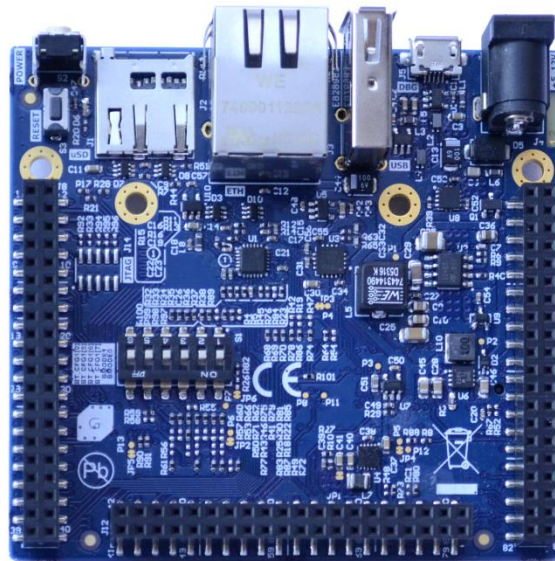


# liteboard

## liteboard Datasheet



# Table of Contents

|         |                                                        |    |
|---------|--------------------------------------------------------|----|
| 1.      | Summary .....                                          | 3  |
| 1.1.    | Description .....                                      | 3  |
| 1.2.    | Features .....                                         | 3  |
| 1.3.    | Additional information .....                           | 3  |
| 2.      | Functional Description .....                           | 4  |
| 2.1.    | Block Diagram .....                                    | 4  |
| 2.2.    | Connectors on the board .....                          | 5  |
| 2.3.    | Connectors list .....                                  | 5  |
| 2.4.    | Connectors description .....                           | 6  |
| 3.      | µSD slot card [ J1 ] .....                             | 6  |
| 4.      | Ethernet RJ45 [ J2 ] .....                             | 6  |
| 5.      | USB type A [ J3 ] .....                                | 7  |
| 6.      | Power supply [ J4 ] .....                              | 7  |
| 7.      | micro USB Type B connector [ J5 ] .....                | 7  |
| 8.      | 40 pins connector for expansion sandwich [ J8 ] .....  | 8  |
| 9.      | 40 pins connector for expansion sandwich [ J12 ] ..... | 10 |
| 10.     | 40 pins connector for expansion sandwich [ J9 ] .....  | 12 |
| 11.     | JTAG [ J11 ] .....                                     | 14 |
| 11.1.   | Boot options .....                                     | 15 |
| 11.2.   | User interface .....                                   | 16 |
| 11.2.1. | LED .....                                              | 16 |
| 11.2.2. | On/Off switch [S2] .....                               | 16 |
| 11.2.3. | Reset switch [S3] .....                                | 16 |
| 12.     | Electrical Characteristics .....                       | 17 |
| 12.1.   | Absolute Maximum Ratings .....                         | 17 |
| 12.2.   | Recommended Operating Conditions .....                 | 17 |
| 13.     | Mechanical Characteristics .....                       | 18 |
| 14.     | Document Revision History .....                        | 19 |

# 1. Summary

## 1.1. Description

The liteboard is single computer board ready to use with the liteSOM modules. The liteboard is equipped with 10/100Mb Ethernet port, USB 2.0 Host, Power supply connector, uSD card slot, LED, boot choose dipswitch, JTAG port (not populated), microUSB for power supply and serial debug, expansion connectors 3x40PIN, dedicated power output for TFT backlight. The liteboard is compatible with linux-friendly liteSOM modules. Additionally, liteboard enables you to implement any kind of application in such areas as IoT, building or industrial automation and many more. The liteboard is targets at companies and individuals who want to develop their products for mass production.

