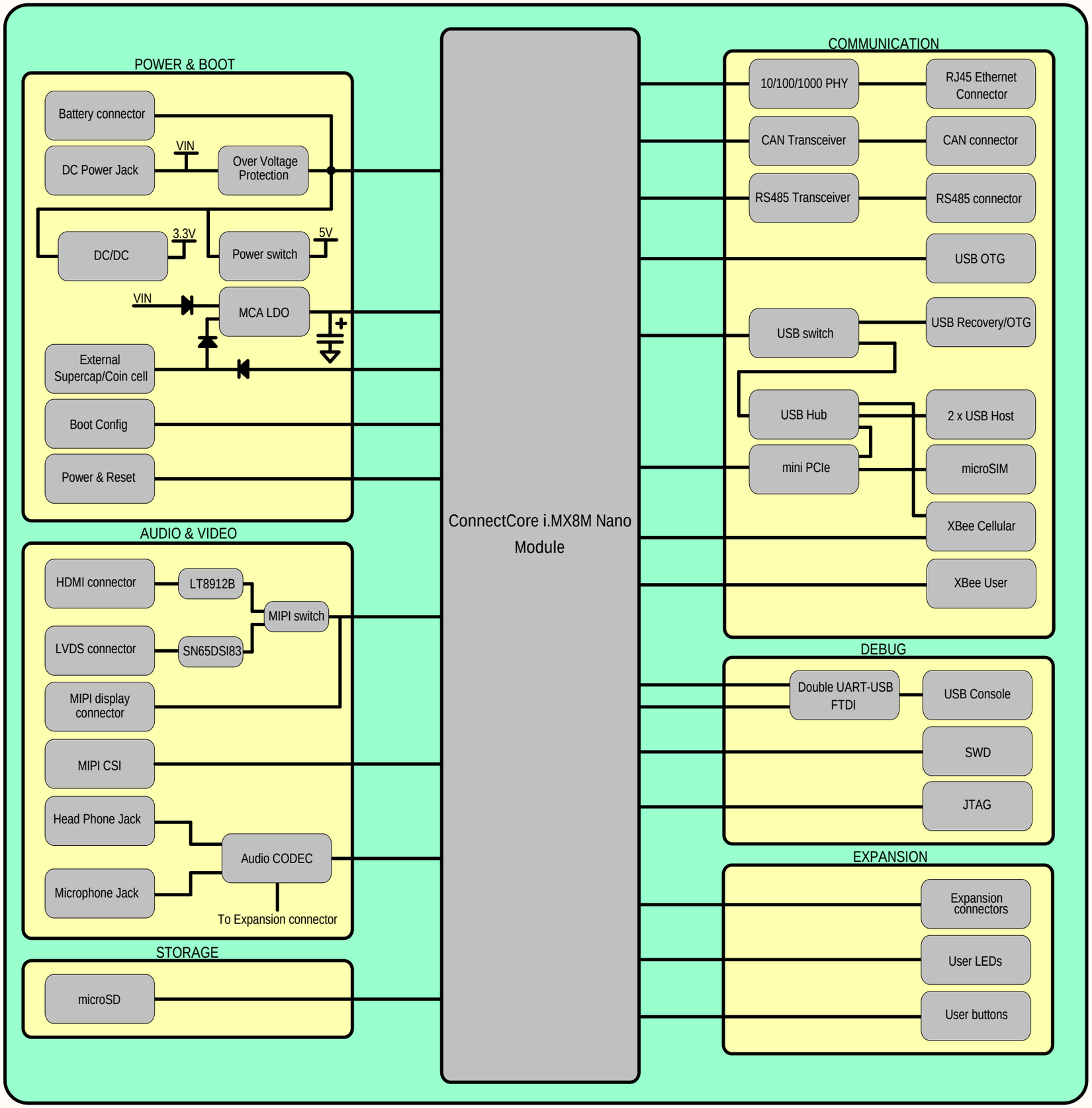
# ConnectCore for i.MX8M Nano DVK

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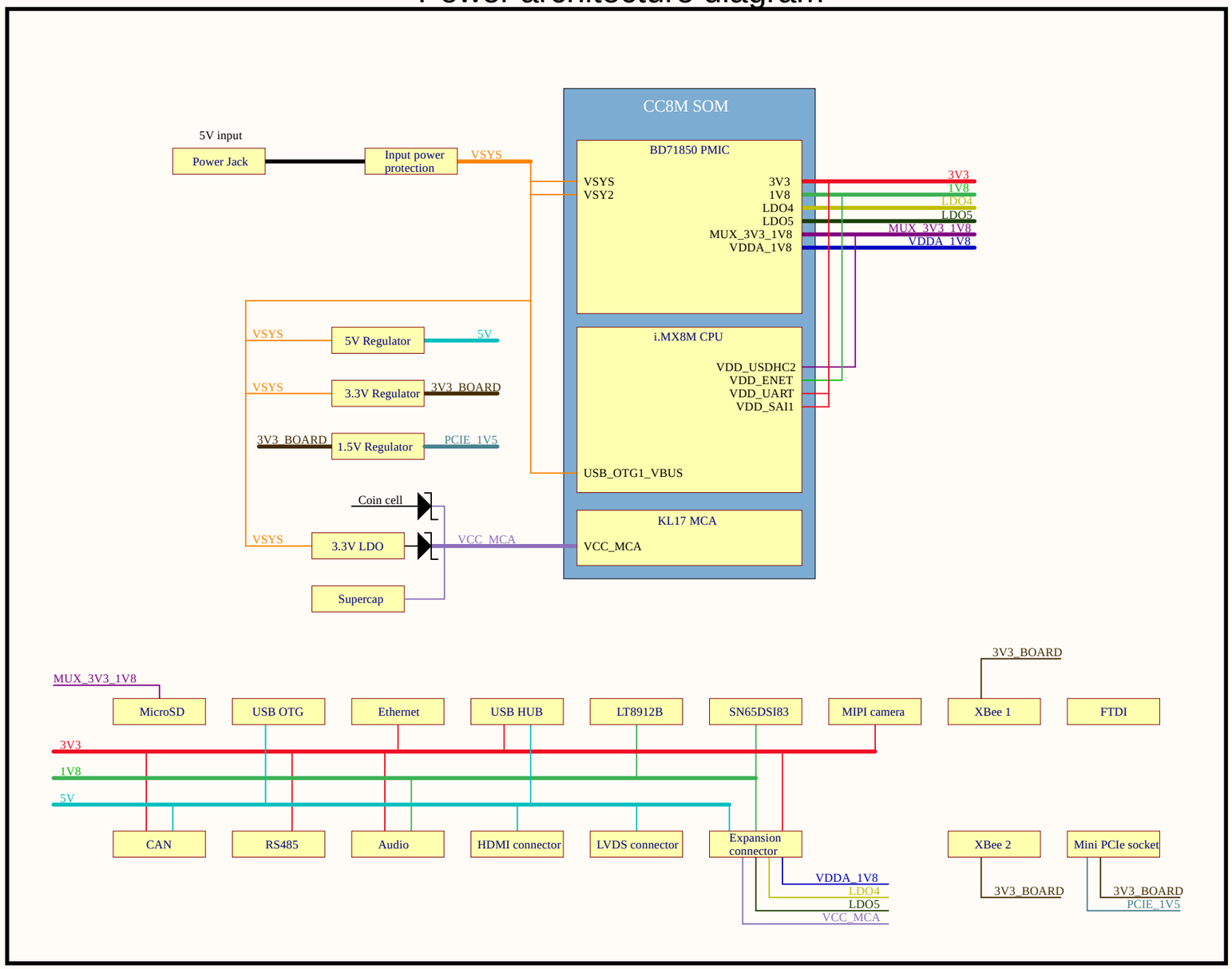
