

# i.MX8M-MINI-CM

## Variant: MINI-Full

21.09.2021

SVN Revision: 1486 [Locally Modified]

I2C USAGE AND ADDRESS TABLE

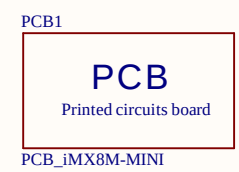
| NAME               | PERIPHERAL                     | ADDRESS       |
|--------------------|--------------------------------|---------------|
| I2C1<br>1.8V       | i.MX8-MB: Camera on CSI1       | (0x3C<<1)+RW  |
|                    | i.MX8-MB: USB3.0 Power Switch  | (0x050<<1)+RW |
|                    | i.MX8-MB: RTC clock            | (0x051<<1)+RW |
|                    | i.MX8-MB: miniPCIeE Ref. Clock | (0x6A<<1)+RW  |
| I2C2<br>only on CM | 1.8V, i.MX8-CM: PMIC control   | (0x4B<<1)+RW  |
|                    | 1.8V, i.MX8-CM: LVDS           | (0x2C<<1)+RW  |
|                    | 3.3V, i.MX8-CM: EEPROM         | (0x50<<1)+RW  |
|                    | 3.3V, i.MX8-CM: Audio Codec    | (0x1A<<1)+RW  |
|                    |                                |               |
| I2C3               | i.MX8-MB: PCIe M.2             |               |
|                    | i.MX8-MB: Camera on CSI2       | (0x3C<<1)+RW  |
|                    |                                |               |
|                    |                                |               |

DESIGN CONSIDERATIONS

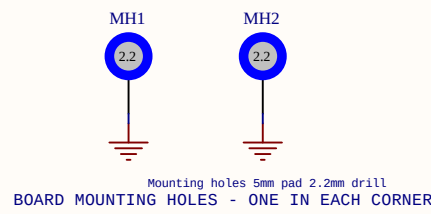
DESIGN NOTE:  
Example text for informational  
design notes.

DESIGN NOTE:  
Example text for critical  
design notes.

LAYOUT NOTE:  
Example text for critical  
layout guidelines.



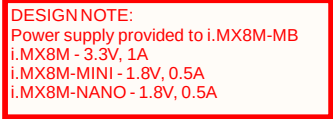
Mounting Holes



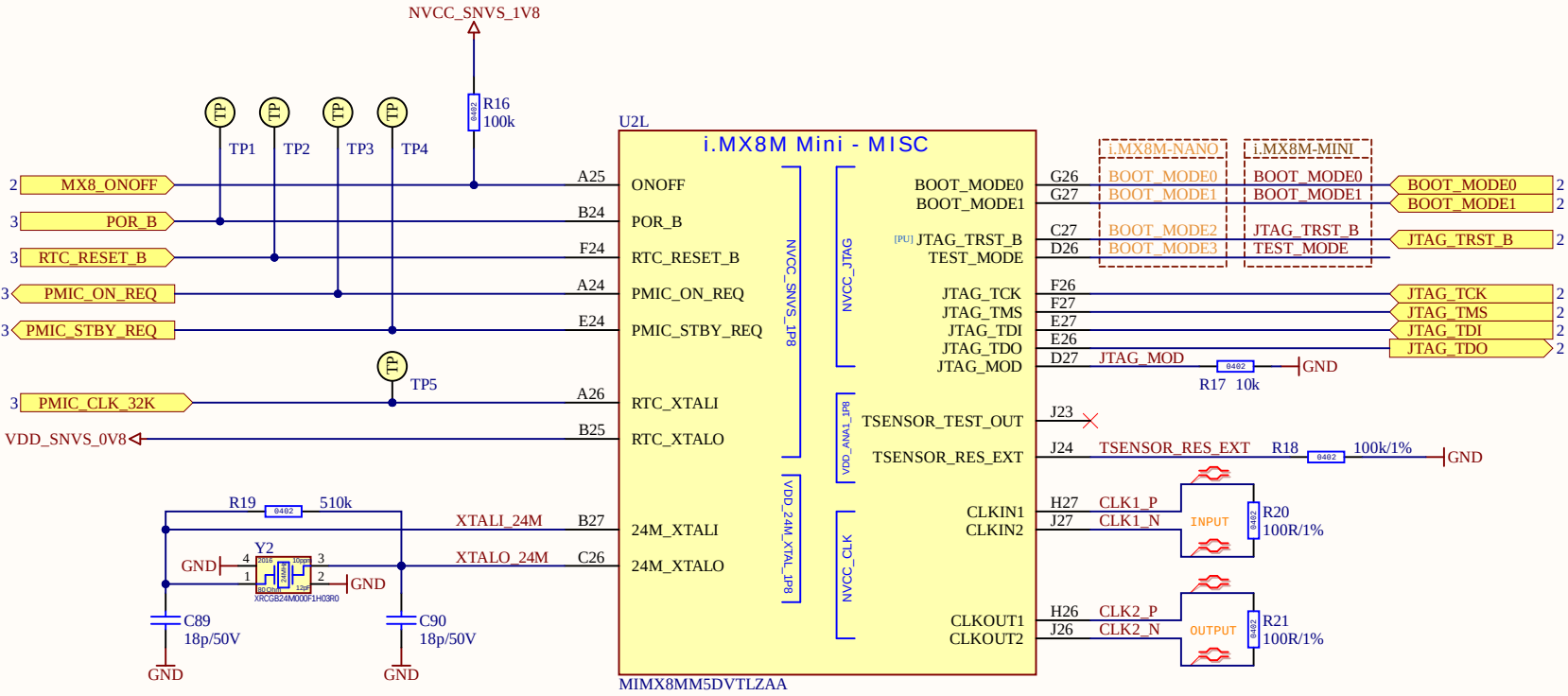
Fiducials



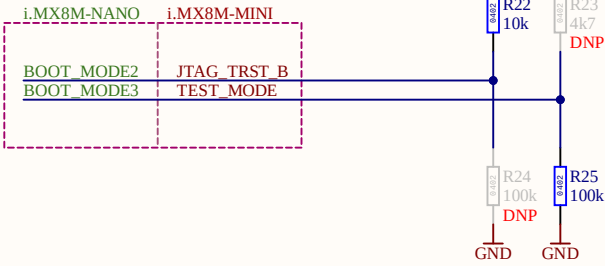
|                                  |                       |                             |                                                                       |                                                                                                                              |
|----------------------------------|-----------------------|-----------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Title: <b>SODIMM204</b>          |                       |                             | Ronetix GmbH<br>Hirschstettner Str. 19/Z110<br>1220 Vienna<br>Austria | <br><b>RONETIX</b><br>DEVELOPMENT TOOLS |
| Size: <b>A3</b>                  | Number: <b>2</b>      | Revision: <b>1.0</b>        |                                                                       |                                                                                                                              |
| Date: <b>21.09.2021</b>          | Time: <b>17:09:19</b> | Sheet <b>2</b> of <b>13</b> |                                                                       |                                                                                                                              |
| File: <b>02_SODIMM204.SchDoc</b> |                       |                             |                                                                       |                                                                                                                              |



