3V logic levels.                                                               |
| 161 | LCD   | LCD-CLK   | LCD_CLK    | LCDIF_WR_RWN<br>UART4_TX<br>SAI3_MCLK<br>EIM_CS2_B<br>GPIO3_IO00<br>WDOG1_WDOG_RST_B_DEB<br>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<br>UART4_RTS_B<br>SAI3_RX_DATA<br>WDOG2_WDOG_B<br>GPIO3_IO03<br>ECSPi2_SS2<br>EPDC_SDCE00             | LCD interface signal or universal GPIO with 3.3V logic levels.                                                               |

|     |       |            |            |                                                                                                                  |                                                                                                                                              |
|-----|-------|------------|------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 163 | LCD   | LCD-ENABLE | LCD_ENABLE | LCDIF_RD_E<br>UART4_RX<br>SAI3_TX_SYNC<br>EIM_CS3_B<br>GPIO3_IO01<br>ECSP12_RDY<br>EPDC_SDLE                     | LCD interface signal or universal GPIO with 3.3V logic levels.                                                                               |
| 164 | LCD   | LCD-DATA2  | LCD_DATA02 | PWM3_OUT<br>ENET1_1588_EVENT3_IN<br>I2C4_SDA<br>GPIO3_IO07<br>SRC_BT_CFG02<br>SAI1_TX_BCLK<br>EPDC_SDDO02        | LCD interface signal or universal GPIO with 3.3V logic levels.<br>Internally used as boot configuration input (Notes 2, 3 & 4).              |
| 165 | Power | GND        | -          | -                                                                                                                | -                                                                                                                                            |
| 166 | LCD   | LCD-DATA7  | LCD_DATA07 | UART7_RTS_B<br>ENET2_1588_EVENT3_OUT<br>SPDIF_EXT_CLK<br>GPIO3_IO12<br>SRC_BT_CFG07<br>ECSP11_SS3<br>EPDC_SDDO07 | LCD interface signal or universal GPIO with 3.3V logic levels.<br>Internally used as boot configuration input (Notes 2, 3 & 4).              |
| 167 | SDIO  | SDIO1-D0   | SD1_DATA0  | GPT2_COMPARE3<br>SAI2_TX_SYNC<br>FLEXCAN1_TX<br>EIM_ADDR21<br>GPIO2_IO18<br>ANATOP_OTG1_ID                       | SDIO interface signal or universal GPIO with 3.3V logic levels.<br>Used by WiFi/BT module if built-in SOM.<br>Built-in internal pull-up 10k. |
| 168 | Power | GND        | -          | -                                                                                                                | -                                                                                                                                            |
| 169 | SDIO  | SDIO1-D3   | SD1_DATA3  | GPT2_CAPTURE2<br>SAI2_TX_DATA<br>FLEXCAN2_RX<br>EIM_ADDR24<br>GPIO2_IO21<br>CCM_CLKO2<br>ANATOP_OTG2_ID          | SDIO interface signal or universal GPIO with 3.3V logic levels.<br>Used by WiFi/BT module if built-in SOM.<br>Built-in internal pull-up 10k. |
| 170 | Power | GND        | -          | -                                                                                                                | -                                                                                                                                            |
| 171 | SDIO  | SDIO1-D1   | SD1_DATA1  | GPT2_CLK<br>SAI2_TX_BCLK<br>FLEXCAN1_RX<br>EIM_ADDR22<br>GPIO2_IO19<br>USB_OTG2_PWR                              | SDIO interface signal or universal GPIO with 3.3V logic levels.<br>Used by WiFi/BT module if built-in SOM.<br>Built-in internal pull-up 10k. |
| 172 | Power | GND        | -          | -                                                                                                                | -                                                                                                                                            |
| 173 | SDIO  | SDIO1-CMD  | SD1_CMD    | GPT2_COMPARE1<br>SAI2_RX_SYNC<br>SPDIF_OUT<br>EIM_ADDR19<br>GPIO2_IO16<br>SDMA_EXT_EVENT00<br>USB_OTG1_PWR       | SDIO interface signal or universal GPIO with 3.3V logic levels.<br>Used by WiFi/BT module if built-in SOM.<br>Built-in internal pull-up 10k. |
| 174 | Power | GND        | -          | -                                                                                                                | -                                                                                                                                            |