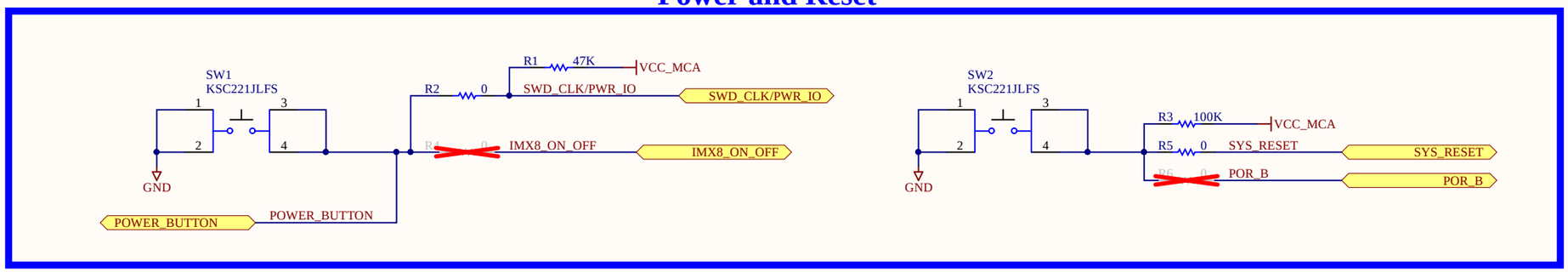
| **Title: Block Diagram** | |
| Designer: Juan Anzola | Sheet: 1 of 21 |
| Variant: 55002060-01 | Rev: 1P |
| Description: ConnectCore i.MX8 8M Development board | |