# CPU Clocks, RESET

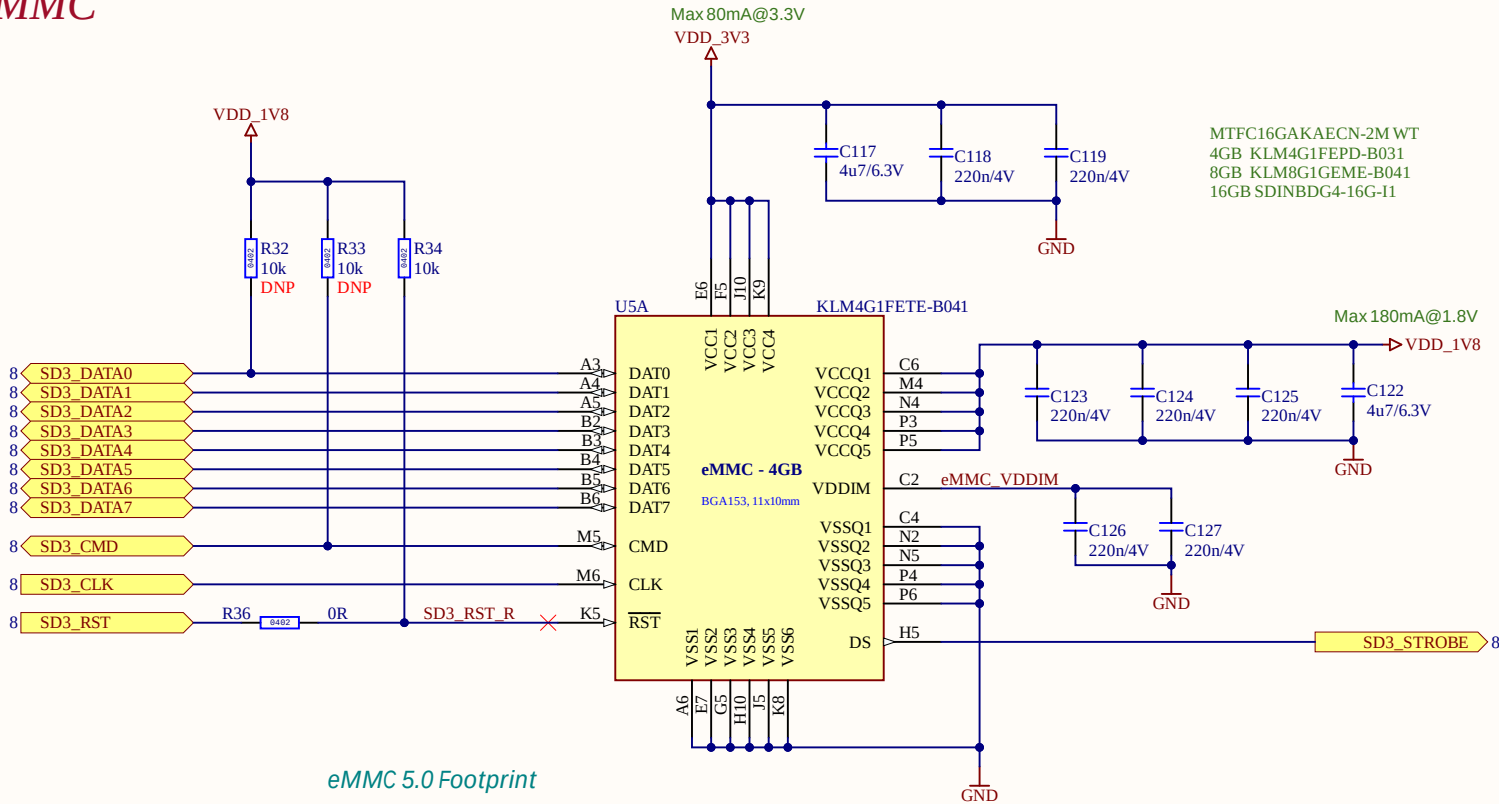


DESIGN NOTE:  
JTAG\_TRST\_B - populate PU when i.MX8M-MINI  
JTAG\_TRST\_B - populate PD when i.MX8M-NANO