|     |       |            |            |                                                                                                                      |                                                                                                                                              |
|-----|-------|------------|------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 175 | SDIO  | SDIO1-D2   | SD1_DATA2  | GPT2_CAPTURE1<br>SAI2_RX_DATA<br>FLEXCAN2_TX<br>EIM_ADDR23<br>GPIO2_IO20<br>CCM_CLKO1<br>USB_OTG2_OC                 | SDIO interface signal or universal GPIO with 3.3V logic levels.<br>Used by WiFi/BT module if built-in SOM.<br>Built-in internal pull-up 10k. |
| 176 | Power | GND        | -          | -                                                                                                                    | -                                                                                                                                            |
| 177 | Power | GND        | -          | -                                                                                                                    | -                                                                                                                                            |
| 178 | Power | GND        | -          | -                                                                                                                    | -                                                                                                                                            |
| 179 | SDIO  | SDIO1-CLK  | SD1_CLK    | GPT2_COMPARE2<br>SAI2_MCLK<br>SPDIF_IN<br>EIM_ADDR20<br>GPIO2_IO17<br>USB_OTG1_OC                                    | SDIO interface signal or universal GPIO with 3.3V logic levels.<br>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<br>RAWNAND_CE3_B<br>I2C1_SCL<br>EIM_OE<br>GPIO4_IO18<br>SNVS_HP_VIO_5<br>UART6_RX<br>ESAI_TX2_RX3          | Video CMOS sensor signal or universal GPIO with 3.3V logic levels.<br>BT-WAKE in SOM with WiFi/BT module                                     |
| 184 | Power | GND        | -          | -                                                                                                                    | -                                                                                                                                            |
| 185 | Power | GND        | -          | -                                                                                                                    | -                                                                                                                                            |
| 186 | CSI   | CSI-DATA6  | CSI_DATA06 | USDHC2_DATA6<br>ECSP11_MOSI<br>EIM_AD06<br>GPIO4_IO27<br>SAI1_RX_DATA<br>USDHC1_RESET_BE<br>SAI_TX5_RX0              | Video CMOS sensor signal or universal GPIO with 3.3V logic levels.<br>BT-PCM-OUT in SOM with WiFi/BT module                                  |
| 187 | CSI   | CSI-MCLK   | CSI_MCLK   | USDHC2_CD_B<br>RAWNAND_CE2_B<br>I2C1_SDA<br>EIM_CS0_B<br>GPIO4_IO17<br>SNVS_HP_VIO_5_CTL<br>UART6_TX<br>ESAI_TX3_RX2 | Video CMOS sensor signal or universal GPIO with 3.3V logic levels.<br>BT-ENABLE in SOM with WiFi/BT module                                   |
| 188 | CSI   | CSI-DATA7  | CSI_DATA07 | USDHC2_DATA7<br>ECSP11_MISO<br>EIM_AD07<br>GPIO4_IO28<br>SAI1_TX_DATA<br>USDHC1_VSELECT<br>ESAI_TX0                  | Video CMOS sensor signal or universal GPIO with 3.3V logic levels.<br>BT-PCM-IN in SOM with WiFi/BT module                                   |
| 189 | Power | GND        | -          | -                                                                                                                    | -                                                                                                                                            |

|     |       |           |            |                                                                                                      |                                                                                                              |
|-----|-------|-----------|------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| 190 | CSI   | CSI-DATA5 | CSI_DATA05 | USDHC2_DATA5<br>USDHC2_DATA5<br>EIM_AD05<br>GPIO4_IO26<br>SAI1_TX_BCLK<br>USDHC1_CD_BE<br>SAI_TX_CLK | Video CMOS sensor signal or universal GPIO with 3.3V logic levels.<br>BT-PCM-CLK in SOM with WiFi/BT module  |
| 191 | CSI   | CSI-DATA4 | CSI_DATA04 | USDHC2_DATA4<br>ECSP11_SCLK<br>EIM_AD04<br>GPIO4_IO25<br>SAI1_TX_SYNC<br>USDHC1_WP<br>ESAI_TX_FS     | Video CMOS sensor signal or universal GPIO with 3.3V logic levels.<br>BT-PCM-SYNC in SOM with WiFi/BT module |
| 192 | CSI   | CSI-DATA3 | CSI_DATA03 | USDHC2_DATA3<br>ECSP12_MISO<br>EIM_AD03<br>GPIO4_IO24<br>SAI1_RX_BCLK<br>UART5_CTS_B<br>ESAI_RX_CLK  | Video CMOS sensor signal or universal GPIO with 3.3V logic levels.<br>BT-CTS in SOM with WiFi/BT module      |
| 193 | CSI   | CSI-DATA1 | CSI_DATA01 | USDHC2_DATA1<br>ECSP12_SS0<br>EIM_AD01<br>GPIO4_IO22<br>SAI1_MCLK<br>UART5_RX<br>ESAI_RX_HF_CLK      | Video CMOS sensor signal or universal GPIO with 3.3V logic levels.<br>BT-TXD in SOM with WiFi/BT module      |
| 194 | CSI   | CSI-DATA2 | CSI_DATA02 | USDHC2_DATA2<br>ECSP12_MOSI<br>EIM_AD02<br>GPIO4_IO23<br>SAI1_RX_SYNC<br>UART5_RTS_B<br>ESAI_RX_FS   | Video CMOS sensor signal or universal GPIO with 3.3V logic levels.<br>BT-RTS in SOM with WiFi/BT module      |
| 195 | CSI   | CSI-DATA0 | CSI_DATA00 | USDHC2_DATA0<br>ECSP12_SCLK<br>EIM_AD00<br>GPIO4_IO21<br>SRC_INT_BOOT<br>UART5_TX<br>ESAI_TX_HF_CLK  | Video CMOS sensor signal or universal GPIO with 3.3V logic levels.<br>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<br>I2C2_SCL<br>EIM_LBA_B<br>GPIO4_IO20<br>PWM8_OUT<br>UART6_CTS_B<br>ESAI_TX1             | Video CMOS sensor signal or universal GPIO with 3.3V logic levels.<br>WLAN-HWAKE in SOM with WiFi/BT module  |
| 198 | CSI   | CSI-VSYNC | CSI_VSYNC  | SDHC2_CLK<br>I2C2_SDA<br>EIM_RW<br>GPIO4_IO19<br>PWM7_OUT<br>UART6_RTS_B<br>ESAI_TX4_RX1             | Video CMOS sensor signal or universal GPIO with 3.3V logic levels.<br>BT-HWAKE in SOM with WiFi/BT module    |
| 199 | Power | GND       | -          | -                                                                                                    | -                                                                                                            |
| 200 | Power | GND       | -          | -                                                                                                    | -                                                                                                            |

## Dimensions



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