# Power architecture diagram

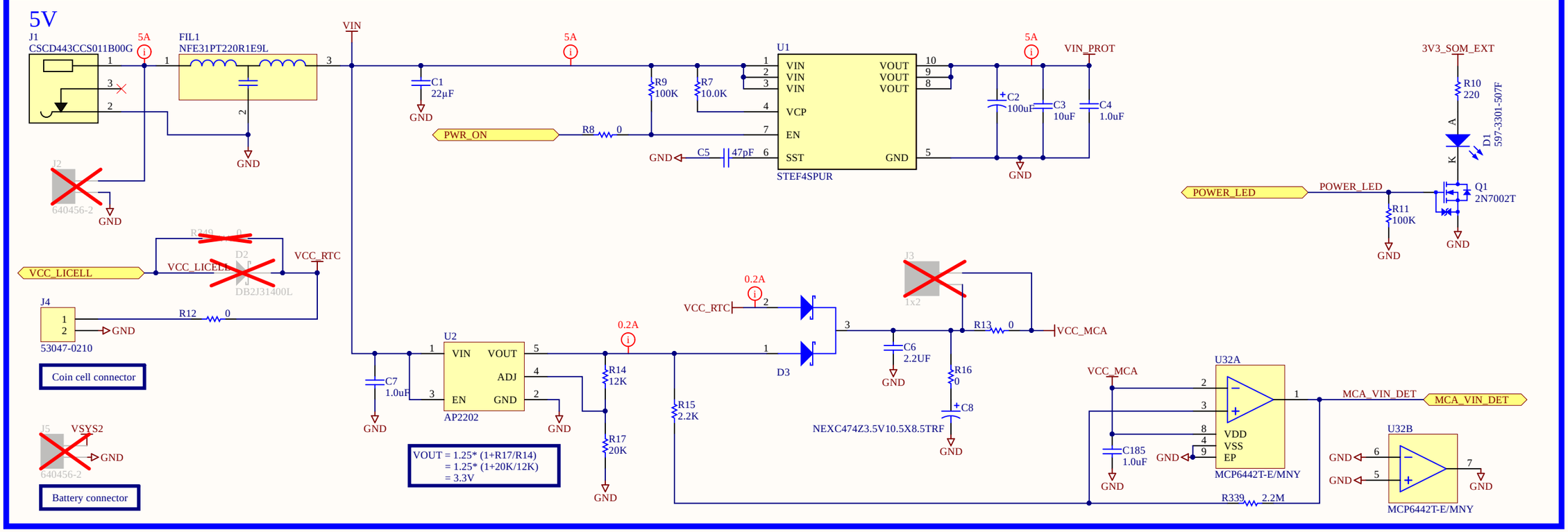



| | |
|---|---|
| **Title: Power Diagram** | |
| Designer: Juan Anzola | Sheet: 2 of 21 |
| Variant: 55002060-01 | Rev: 1P |
| Description: ConnectCore i.MX8 8M Development board | |