## 1.2. Features

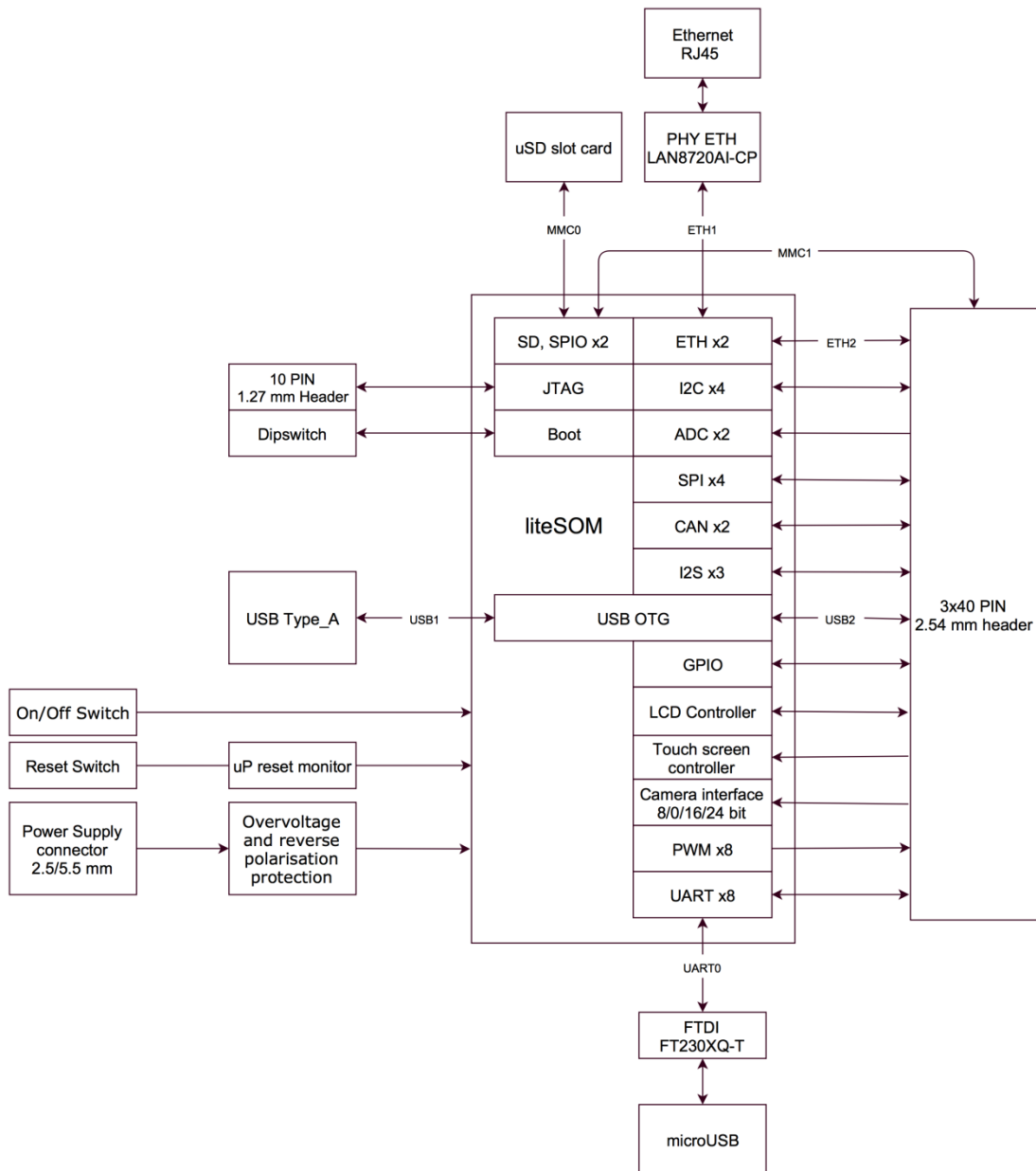
- Small size industrial single board computer ready to use with liteSOM module
- SO-DIMM socket dedicate for the liteSOM
- 10/100 Mb Ethernet, RJ45
- USB 2.0
- micro USB for power supply and serial debug
- micro SD card slot
- 3 x 40 Pins for expansion connectors
- JTAG port
- Boot configuration DIP switch
- Dedicated power output for LCD backlight
- 5-12V power supply
- Compatible with chiliboard expansion sandwiches

## 1.3. Additional information

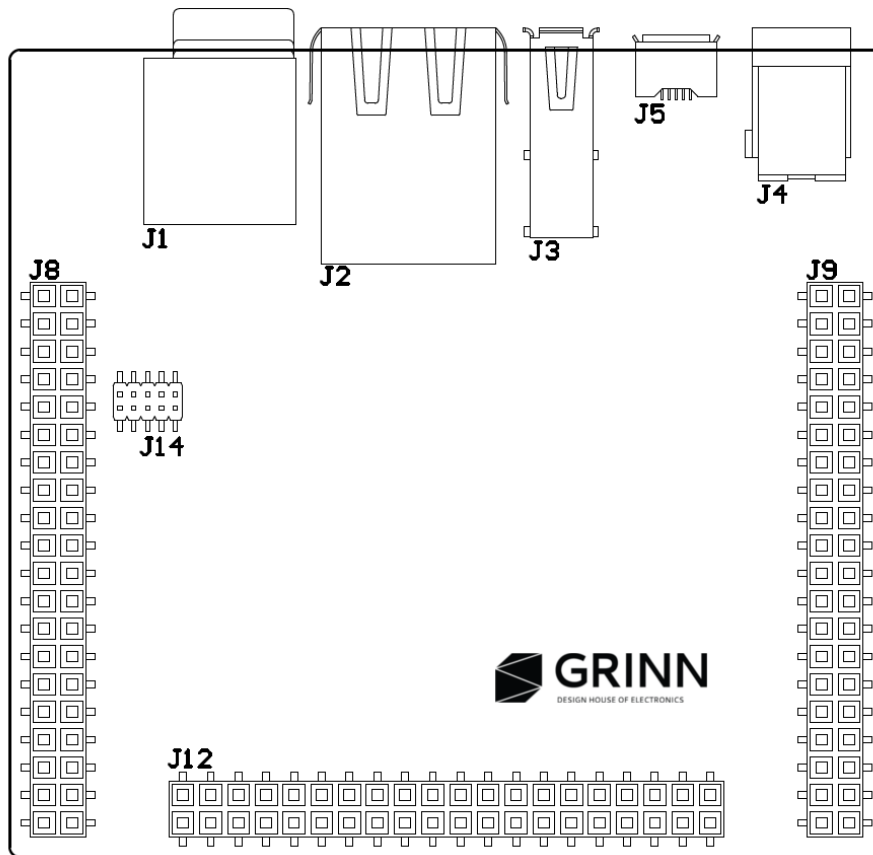
The board circuit diagram and instructions on how to start with software development using liteboard are available on the website: [www.litesom.com](http://www.litesom.com)