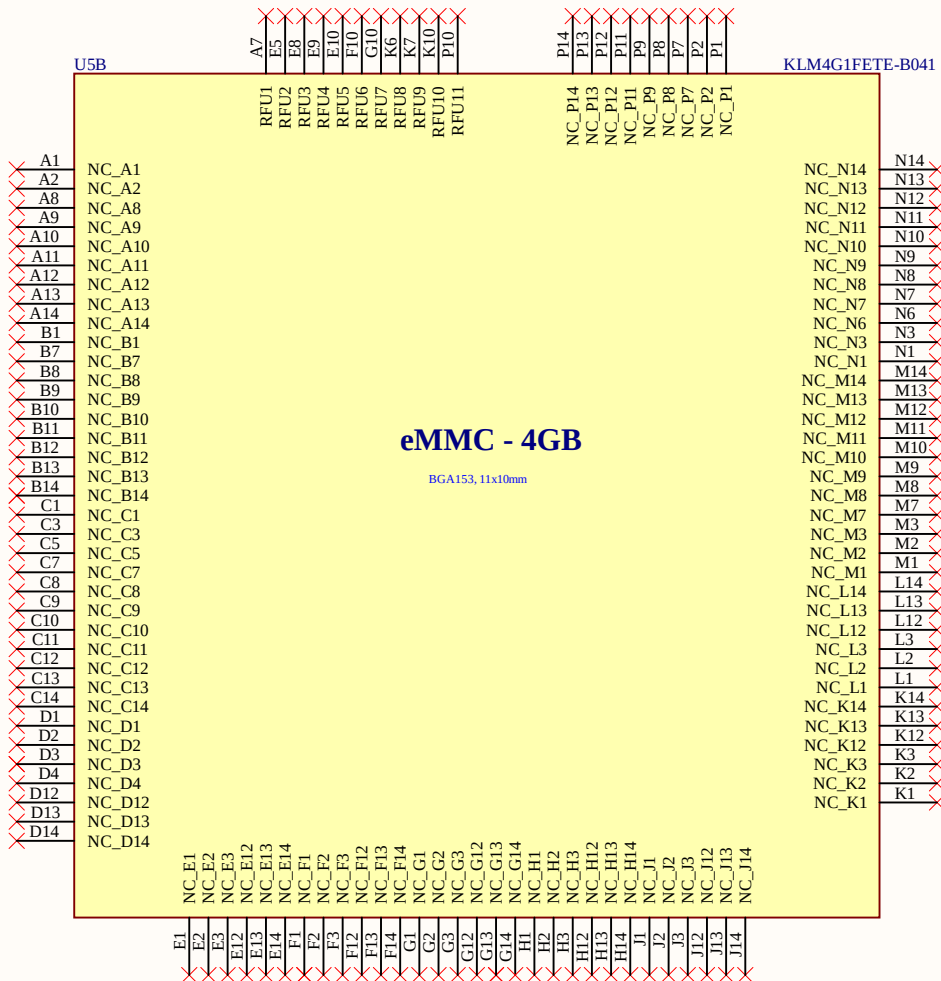


eMMC, QSPI, I2C EEPROM

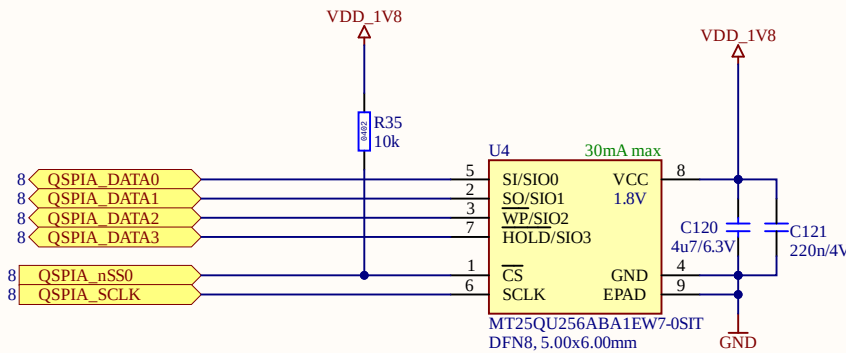
eMMC



eMMC 5.0 Footprint



QSPI NOR FLASH - 256 MBIT

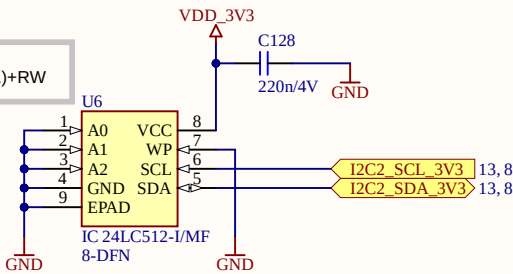


I2C EEPROM - 512 KBIT

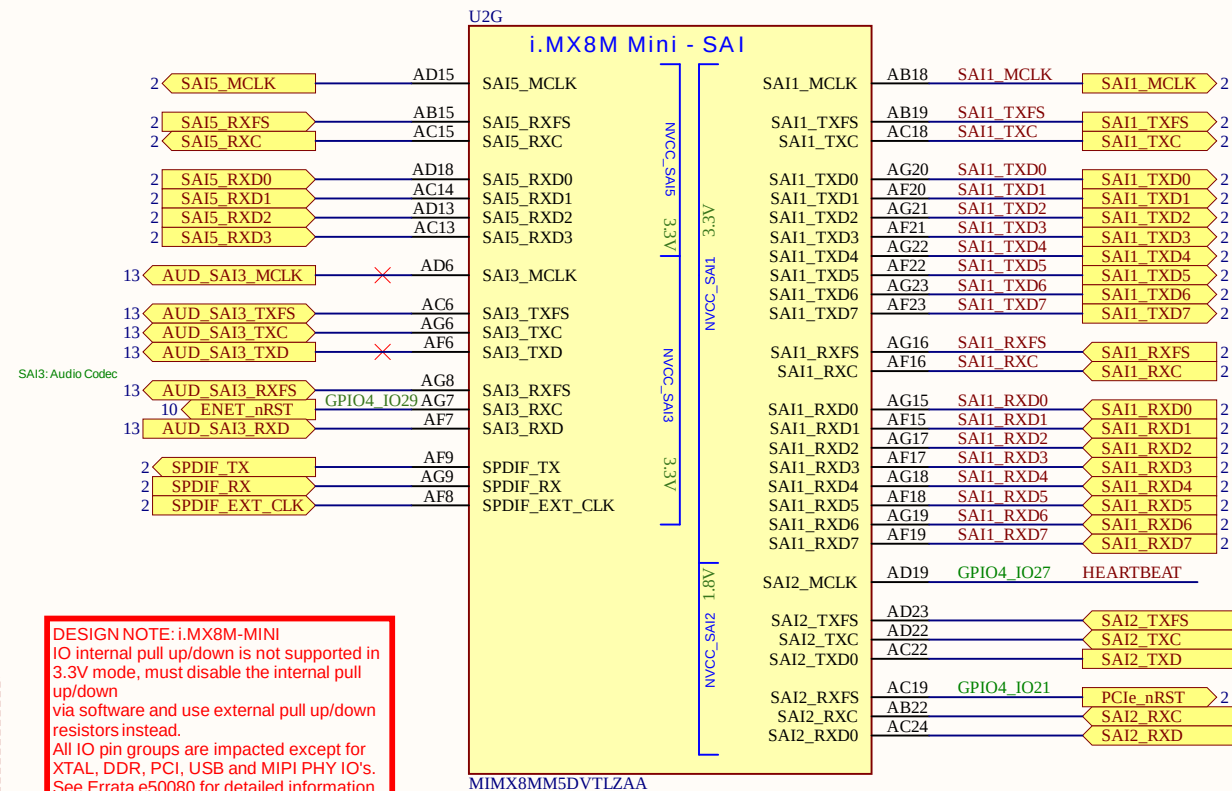
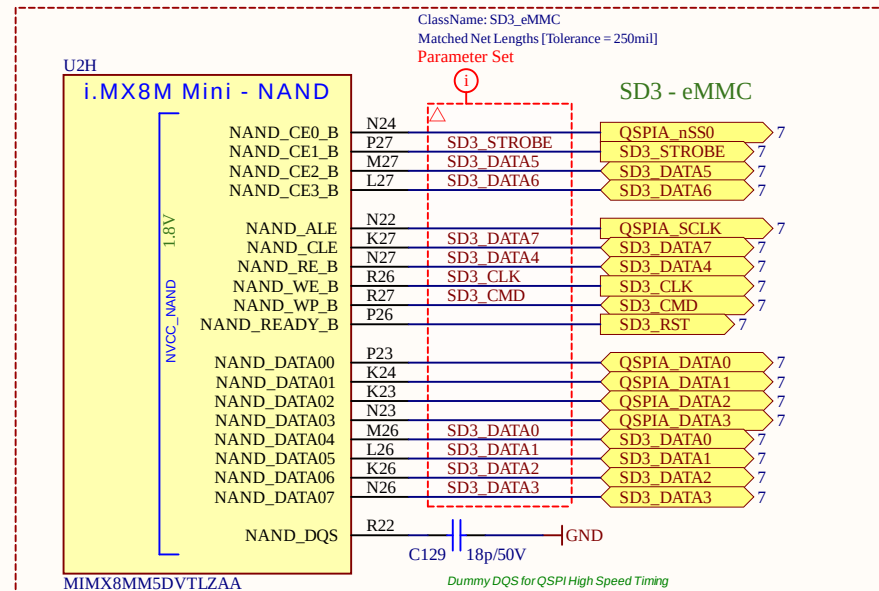
Board ID