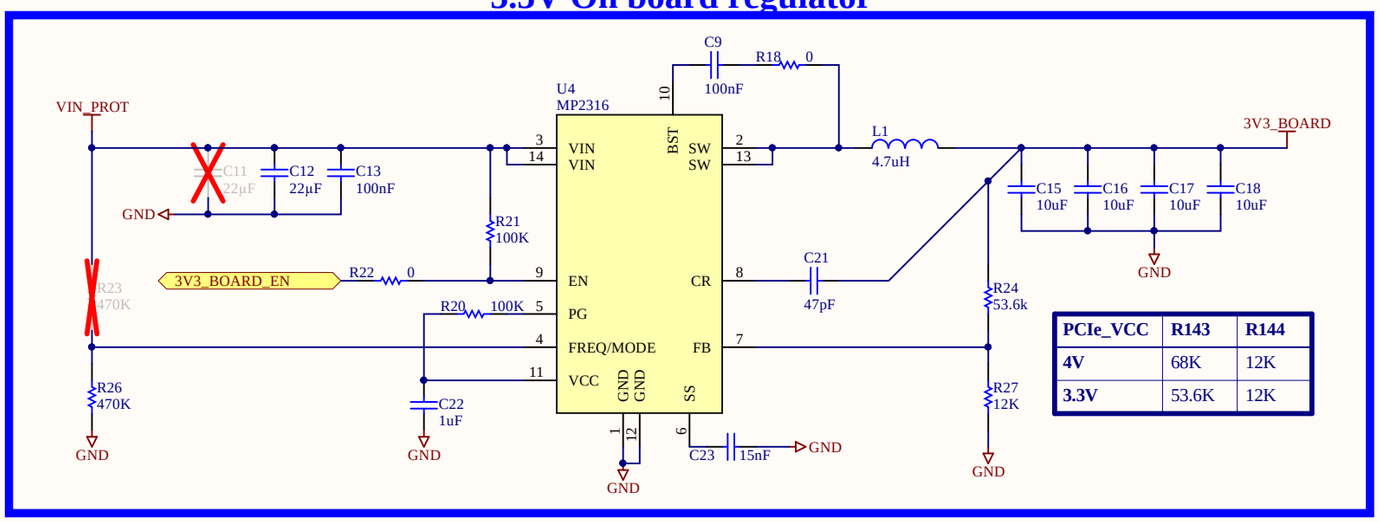
# Power and Reset




# Supply Inputs

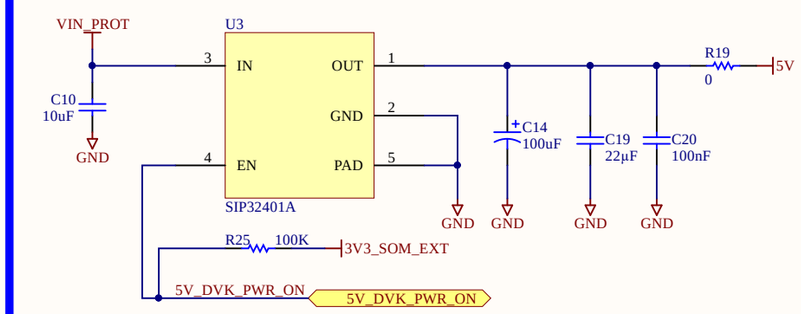



# 3.3V On board regulator

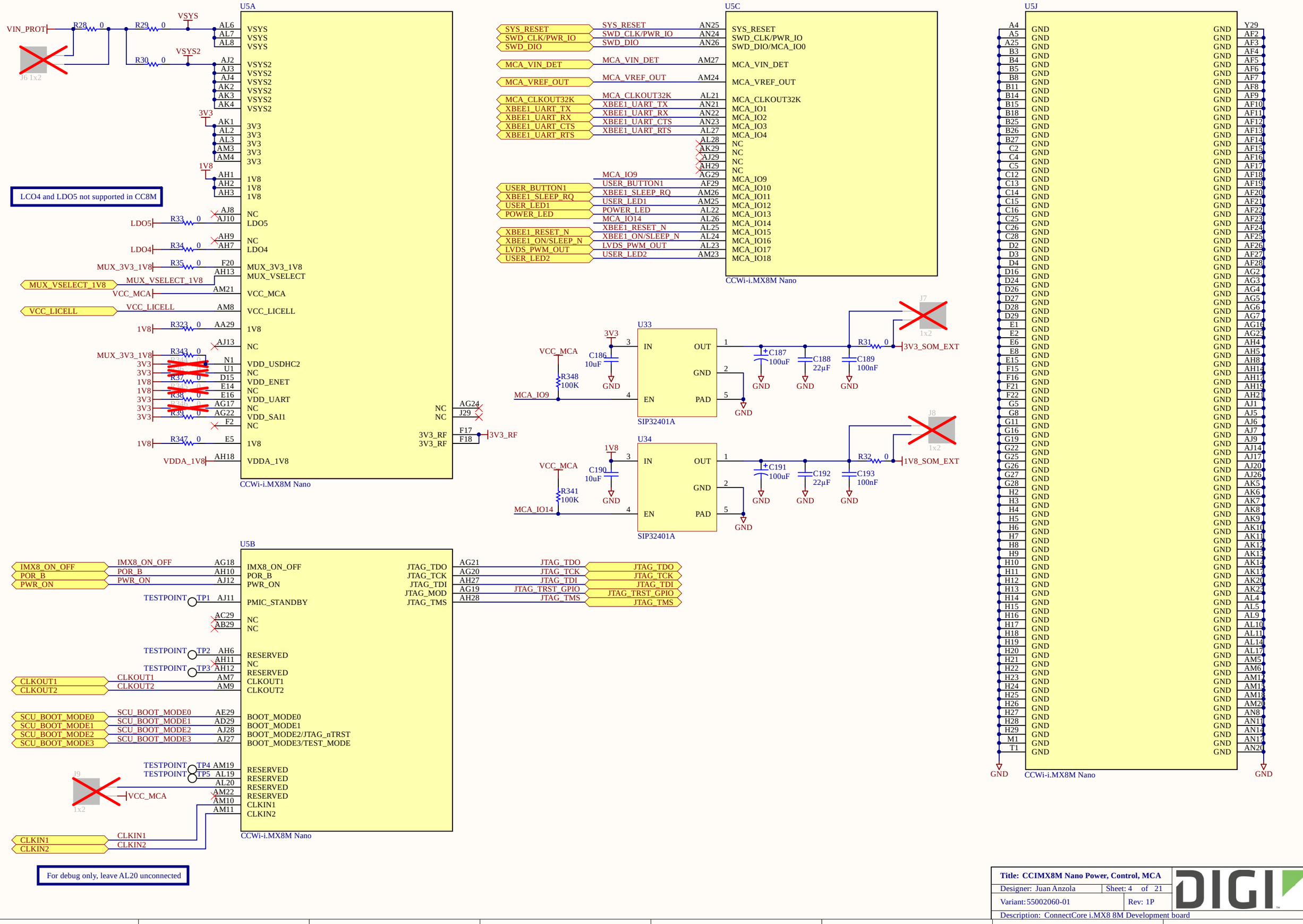



| PCIe_VCC | R143 | R144 |
|---|---|---|
| 4V | 68K | 12K |
| 3.3V | 53.6K | 12K |

# 5V Load switch




| | | |
|---|---|---|
| **Title: Power, reset** | | |
| Designer: Juan Anzola | Sheet: 3 of 21 | |
| Variant: 55002060-01 | Rev: 1P | |
| Description: ConnectCore i.MX8 8M Development board | | |


U5A
VIN_PROT
R28 0
R29 0
R30 0
VSYS
VSYS2
3V3
1V8
J6 1x2
LCO4 and LDO5 not supported in CC8M
LDO5
LDO4
MUX_3V3_1V8
MUX_VSELECT_1V8
MUX_VSELECT
VCC_MCA
VCC_LICELL
R322 0
R343 0
R37 0
R38 0
R39 0
R347 0
VDDA_1V8
AL6 AL7 AL8
AJ2 AJ3 AJ4 AK2 AK3 AK4
AK1 AL2 AL3 AM3 AM4
AH1 AH2 AH3
AJ8 AJ10
AH9 AH7
F20
AH13
AM21
AM8
AA29
AJ13
N1 U1 D15 E14 E16 AG17 AG22 F2
E5
AH18
VSYS VSYS VSYS
VSYS2 VSYS2 VSYS2 VSYS2 VSYS2 VSYS2
3V3 3V3 3V3 3V3 3V3
1V8 1V8 1V8
NC
LDO5
NC
LDO4
MUX_3V3_1V8
MUX_VSELECT
VCC_MCA
VCC_LICELL
1V8
NC
VDD_USDHC2
NC
VDD_ENET
NC
VDD_UART
NC
VDD_SAI1
NC
1V8
VDDA_1V8
CCWi-i.MX8M Nano
NC AG24
NC J29
3V3_RF F17 F18 3V3_RF
U5C
SYS_RESET AN25
SWD_CLK/PWR_IO AN24
SWD_DIO AN26
MCA_VIN_DET AM27
MCA_VREF_OUT AM24
MCA_CLKOUT32K AL21
XBEE1_UART_TX AN21
XBEE1_UART_RX AN22
XBEE1_UART_CTS AN23
XBEE1_UART_RTS AL27
AL28 AK29 AJ29 AH29 AG29
AF29 AM26 AM25 AL22 AL26 AL25 AL24 AL23 AM23