## 2. Functional Description

### 2.1. Block Diagram



## 2.2. Connectors on the board



## 2.3. Connectors list

| Connector | Description                                                     |
|-----------|-----------------------------------------------------------------|
| J1        | Micro SD slot card                                              |
| J2        | Ethernet [RJ45]                                                 |
| J3        | USB Host [Type A]                                               |
| J4        | Power supply [2.5/5.5mm]                                        |
| J5        | Micro USB [Type B]                                              |
| J8        | 40 pins connector for expansion sandwich [2x20, pitch: 2.54 mm] |
| J9        | 40 pins connector for expansion sandwich [2x20, pitch: 2.54 mm] |
| J12       | 40 pins connector for expansion sandwich [2x20, pitch: 2.54 mm] |
| J14       | JTAG [2x5, pitch: 1.27 mm]                                      |

## 2.4. Connectors description

### 2.4.1 $\mu$ SD slot card [ J1 ]

| Pin | liteboard Connector | liteSOM Connector | I.MX 6UL Pin | Type | Description   |
|-----|---------------------|-------------------|--------------|------|---------------|
| 1   | SD_DAT2             | 175               | B1           | IO   | $\mu$ SD Data |
| 2   | SD_DAT3             | 178               | A2           | IO   | $\mu$ SD Data |
| 3   | SD_CMD              | 177               | C2           | IO   | Command line  |
| 4   | 3V3                 | -                 | -            |      | VDD 3.3V      |
| 5   | SD_CLK              | 181               | C1           | IO   | Clock         |
| 6   | GND                 | -                 | -            |      | GND           |
| 7   | SD_DAT0             | 173               | B3           | IO   | $\mu$ SD Data |
| 8   | SD_DAT1             | 176               | B2           | IO   | $\mu$ SD Data |
| 9   | SD_CD               | 44                | J14          | IO   | Card detect   |

### 2.4.2 Ethernet RJ45 [ J2 ]

The liteboard is equipped with 10/100Mb Ethernet interface based on LAN8720AI-CP transceiver by Microchip. Table below presents the connected LAN8720AI-CP and liteSOM module.

| liteboard Connector | liteSOM Connector | I.MX 6UL Pin | Type  | Description              |
|---------------------|-------------------|--------------|-------|--------------------------|
| ETH_MDIO            | 32                | K17          | IO    | Multifunction pin.       |
| ETH_MDC             | 31                | L16          | IO    | Multifunction pin.       |
| ETH_RXD1            | 99                | E17          | IO    | Multifunction pin.       |
| ETH_RXD0            | 97                | F16          | IO    | Multifunction pin.       |
| ETH_RXERR           | 98                | D15          | IO    | Multifunction pin.       |
| ETH_TXEN            | 94                | F15          | IO    | Multifunction pin.       |
| ETH_TXD0            | 93                | E15          | IO    | Multifunction pin.       |
| ETH_TXD1            | 91                | E14          | IO    | Multifunction pin.       |
| ETH_CRSDV           | 100               | E16          | IO    | Multifunction pin.       |
| ETH_RESETn          | 4                 | P8           | Input | Connect to global RESETn |
| ETH_REFCLK          | 92                | F14          | IO    | Multifunction pin.       |

### 2.4.3 USB type A [ J3 ]

The liteSOM supports two USB OTG host ports. The liteboard is equipped with USB type A socket. It is driven by liteSOM USB2.0 controller.

| Pin | liteboard Connector | liteSOM Connector | I.MX 6UL Pin | Description        |
|-----|---------------------|-------------------|--------------|--------------------|
| 1   | USB1_VCC            | 70                | T12          | USB VCC            |
| 2   | USB1_D_P            | 63                | U15          | USB1 data positive |
| 3   | USB1_D_N            | 65                | T15          | USB1 data negative |
| 4   | GND                 | -                 | -            | GND                |

### 2.4.4 Power supply [ J4 ]

The J4 connector is dedicated for 5-12 V DC power supply. We are recommended using the power adapter with 1A current output. The DC power socket is compatible with the standard 2.5mm / 5.5mm power plug. Power input on the liteboard has reverse polarity and overvoltage protection.

