Matrixi ARM mini PC (TBS2910)

**Functional Block Diagram**

- **iMX6Q**
  - Cortex-A9 at 1.0GHz
- **DDR3 2GB**
- **SATA**
- **SD Card**
- **USB Port**
- **12V DC Jack**
- **PMIC Circuit**
  - Reset button
  - Power LED
- **GPIOs**
  - GPIO1_0, GPIO1_1, GPIO1_2, GPIO1_3, GPIO1_4, GPIO1_5
  - GPIO1_6, GPIO1_7, GPIO1_8, GPIO1_9, GPIO1_10, GPIO1_11, GPIO1_12, GPIO1_13, GPIO1_14, GPIO1_15
- **I2C 3**
- **RTC DS1302**
- **USB 2.0 HUB**
  - USB type A
  - USB type B
- **WiFi**
  - Antenna
- **Ethernet**
  - LAN port
- **GPI03_28**
- **FAN**
- **LEDS**
  - OLED with LED
  - Serial port
- **Audio Codec**
  - TDA7389
  - 3.5mm Jack
- **HDMI**
  - HDMI 1.4
- **MicroSD\SDIO**
  - MicroSD/SDIO/SDHC/SDXC
- **IR**
- **OPTICAL**
- **GPIO1_0**
- **GPIO1_1**
- **GPIO1_2**
- **GPIO1_3**
- **GPIO1_4**
- **GPIO1_5**
- **GPIO1_6**
- **GPIO1_7**
- **GPIO1_8**
- **GPIO1_9**
- **GPIO1_10**
- **GPIO1_11**
- **GPIO1_12**
- **GPIO1_13**
- **GPIO1_14**
- **GPIO1_15**

**Specifications**

- **Matrxi ARM mini PC (TBS2910)**
Layout:
50ohm, SD signals (SD_DATAx, SD_CMD, SD_CLK) control.
SD CARD SOCKET

SATA POWER

SATA CONNECTOR

TF CARD SOCKET

Place on bottom layer.
Power-on Strapping Pins

**PHYADDRESS**

**MODE[3:0]**

1110 BaseT, RGMII, PLL ON, INT
1100 BaseT, RGMII, PLL OFF, INT

0 : 1.5V I/O
1 : 1.8V I/O
2.5V I/O: Pull UP/DOWN

Layout: 100 ohm differential pairs
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Mini-PCIE

Place near CON

Debug
**Boot Configuration Select**

**BOOT_CFG1[7]** BT_CFG1_7
**BOOT_CFG1[6]** BT_CFG1_6
**BOOT_CFG1[5]** BT_CFG1_5
**BOOT_CFG1[4]** BT_CFG1_4
**BOOT_CFG2[6]** BT_CFG2_6
**BOOT_CFG2[5]** BT_CFG2_5
**BOOT_CFG2[4]** BT_CFG2_4
**BOOT_CFG2[3]** BT_CFG2_3

**XXX0** 0010

= SATA Boot

<table>
<thead>
<tr>
<th>X0</th>
<th>1-bit</th>
</tr>
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<tbody>
<tr>
<td>X1</td>
<td>4-bit</td>
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10 = 8-bit

01 = SD2 Boot

10 = SD3 Boot

11 = SD4 Boot

011X = MMC/eMMC Boot

010X = SD/eSD Boot

**Boot Select Table**

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7 Bootup from MMC/SD

- i.MX 6Quad and i.MX 6Dual SABRE board boot from eMMC.
- Boot Switch:
  - [download Mode/MFG/Tool mode] (SW1) 00001000 (from 1-8 bit)
  - [eMMC/eMMC2] boot (SW1) 11001110 (from 1-8 bit)
  - MMC0 (SD0) boot (SW1) 10000010 (from 1-8 bit)
  - MMC2 (SD2) boot (SW1) 01000110 (from 1-8 bit)

**NOTE:**

- Place series resistors so as to minimize EIM portion of trace length. Two layout possibilities include:
  1) As close to processor as possible.
  2) Close to other components using EIM signals.

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resistors and/or switches; see Figure 1-1. Each configured EIM boot signal sees either a 14.7 kΩ pull-down or a 4.7 kΩ pull-up. For each switch-enabled pulled-up signal, the supply is presented with a 10 kΩ current load.

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Encryption chip. Not connected.