SYS_RESET
SWD_CLK/PWR_IO
SWD_DIO/MCA_IO0
MCA_VIN_DET
MCA_VREF_OUT
MCA_CLKOUT32K
MCA_IO1
MCA_IO2
MCA_IO3
MCA_IO4
NC NC NC NC
MCA_IO9
MCA_IO10
MCA_IO11
MCA_IO12
MCA_IO13
MCA_IO14
MCA_IO15
MCA_IO16
MCA_IO17
MCA_IO18
CCWi-i.MX8M Nano
U33
U34
SIP32401A
VCC_MCA
MCA_IO9
MCA_IO14
C186 10uF
C190 10uF
R348 100K
R341 100K
C187 100uF
C191 100uF
C188 22µF
C192 22µF
C189 100nF
C193 100nF
R31 0
R32 0
J7 1x2
J8 1x2
3V3_SOM_EXT
1V8_SOM_EXT
U5J
GND
CCWi-i.MX8M Nano
U5B
IMX8_ON_OFF AG18
POR_B AH10
PWR_ON AJ12
TESTPOINT TP1 AJ11
AC29 AB29
TESTPOINT TP2 AH6
AH11
TESTPOINT TP3 AH12
CLKOUT1 AM7
CLKOUT2 AM9
SCU_BOOT_MODE0 AE29
SCU_BOOT_MODE1 AD29
SCU_BOOT_MODE2 AJ28
SCU_BOOT_MODE3 AJ27
TESTPOINT TP4 AM19
TESTPOINT TP5 AL19
AL20
AM22
AM10
AM11
J9 1x2
VCC_MCA
CLKIN1
CLKIN2
IMX8_ON_OFF
POR_B
PWR_ON
PMIC_STANDBY
NC
NC
RESERVED
NC
RESERVED
CLKOUT1
CLKOUT2
BOOT_MODE0
BOOT_MODE1
BOOT_MODE2/JTAG_nTRST
BOOT_MODE3/TEST_MODE
RESERVED
RESERVED
RESERVED
RESERVED
CLKIN1
CLKIN2
JTAG_TDO
JTAG_TCK
JTAG_TDI
JTAG_MOD
JTAG_TMS
AG21 JTAG_TDO
AG20 JTAG_TCK
AH27 JTAG_TDI
AG19 JTAG_TRST_GPIO
AH28 JTAG_TMS
JTAG_TDO
JTAG_TCK
JTAG_TDI
JTAG_TRST_GPIO
JTAG_TMS
CCWi-i.MX8M Nano
For debug only, leave AL20 unconnected
Title: CCIMX8M Nano Power, Control, MCA
Designer: Juan Anzola
Sheet: 4 of 21
Variant: 55002060-01
Rev: 1P
Description: ConnectCore i.MX8 8M Development board
DIGI