### 2.4.5 micro USB Type B connector [ J5 ]

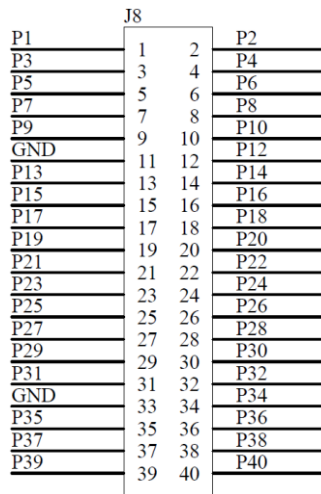
The micro USB port on the liteboard is used for serial interface communication. The default parameters for the serial port are:

- Baud rate: 115200
- Data bits: 8
- Stop bits: 1
- Parity: None

The micro USB port can be also used as the power supply for liteboard with the current up to 500mA. When the expansion board is connected we recommend using external power supply connected to J4.

| Pin No | liteboard Connector | liteSOM Connector | I.MX 6UL Pin | Description                           |
|--------|---------------------|-------------------|--------------|---------------------------------------|
| 1      | DBG_USB_VCC         | -                 | -            | USB Power supply                      |
| 2      | DBG_RXD             | 45                | K14          | RX Debug [FTDI Converter] Input data  |
| 3      | DBG_TXD             | 43                | K16          | TX Debug [FTDI Converter] Output data |
| 4      | -                   | -                 | -            | No connected                          |
| 5      | GND                 | -                 | -            | GND                                   |

### 2.4.6 40 pins connector for expansion sandwich [ J8 ]



| Pin No | liteboard Connector | liteSOM Connector | I.MX 6UL Pin | Type | Function |                    |
|--------|---------------------|-------------------|--------------|------|----------|--------------------|
| 1      | P1                  | I2S0_DOUT         | 25           | N14  | IO       | Multifunction pin. |
| 2      | P2                  | I2S0_DIN          | 21           | M14  | IO       | Multifunction pin. |
| 3      | P3                  | I2S0_WCLK         | 24           | N15  | IO       | Multifunction pin. |
| 4      | P4                  | I2S0_BCLK         | 23           | N16  | IO       | Multifunction pin. |
| 5      | P5                  | I2S0_MCLK         | 22           | P14  | IO       | Multifunction pin. |
| 6      | P6                  | GND               | -            | -    | Ground   | GND                |
| 8      | P7                  | NAND_CE1n         | 184          | B5   | IO       | Multifunction pin. |
| 8      | P8                  | NAND_CE0n         | 183          | C5   | IO       | Multifunction pin. |
| 9      | P9                  | NAND_CLE          | 182          | A4   | IO       | Multifunction pin. |
| 10     | P10                 | NAND_WPn          | 152          | D5   | IO       | Multifunction pin. |
| 11     | P11                 | GND               | -            | -    | Ground   | GND                |
| 12     | P12                 | SPI_CLK           | 165          | D4   | IO       | Multifunction pin. |
| 13     | P13                 | SPI_CS            | 168          | D3   | IO       | Multifunction pin. |
| 14     | P14                 | SPI_MISO          | 170          | D1   | IO       | Multifunction pin. |
| 15     | P15                 | SPI_MOSI          | 167          | D2   | IO       | Multifunction pin. |



|    |     |            |     |     |        |                    |
|----|-----|------------|-----|-----|--------|--------------------|
| 16 | P16 | I2C_SCL    | 155 | E5  | IO     | Multifunction pin. |
| 17 | P17 | I2C_SDA    | 153 | F5  | IO     | Multifunction pin. |
| 18 | P18 | NAND_REDYn | 186 | A3  | IO     | Multifunction pin. |
| 19 | P19 | UART2_CTS  | 52  | J15 | IO     | Multifunction pin. |
| 20 | P20 | UART2_RTS  | 50  | H14 | IO     | Multifunction pin. |
| 21 | P21 | UART2_TX   | 49  | J17 | IO     | Multifunction pin. |
| 22 | P22 | UART2_RX   | 51  | J16 | IO     | Multifunction pin. |
| 23 | P23 | UART3_TX   | 79  | H17 | IO     | Multifunction pin. |
| 24 | P24 | UART3_RX   | 81  | H16 | IO     | Multifunction pin. |
| 25 | P25 | TS_X_LEFT  | 34  | M16 | IO     | Multifunction pin. |
| 26 | P26 | TS_X_RIGHT | 35  | L17 | IO     | Multifunction pin. |
| 27 | P27 | TS_Y_UP    | 36  | L14 | IO     | Multifunction pin. |
| 28 | P28 | TS_Y_DOWN  | 37  | L15 | IO     | Multifunction pin. |
| 29 | P29 | GND        | -   | -   | Ground | GND                |
| 30 | P30 | GPIO0      | 38  | K13 | IO     | Multifunction pin. |
| 31 | P31 | GPIO8      | 30  | N17 | IO     | Multifunction pin. |
| 32 | P32 | GPIO5      | 33  | M17 | IO     | Multifunction pin. |
| 33 | P33 | GND        | -   | -   | Ground | GND                |
| 34 | P34 | UART5_RX   | 89  | G13 | IO     | Multifunction pin. |
| 35 | P35 | UART5_TX   | 87  | F17 | IO     | Multifunction pin. |
| 36 | P36 | CAN1_TX    | 80  |     | IO     | Multifunction pin. |
| 37 | P37 | CAN1_RX    | 82  |     | IO     | Multifunction pin. |
| 38 | P38 | UART7_RXD  | 102 | A15 | IO     | Multifunction pin. |
| 39 | P39 | UART4_RX   | 85  | G16 | IO     | Multifunction pin. |
| 40 | P40 | UART4_TX   | 83  | G17 | IO     | Multifunction pin. |