DESIGN NOTE:

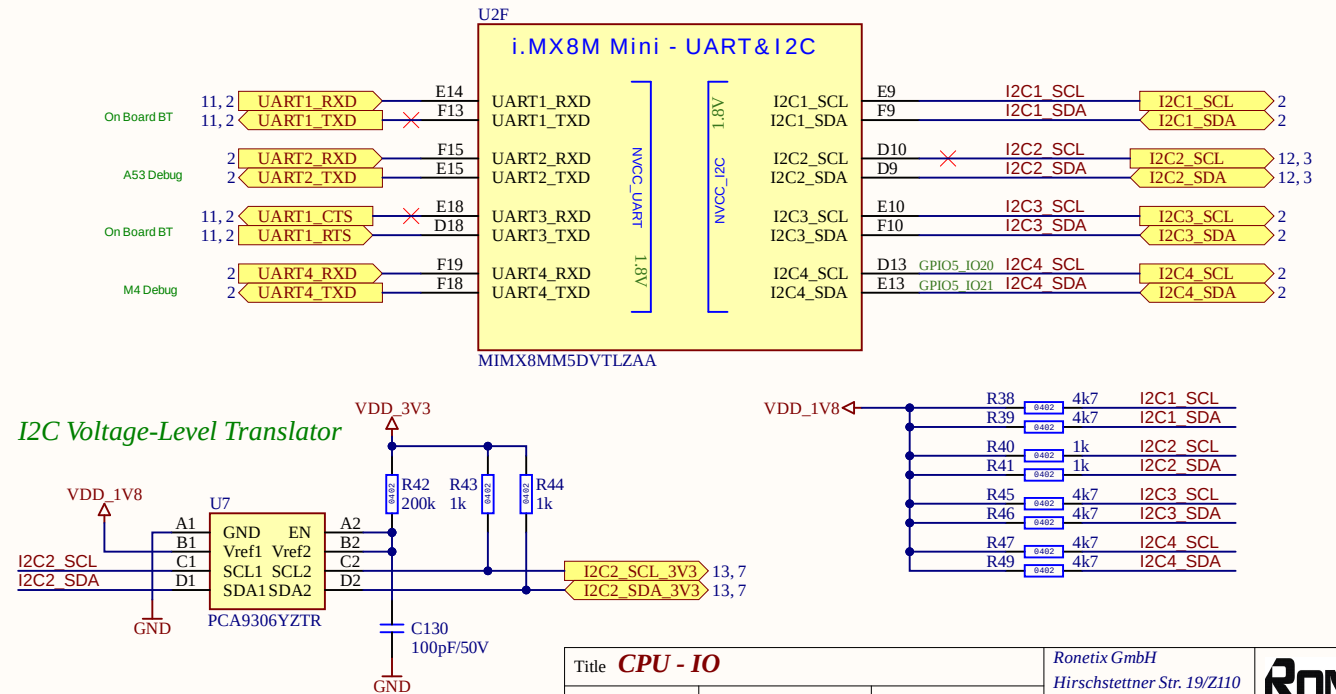
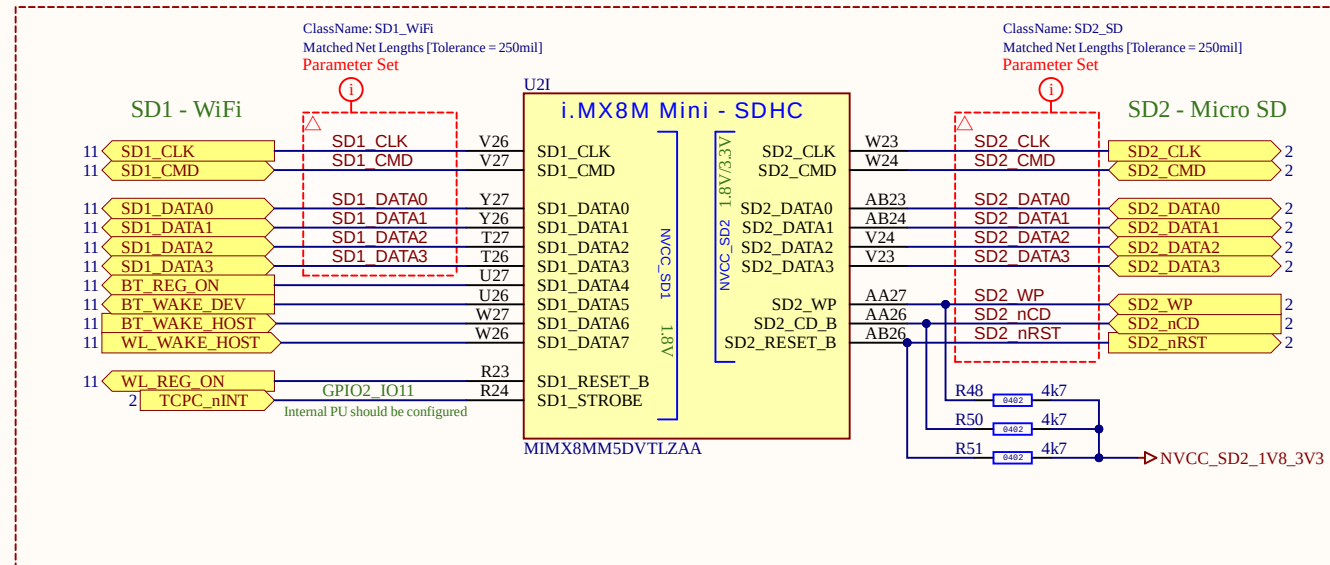
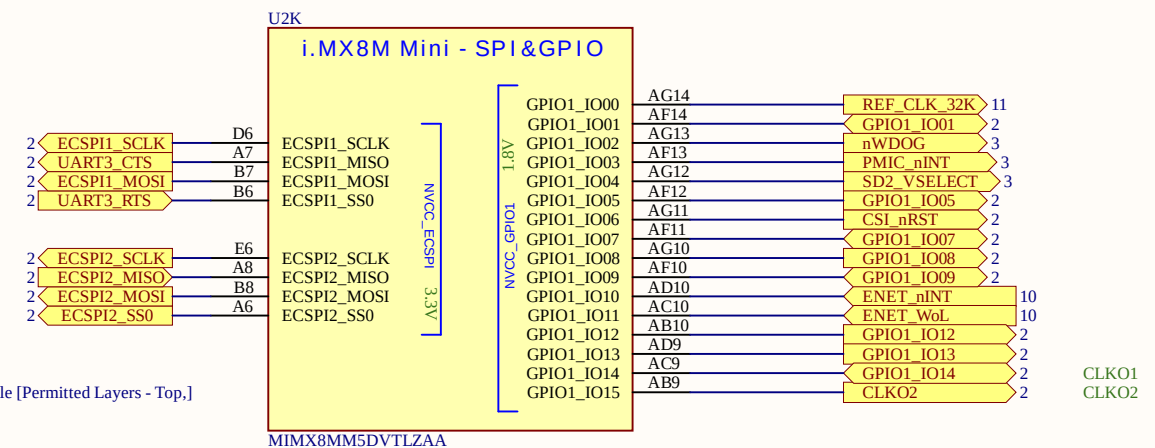
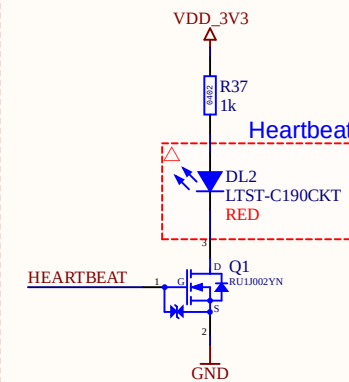
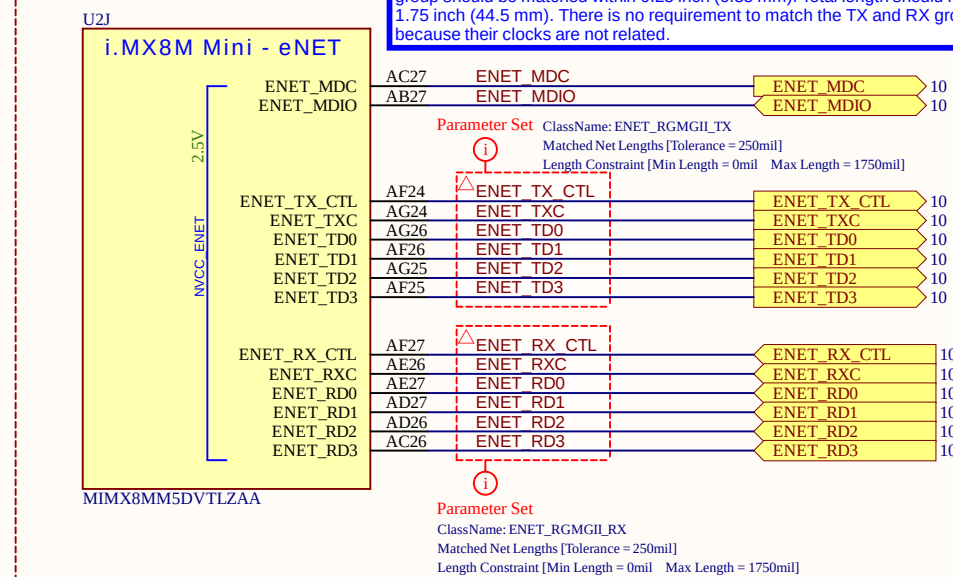
I2C address: (0x50<<1)+RW