I2C2 and I2C4 will work at 1.8V in future revisions of the module

U5D

USER_LED3 USER_BUTTON2 USDHC2_CD_B USDHC2_CMD
USDHC2_DATA0 USDHC2_DATA1 USDHC2_DATA2 USDHC2_DATA3 USDHC2_CLK
RGMII_MDC RGMII_MDIO
RGMII_TXC RGMII_TX_CTL RGMII_RXC RGMII_RX_CTL
RGMII_TD0 RGMII_TD1 RGMII_TD2 RGMII_TD3
RGMII_RD0 RGMII_RD1 RGMII_RD2 RGMII_RD3
SAI1_RXD4 SAI1_RXD3
SAI1_RXD5
SAI1_RXD7 SAI1_RXD6
UART3_TX UART3_RX UART3_RTS_B UART3_CTS_B
CONSOLE_TX CONSOLE_RX

USDHC: USDHC2_RESET_B, USDHC2_WP, USDHC2_CD_B, USDHC2_CMD, USDHC2_DATA0, USDHC2_DATA1, USDHC2_DATA2, USDHC2_DATA3, USDHC2_CLK
ETH0: ENET0_MDC, ENET0_MDIO, ENET0_RGMII_TXC, ENET0_RGMII_TX_CTL, ENET0_RGMII_RXC, ENET0_RGMII_RX_CTL, ENET0_RGMII_TXD0, ENET0_RGMII_TXD1, ENET0_RGMII_TXD2, ENET0_RGMII_TXD3, ENET0_RGMII_RXD0, ENET0_RGMII_RXD1, ENET0_RGMII_RXD2, ENET0_RGMII_RXD3, NC / SAI1_RXD4, NC / SAI1_RXD3, NC, NC
ETH1: NC, NC, NC, NC / SAI1_RXD5, NC, NC, NC / SAI1_RXD7, NC / SAI1_RXD6
UART0: UART3_TXD, UART3_RXD, UART3_RTS_B, UART3_CTS_B
UART1: UART1_TXD, UART1_RXD