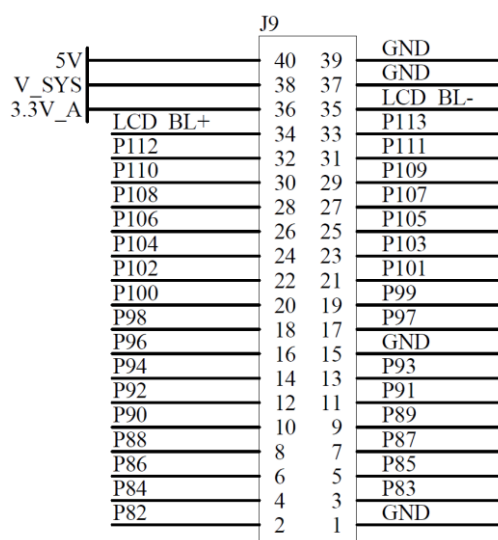
## 2.4.7 40 pins connector for expansion sandwich [ J12 ]

| J12 |    |
|-----|----|
| P41 | 1  |
| P43 | 3  |
| P45 | 5  |
| GND | 7  |
| P49 | 9  |
| P51 | 11 |
| P53 | 13 |
| P55 | 15 |
| P57 | 17 |
| P59 | 19 |
| P61 | 21 |
| P63 | 23 |
| P65 | 25 |
| P67 | 27 |
| GND | 29 |
| P71 | 31 |
| P73 | 33 |
| P75 | 35 |
| P77 | 37 |
| P79 | 39 |
| P42 | 2  |
| P44 | 4  |
| P46 | 6  |
| P48 | 8  |
| P50 | 10 |
| P52 | 12 |
| P54 | 14 |
| P56 | 16 |
| P58 | 18 |
| P60 | 20 |
| P62 | 22 |
| P64 | 24 |
| P66 | 26 |
| P68 | 28 |
| P70 | 30 |
| P72 | 32 |
| P74 | 34 |
| P76 | 36 |
| P78 | 38 |
| P80 | 40 |

| Pin No | liteboard Connector | liteSOM Connector | I.MX 6UL Pin | Type | Function |                    |
|--------|---------------------|-------------------|--------------|------|----------|--------------------|
| 1      | P41                 | UART7_TXD         | 103          | B14  | IO       | Multifunction pin. |
| 2      | P42                 | ETH_MDIO          | 32           | K17  | IO       | Multifunction pin. |
| 3      | P43                 | ETH_MDC           | 31           | L16  | IO       | Multifunction pin. |
| 4      | P44                 | USB_OTG2_DRVVBUS  | 104          | A16  | IO       | Multifunction pin. |
| 5      | P45                 | SNVS_TAMPER7      | 6            | N10  | Input    | Multifunction pin. |
| 6      | P46                 | USB_OTG2_ID       | 101          | D17  | IO       | Multifunction pin. |
| 8      | P47                 | GND               | -            | -    | Ground   | GND                |
| 8      | P48                 | USB_OTG2_D_P      | 57           | U13  | IO       | Multifunction pin. |
| 9      | P49                 | USB_OTG2_VBUS     | 56           | U12  | Input    | Multifunction pin. |
| 10     | P50                 | USB_OTG2_D_N      | 59           | T13  | IO       | Multifunction pin. |
| 11     | P51                 | LCD_RESET         | 145          | E9   | IO       | Multifunction pin. |
| 12     | P52                 | SDIO_CMD          | 158          | F3   | IO       | Multifunction pin. |
| 13     | P53                 | ETH2_RX_EN        | 109          | B17  | IO       | Multifunction pin. |
| 14     | P54                 | GND               | -            | -    | Ground   | GND                |

|    |     |                |     |     |        |                    |
|----|-----|----------------|-----|-----|--------|--------------------|
| 15 | P55 | SDIO_DAT3      | 166 | E1  | IO     | Multifunction pin. |
| 16 | P56 | ETH2_RXERR     | 107 | D16 | IO     | Multifunction pin. |
| 17 | P57 | GND            | -   | -   | Ground | GND                |
| 18 | P58 | ETH2_RX_DATA1  | 110 | C16 | IO     | Multifunction pin. |
| 19 | P59 | GND            | -   | -   | Ground | GND                |
| 20 | P60 | UART1_CTS      | 46  | K15 | IO     | Multifunction pin. |
| 21 | P61 | GND            | -   | -   | Ground | GND                |
| 22 | P62 | JTAG_MOD       | 26  | P15 | Input  | Multifunction pin. |
| 23 | P63 | GND            | -   | -   | Ground | GND                |
| 24 | P64 | CCM_CLK1_P     | 76  | P17 | IO     | Multifunction pin. |
| 25 | P65 | SDIO_DAT1      | 164 | E3  | IO     | Multifunction pin. |
| 26 | P66 | SDIO_DAT2      | 163 | E2  | IO     | Multifunction pin. |
| 27 | P67 | GND            | -   | -   | Ground | GND                |
| 28 | P68 | SDIO_DAT0      | 162 | E4  | IO     | Multifunction pin. |
| 29 | P69 | GND            | -   | -   | Ground | GND                |
| 30 | P70 | LCD_DATA18     | 120 | A13 | IO     | Multifunction pin. |
| 31 | P71 | LCD_DATA2      | 140 | E10 | IO     | Multifunction pin. |
| 32 | P72 | LCD_DATA17     | 121 | B13 | IO     | Multifunction pin. |
| 33 | P73 | LCD_DATA9      | 131 | A11 | IO     | Multifunction pin. |
| 34 | P74 | LCD_DATA1      | 141 | A9  | IO     | Multifunction pin. |
| 35 | P75 | LCD_DATA16     | 122 | C13 | IO     | Multifunction pin. |
| 36 | P76 | LCD_DATA8      | 132 | B11 | IO     | Multifunction pin. |
| 37 | P77 | LCD_DATA0      | 142 | B9  | IO     | Multifunction pin. |
| 38 | P78 | SDIO_CLK       | 157 | F2  | IO     | Multifunction pin. |
| 39 | P79 | PWM_Brightness | 29  | M15 | IO     | Multifunction pin. |
| 40 | P80 | GND            | -   | -   | Ground | GND                |