# CPU - IO



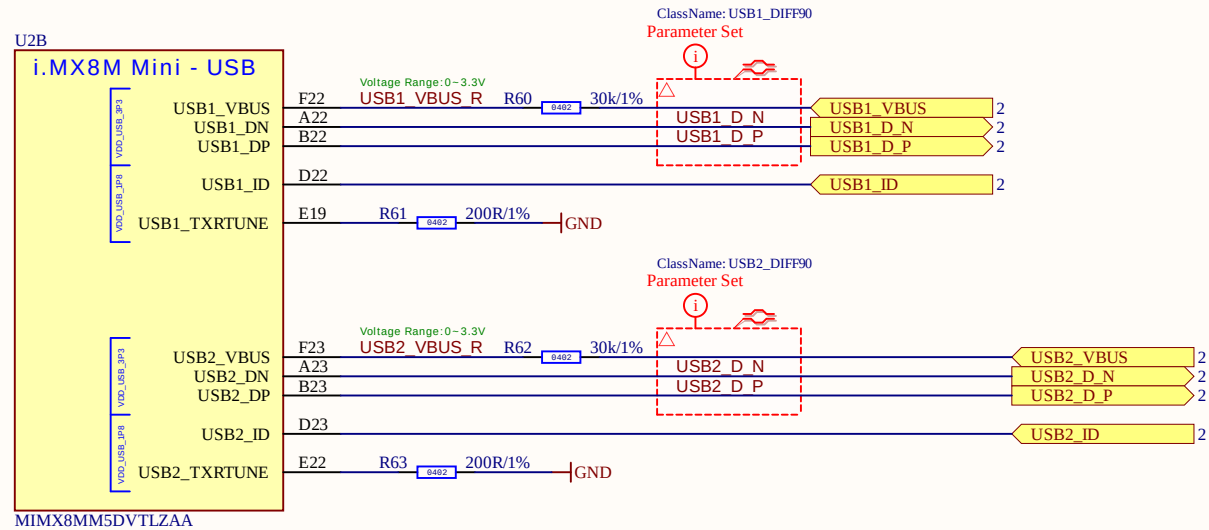
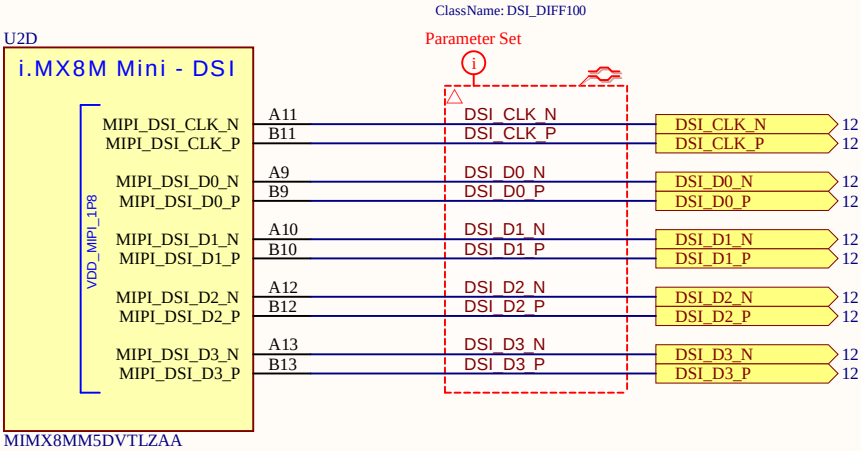
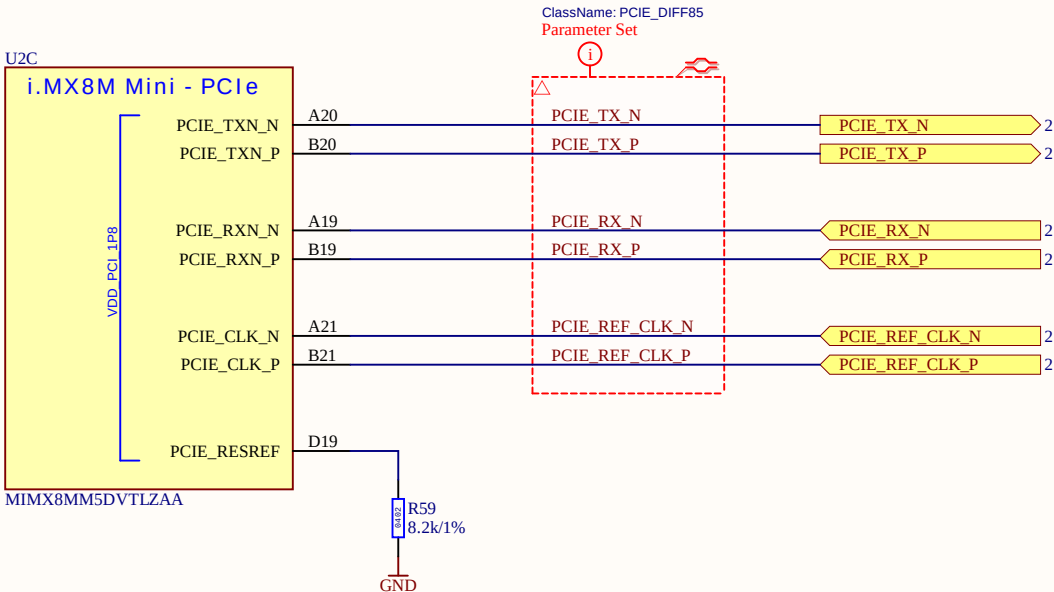
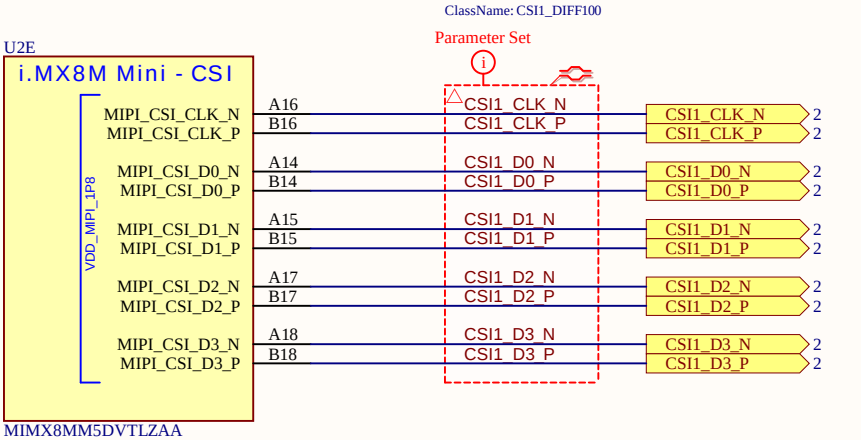
**DESIGN NOTE:** i.MX8M-MINI  
IO internal pull up/down is not supported in 3.3V mode, must disable the internal pull up/down via software and use external pull up/down resistors instead.  
All IO pin groups are impacted except for XTAL, DDR, PCI, USB and MIPI PHY I/O's. See Errata e50080 for detailed information. i.MX8M and i.MX8M-NANO are not affected.



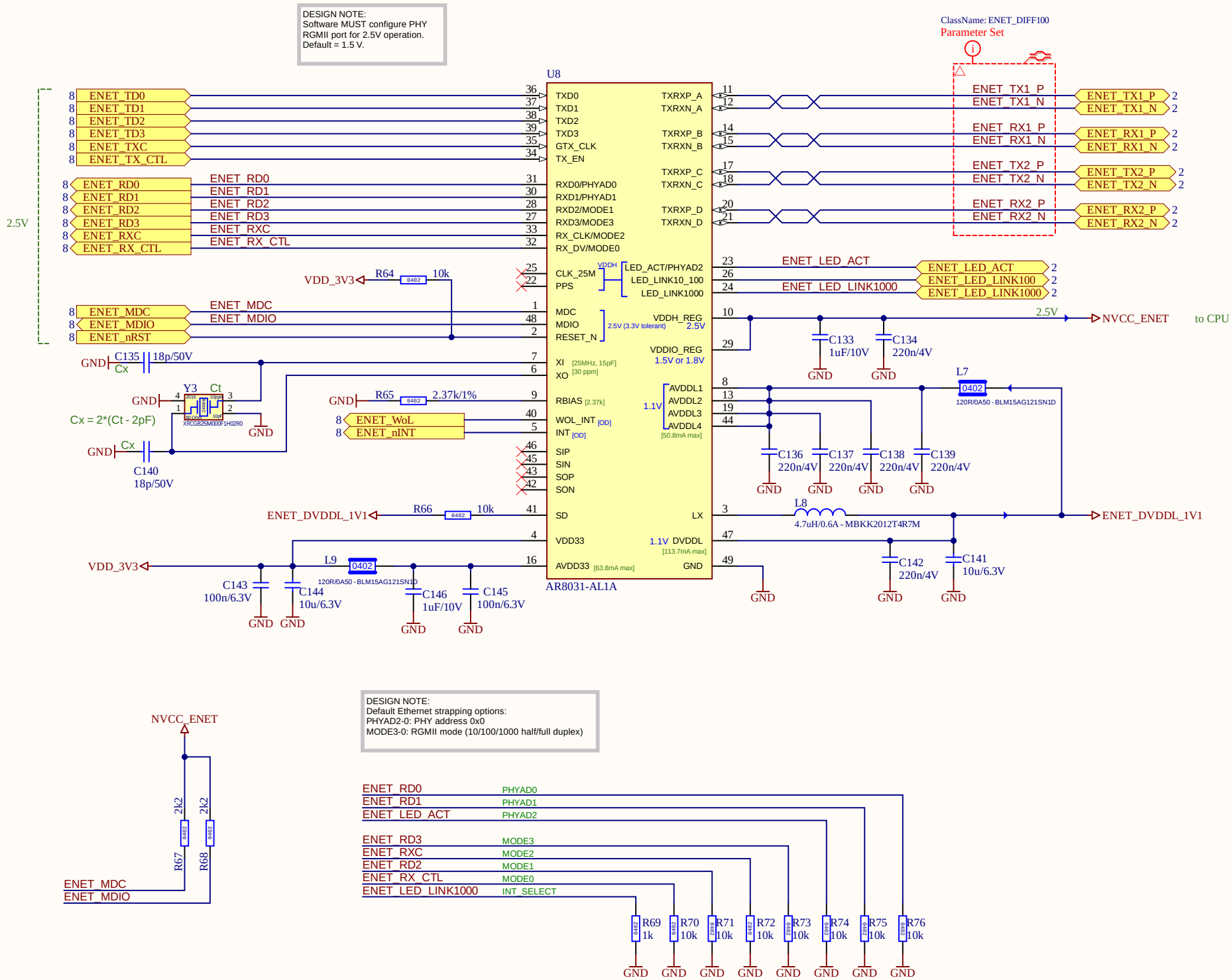
|                        |                |               |                                                                       |                                                                                       |
|------------------------|----------------|---------------|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Title <b>CPU - IO</b>  |                |               | Ronetix GmbH<br>Hirschstettner Str. 19/Z110<br>1220 Vienna<br>Austria |  |
| Size: <b>A3</b>        | Number: 8      | Revision: 1.0 |                                                                       |                                                                                       |
| Date: 21.09.2021       | Time: 17:09:20 | Sheet 8 of 13 |                                                                       |                                                                                       |
| File: 08_CPU_IO_SchDoc |                |               |                                                                       |                                                                                       |