I2C0: I2C2_SCL, I2C2_SDA
I2C1: (1V8) I2C3_SCL, (1V8) I2C3_SDA
I2C2: I2C4_SCL, I2C4_SDA
CAN0 CAN1: UART4_RXD, UART4_TXD, SAI1_RXD2 / NC, SAI1_RXD1 / NC
SPI0: SPI2_SCK, SPI2_SDO, SPI2_SDI, SPI2_CS0, GPIO1_IO06
SPI1: SPI3_SCLK, SPI3_SDO, SPI3_SDI, SPI3_CS0
QSPI: GPIO3_IO22, GPIO1_IO03, GPIO1_IO07, GPIO1_IO08, GPIO1_IO09, GPIO2_IO10, GPIO1_IO11, GPIO1_IO10
SAI0: SAI2_TXD, SAI2_RXD, SAI2_TXC, SAI2_TXFS
SAI1: SAI5_RXFS, SAI5_RXD, SAI5_RXC

F28 I2C2_SCL_3V3 — I2C2_SCL_3V3
E29 I2C2_SDA_3V3 — I2C2_SDA_3V3
AK25 I2C3_SCL_1V8 — I2C3_SCL_1V8
AK24 I2C3_SDA_1V8 — I2C3_SDA_1V8
V1 EXP_I2C_SCL — EXP_I2C_SCL
W1 EXP_I2C_SDA — EXP_I2C_SDA
U29 UART4_RX — UART4_RX
T29 UART4_TX — UART4_TX
R29 SAI1_RXD2 — SAI1_RXD2
P29 SAI1_RXD1 — SAI1_RXD1
D17 USB_HUB_RESET_N — USB_HUB_RESET_N
E18 CAN_MODE — CAN_MODE
E22 XBEE2_UART_CTS — XBEE2_UART_CTS
E19 XBEE2_UART_RTS — XBEE2_UART_RTS
E26 5V_DVK_PWR_ON — 5V_DVK_PWR_ON
E17 SPI3_SCK — SPI3_SCK
D18 SPI3_SDO — SPI3_SDO
C18 SPI3_SDI — SPI3_SDI
C17 SPI3_CS0 — SPI3_CS0
AG8 AUD_INT# — AUD_INT#
AG14 RS485_RE#/DE — RS485_RE#/DE
AG9 XBEE2_SLEEP_RQ — XBEE2_SLEEP_RQ
AG11 XBEE2_RESET_N — XBEE2_RESET_N
AG12 XBEE2_ON/SLEEP_N — XBEE2_ON/SLEEP_N
AG15 HDMI_HPD_1V8_CPU — HDMI_HPD_1V8_CPU
AG10 GPIO1_IO11 — GPIO1_IO11
AG13 GPIO1_IO10 — GPIO1_IO10
E20 SAI2_TXD — SAI2_TXD
E21 SAI2_RXD — SAI2_RXD
E23 SAI2_TXC — SAI2_TXC
C19 SAI2_TXFS — SAI2_TXFS
E25 3V3_BOARD_EN — 3V3_BOARD_EN
D19 PCIE_WAKE_N — PCIE_WAKE_N
E24 PCIE_DIS_N — PCIE_DIS_N

CCWi-i.MX8M Nano

U5E

Flexible IO

CAN_nINT CAN_nINT0 CAN_nINT1
SN65DSI83_EN SN65DSI83_IRQ LT8912B_RST LT8912B_INT PCIE_RESET_N AUD_PWR_EN USB_PWR
SAI2_MCLK LVDS_IRQ_N
RGMII_INT_B RGMII_RESET_N ENET_PWR WOL_INT EXP_I2C_GPIO EXP_I2C_IRQ_N
SAI1_MCLK SAI1_TXFS SAI1_TXC SAI1_RXD0 SAI1_RXFS SAI1_RXC SAI1_TXD0 SAI1_TXD1 SAI1_TXD2 SAI1_TXD3 SAI1_TXD4 SAI1_TXD5 SAI1_TXD6 SAI1_TXD7