## 2.4.8 40 pins connector for expansion sandwich [ J9 ]



| Pin No | liteboard Connector | liteSOM Connector | I.MX 6UL Pin | Type   | Function                        |
|--------|---------------------|-------------------|--------------|--------|---------------------------------|
| 1      | P81                 | GND               | -            | Ground | GND                             |
| 2      | P82                 | SNVS_TAMPER6      | 15           | Input  | Multifunction pin.              |
| 3      | P83                 | SNVS_TAMPER2      | 11           | Input  | Multifunction pin.              |
| 4      | P84                 | SNVS_TAMPER8      | 18           | Input  | Multifunction pin.              |
| 5      | P85                 | SNVS_TAMPER0      | 9            | Input  | Multifunction pin.              |
| 6      | P86                 | SNVS_TAMPER9      | 17           | Input  | Multifunction pin.              |
| 8      | P87                 | SNVS_TAMPER4      | 13           | Input  | Multifunction pin.              |
| 8      | P88                 | SNVS_TAMPER1      | 12           | Input  | Multifunction pin.              |
| 9      | P89                 | NAND_DQS          | 106          | IO     | Multifunction pin. <sup>1</sup> |
| 10     | P90                 | SNVS_TAMPER5      | 14           | Input  | Multifunction pin.              |
| 11     | P91                 | LCD_ENABLE        | 147          | IO     | Multifunction pin.              |
| 12     | P92                 | SNVS_TAMPER3      | 16           | Input  | Multifunction pin.              |
| 13     | P93                 | LCD_HSYNC         | 148          | IO     | Multifunction pin.              |
| 14     | P94                 | LCD_VSYNC         | 146          | IO     | Multifunction pin.              |

|    |      |            |     |     |        |                    |
|----|------|------------|-----|-----|--------|--------------------|
| 15 | P95  | GND        | -   | -   | Ground | GND                |
| 16 | P96  | LCD_CLK    | 150 | A8  | IO     | Multifunction pin. |
| 17 | P97  | LCD_DATA7  | 135 | D11 | IO     | Multifunction pin. |
| 18 | P98  | LCD_DATA6  | 136 | A10 | IO     | Multifunction pin. |
| 19 | P99  | LCD_DATA5  | 137 | B10 | IO     | Multifunction pin. |
| 20 | P100 | LCD_DATA4  | 138 | C10 | IO     | Multifunction pin. |
| 21 | P101 | LCD_DATA3  | 139 | D10 | IO     | Multifunction pin. |
| 22 | P102 | LCD_DATA15 | 125 | D13 | IO     | Multifunction pin. |
| 23 | P103 | LCD_DATA14 | 126 | A12 | IO     | Multifunction pin. |
| 24 | P104 | LCD_DATA13 | 127 | B12 | IO     | Multifunction pin. |
| 25 | P105 | LCD_DATA12 | 128 | C12 | IO     | Multifunction pin. |
| 26 | P106 | LCD_DATA11 | 129 | D12 | IO     | Multifunction pin. |
| 27 | P107 | LCD_DATA10 | 130 | E12 | IO     | Multifunction pin. |
| 28 | P108 | LCD_DATA23 | 115 | B16 | IO     | Multifunction pin. |
| 29 | P109 | LCD_DATA22 | 116 | A14 | IO     | Multifunction pin. |
| 30 | P110 | LCD_DATA21 | 117 | B14 | IO     | Multifunction pin. |
| 31 | P111 | LCD_DATA20 | 118 | C14 | IO     | Multifunction pin. |
| 32 | P112 | LCD_DATA19 | 119 | D14 | IO     | Multifunction pin. |
| 33 | P113 | RESET      | 4   | P8  | Reset  | RESET              |
| 34 | P114 | LCD_BL+    | -   | -   | Output | LCD_BL+            |
| 35 | P115 | LCD_BL-    | -   | -   | Output | LCD_BL-            |
| 36 | P116 | 3V3        | -   | -   |        | 3.3V_A             |
| 37 | P117 | GND        | -   | -   | Ground | GND                |
| 38 | P118 | 5VSYS      | -   | -   |        | V_SYS              |
| 39 | P119 | GND        | -   | -   | Ground | GND                |
| 40 | P120 | 5V         | -   | -   |        | 5V                 |

1 Pins belong to NVCC\_NAND power group. This group is used to internal eMMC connection, which determinates power supply of 3.3V.