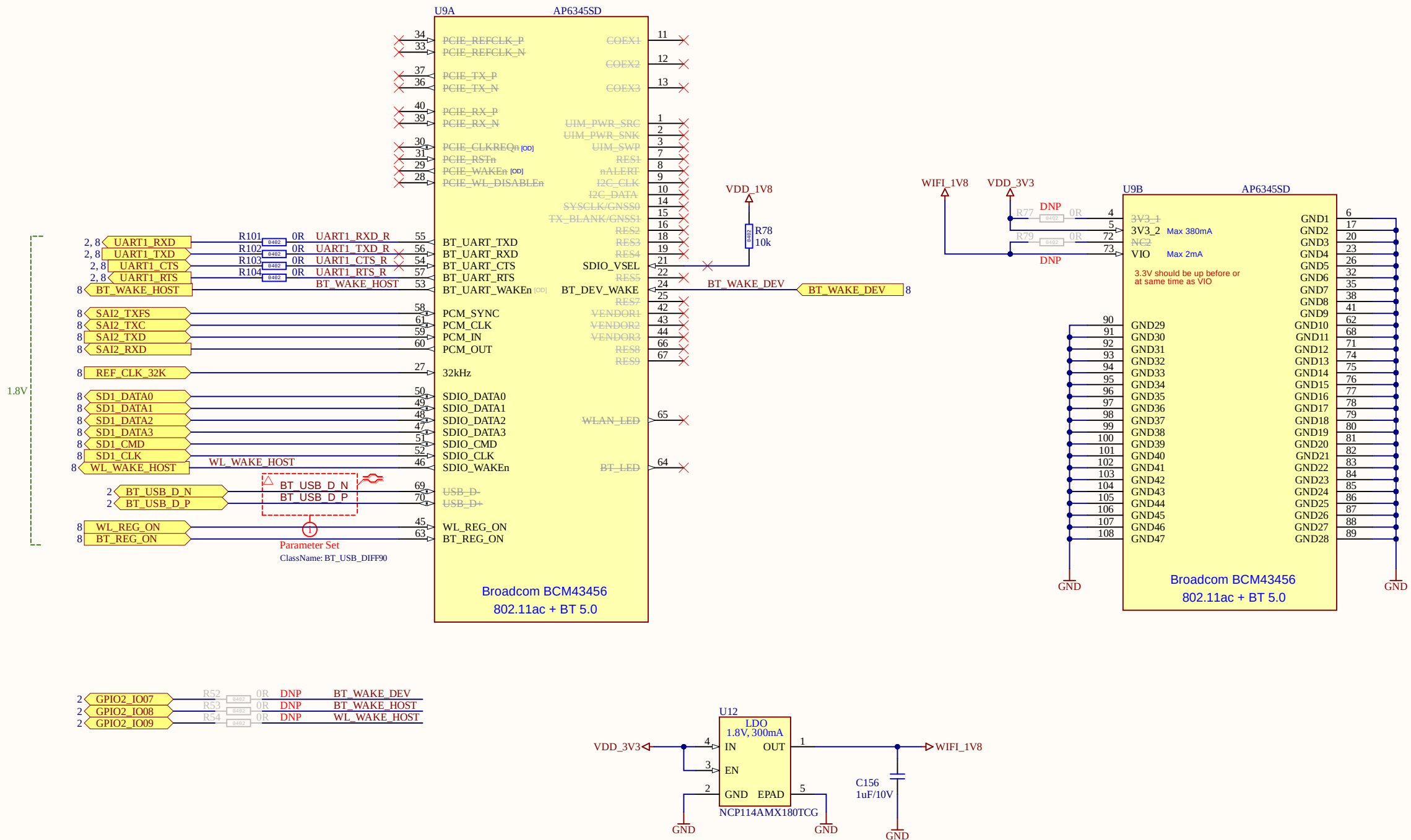
# CPU - PCIe, USB, DSI, CSI



Ethernet



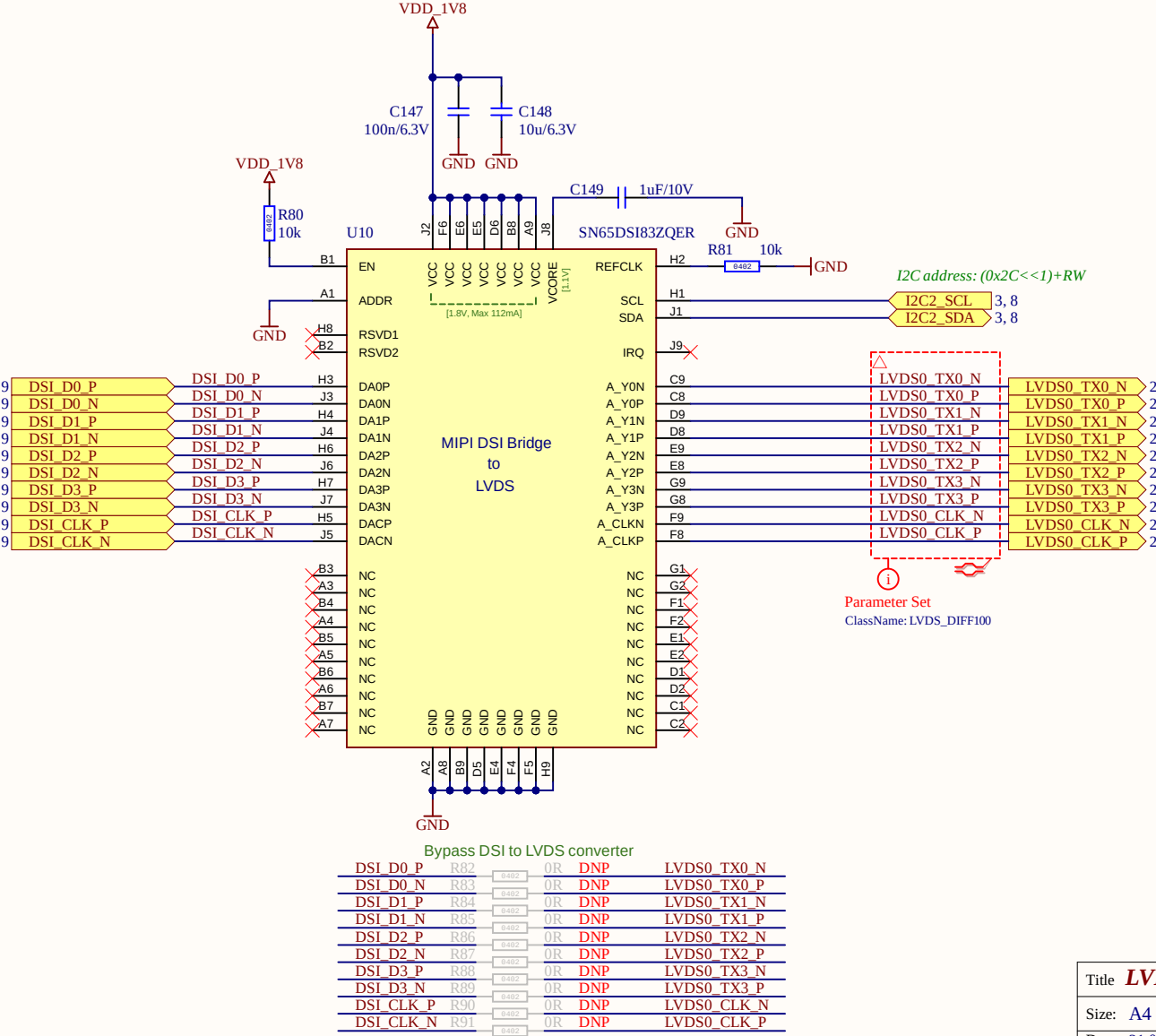
# WiFi + Bluetooth





# LVDS LCD Interface

Single-Channel DSI to Single-Link LVDS Bridge



Title **LVDS LCD Interface**

Size: **A4**

Number: **12**

Revision: **1.0**

Date: **21.09.2021**

Time: **17:09:20**

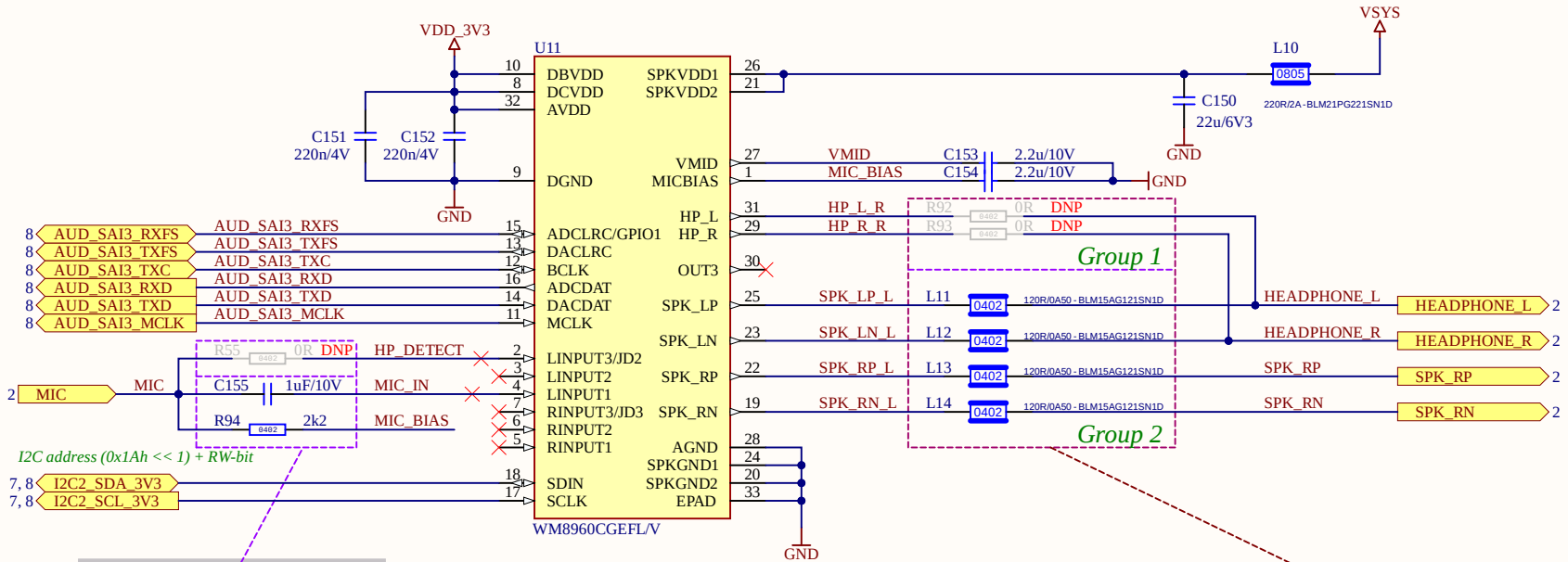
Sheet **12** of **13**

File: **12\_LVDS.SchDoc**

Ronetix GmbH  
Hirschstettner Str. 19/Z110  
1220 Vienna  
Austria

**RONETIX**  
DEVELOPMENT TOOLS

# Audio Codec



|               |     |      |    |             |   |
|---------------|-----|------|----|-------------|---|
| AUD_SAI3_MCLK | DNP | R95  | 0R | SAI3_MCLK   | 2 |
| AUD_SAI3_TXFS | DNP | R96  | 0R | HEADPHONE_L |   |
| AUD_SAI3_TXD  | DNP | R97  | 0R | HEADPHONE_R |   |
| AUD_SAI3_RXD  | DNP | R98  | 0R | MIC         |   |
| AUD_SAI3_RXFS | DNP | R99  | 0R | SPK_RP      |   |
| AUD_SAI3_TXC  | DNP | R100 | 0R | SPK_RN      |   |