## 2.4.9 JTAG [ J11 ]

| Pin | liteboard Connector | liteSOM Connector | I.MX 6UL Pin | Type   | Description  |
|-----|---------------------|-------------------|--------------|--------|--------------|
| 1   | 3V3                 | -                 | -            | Supply | 3.3V Supply  |
| 2   | I2S0_MCLK           | 22                | P14          | Input  | TMS          |
| 3   | GND                 | -                 | -            | GND    | GND          |
| 4   | I2S0_DIN            | 21                | M14          | Input  | TCK          |
| 5   | GND                 | -                 | -            | GND    | GND          |
| 6   | I2S0_WLCK           | 24                | N15          | Output | TDO          |
| 7   | -                   | -                 | -            | -      | No connected |
| 8   | I2S0_BCLK           | 23                | N16          | Input  | TDI          |
| 9   | GND                 | -                 | -            | GND    | GND          |
| 10  | I2S0_DOUT           | 25                | N14          | Input  | RESET        |

Normally connector J11 is not assembled on the board.

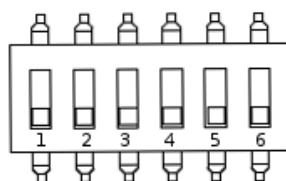
### 3. Boot options

The i.MX 6Ultralite processor supports booting from:

- Memory: NOR, NAND, MMC or EEPROM
- Peripheral: USB or UART

After power-up, list of possible boot method reading configuration pins BT\_MODE[1:0], BT\_CFG1[7:0], BT\_CFG2[7:0], BT\_CFG3[7:0] and BT\_CFG4[7:0]. Only BT\_MODE[1:0], BT\_CFG1[7:5] and BT\_CFG2[3] are exposed on liteboard DIP switches. The other boot pins are set to HIGH.

For choose the boot options is available 6 pins dipswitch (S1).



|            |            |            |            |            |            |
|------------|------------|------------|------------|------------|------------|
| 1          | 2          | 3          | 4          | 5          | 6          |
| BOOT_MODE0 | BOOT_MODE1 | BT_CFG1[7] | BT_CFG1[6] | BT_CFG1[5] | BT_CFG2[3] |

BOOT\_MODE [1:0] are used to select system boot mode.

| BOOT_MODE0 | BOOT_MODE1 | Boot Mode         |
|------------|------------|-------------------|
| LOW        | LOW        | Boot from Fuses   |
| HIGH       | LOW        | Serial Downloader |
| LOW        | HIGH       | Internal Boot     |
| HIGH       | HIGH       | Reserved          |

The table below shows fuse map for boot configuration.

| Type   | BT_CFG1[7] | BT_CFG1[6] | BT_CFG1[5] | BT_CFG2[3]                                                                                   |
|--------|------------|------------|------------|----------------------------------------------------------------------------------------------|
| QSPI   | LOW        | LOW        | LOW        | FSDLY ( <i>Full Speed Delay Selection</i> )<br>LOW: one clock delay<br>HIGH: two clock delay |
| SPI    | LOW        | LOW        | HIGH       | Not used                                                                                     |
| SD/eSD | LOW        | HIGH       | LOW        | Not used                                                                                     |

|          |      |          |          |                                         |
|----------|------|----------|----------|-----------------------------------------|
| MMC/eMMC | LOW  | HIGH     | HIGH     | Not used                                |
| NAND     | HIGH | Not used | Not used | Boot Search Count:<br>LOW: 4<br>HIGH: 8 |

For complete Boot Mode configuration description see section 8 of i.MX 6UltraLite Reference Manual.

## 3.1. User interface

### 3.1.1. LED

The liteboard is equipped with D6 LED connected to the 3.3V power line.

### 3.1.2. On/Off switch [S2]

| Name | liteboard Connector | liteSOM Connector | I.MX 6UL Pin | Description             |
|------|---------------------|-------------------|--------------|-------------------------|
| S2   | ONOFF               | 3                 | ON/OFF       | Switch ON/OFF liteboard |

### 3.1.3. Reset switch [S3]

The liteboard is equipped with the microprocessor reset monitor MAX803SQ308T1G by Maxim. It is activated after press the reset switch [S3].

| Name | liteboard Connector | liteSOM Connector | I.MX 6UL Pin | Description |
|------|---------------------|-------------------|--------------|-------------|
| S3   | RESET               | 4                 | PORn         | Reset       |



## 4. Electrical Characteristics

### 4.1. Absolute Maximum Ratings

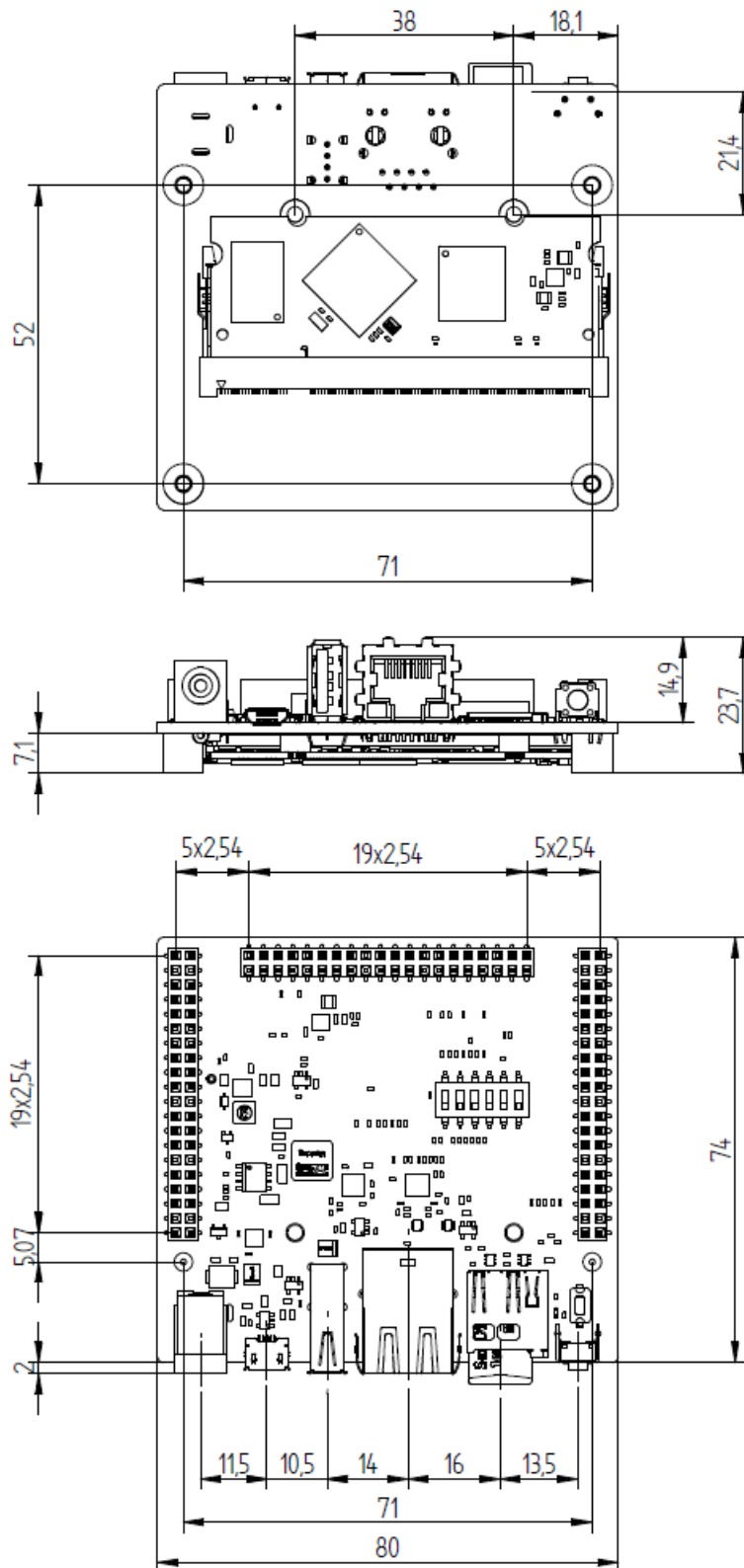
|                                                    | min. | max. | unit |
|----------------------------------------------------|------|------|------|
| Supply voltage V_DC                                |      | 18   | V    |
| Supply voltage V_USB                               |      | 5,5  | V    |
| Terminal current V_SYS                             |      | 1.5  | A    |
| Terminal current 3V3                               |      | 1,5  | A    |
| Terminal current LCD_BL-, LCD_BL+                  |      | 500  | mA   |
| Operating ambient temperature (Consumer version)   | 0    | 70   | °C   |
| Operating ambient temperature (Industrial version) | -40  | 85   | °C   |

### 4.2. Recommended Operating Conditions

|                                      | min. | nom. | max.                   | unit |
|--------------------------------------|------|------|------------------------|------|
| Supply voltage V_DC                  | 5.0  | 6.0  | 12                     | V    |
| micro USB VBUS Supply, USB_OTGx_VBUS | 4.50 | 5.0  | 5.35                   | V    |
| Current, micro USB_VBUS              |      |      | 500                    | mA   |
| Output current, V_SYS                | 0    |      | 500 (5V)<br>250 (3.6V) | mA   |
| Output current, 3.3VD <sup>1</sup>   | 0    |      | 400 (200)              | mA   |

Reference supply voltage for the pins groups: VCC\_GPIO, VCC\_UART, VCC\_LCD, VCC\_ENET, NVCC\_CSI are 3.3V

## 5. Mechanical Characteristics



## 6. Document Revision History

| Document Revision | Notes            |
|-------------------|------------------|
| 1.0               | Initial revision |

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