AA1 CAN_nINT — GPIO1_IO00
AN4 CAN_nINT0 — GPIO1_IO01
AN5 CAN_nINT1 — GPIO1_IO05
AG28 SN65DSI83_EN — GPIO3_IO00 (1V8)
AL18 SN65DSI83_IRQ — GPIO3_IO06 (1V8)
A12 LT8912B_RST — GPIO3_IO07 (1V8)
D25 LT8912B_INT — GPIO3_IO09 (1V8)
E3 PCIE_RESET_N — GPIO3_IO23
E27 AUD_PWR_EN — GPIO3_IO24
C24 USB_PWR — GPIO3_IO25
B24 SAI2_MCLK — GPIO4_IO27
E28 LVDS_IRQ_N — GPIO4_IO28
F29 MUX_VSELECT_3V3 — GPIO5_IO01
G29 RGMII_INT_B — GPIO5_IO02
AG1 RGMII_RESET_N — GPIO5_IO03
AF1 ENET_PWR — GPIO5_IO04
Y1 WOL_INT — GPIO5_IO05
AG26 EXP_I2C_GPIO — GPIO5_IO26
AG27 EXP_I2C_IRQ_N — GPIO5_IO27
AH22 SAI1_MCLK — NC / SAI1_MCLK
AH23 SAI1_TXFS — NC / SAI1_TXFS
AK28 SAI1_TXC — NC / SAI1_TXC
AJ22 SAI1_RXD0 — NC / SAI1_RXD0
AJ24 SAI1_RXFS — NC / SAI1_RXFS
AH20 SAI1_RXC — NC / SAI1_RXC
AJ21 SAI1_TXD0 — NC / SAI1_TXD0
AK26 SAI1_TXD1 — NC / SAI1_TXD1
AK27 SAI1_TXD2 — NC / SAI1_TXD2
AH25 SAI1_TXD3 — NC / SAI1_TXD3
AH26 SAI1_TXD4 — NC / SAI1_TXD4
AJ25 SAI1_TXD5 — NC / SAI1_TXD5
AH24 SAI1_TXD6 — NC / SAI1_TXD6
AJ23 SAI1_TXD7 — NC / SAI1_TXD7
AG25 NC
K29 NC
L29 NC
AB1 NC
AC1 NC
AD1 NC
AE1 NC

CCWi-i.MX8M Nano

1V8_SOM_EXT, 3V3_SOM_EXT
GND C197 100nF 5 — U35 FXLP34P5X (VCC, VCC1, A, Y, GND) — 1 C198 100nF GND
MUX_VSELECT_1V8 — MUX_VSELECT_1V8 4 — 2 MUX_VSELECT_3V3 — 3 GND
MUX_VSELECT_1V8 R340 0 MUX_VSELECT_3V3

U5G

MIPI_DSI_CLK_P MIPI_DSI_CLK_N
MIPI_DSI_DATA0_P MIPI_DSI_DATA0_N
MIPI_DSI_DATA1_P MIPI_DSI_DATA1_N
MIPI_DSI_DATA2_P MIPI_DSI_DATA2_N
MIPI_DSI_DATA3_P MIPI_DSI_DATA3_N

MIPI_DSI0: MIPI_DSI_CLK_P, MIPI_DSI_CLK_N, MIPI_DSI_DATA0_P, MIPI_DSI_DATA0_N, MIPI_DSI_DATA1_P, MIPI_DSI_DATA1_N, MIPI_DSI_DATA2_P, MIPI_DSI_DATA2_N, MIPI_DSI_DATA3_P, MIPI_DSI_DATA3_N
MIPI_DSI1: NC, NC, NC, NC, NC, NC, NC, NC, NC, NC

MIPI_CSI: MIPI_CSI_CLK_P, MIPI_CSI_CLK_N, MIPI_CSI_DATA0_P, MIPI_CSI_DATA0_N, MIPI_CSI_DATA1_P, MIPI_CSI_DATA1_N, MIPI_CSI_DATA2_P, MIPI_CSI_DATA2_N, MIPI_CSI_DATA3_P, MIPI_CSI_DATA3_N

AM13 DIFF100 MIPI_CSI_CLK_P — MIPI_CSI_CLK_P
AM14 DIFF100 MIPI_CSI_CLK_N — MIPI_CSI_CLK_N
AL15 DIFF100 MIPI_CSI_DATA0_P — MIPI_CSI_DATA0_P
AL16 DIFF100 MIPI_CSI_DATA0_N — MIPI_CSI_DATA0_N
AL12 DIFF100 MIPI_CSI_DATA1_P — MIPI_CSI_DATA1_P
AL13 DIFF100 MIPI_CSI_DATA1_N — MIPI_CSI_DATA1_N
AM16 DIFF100 MIPI_CSI_DATA2_P — MIPI_CSI_DATA2_P
AM17 DIFF100 MIPI_CSI_DATA2_N — MIPI_CSI_DATA2_N
AK21 DIFF100 MIPI_CSI_DATA3_P — MIPI_CSI_DATA3_P
AK22 DIFF100 MIPI_CSI_DATA3_N — MIPI_CSI_DATA3_N

CCWi-i.MX8M Nano

U5F

USB 3.0
USB_OTG1
USB_OTG2

GPIO1_IO12 GPIO1_IO14 GPIO1_IO13 GPIO1_IO15
USB_OTG1_VBUS USB_OTG1_P USB_OTG1_N USB_OTG1_ID
USB_OTG2_VBUS USB_OTG2_P USB_OTG2_N USB_OTG2_ID

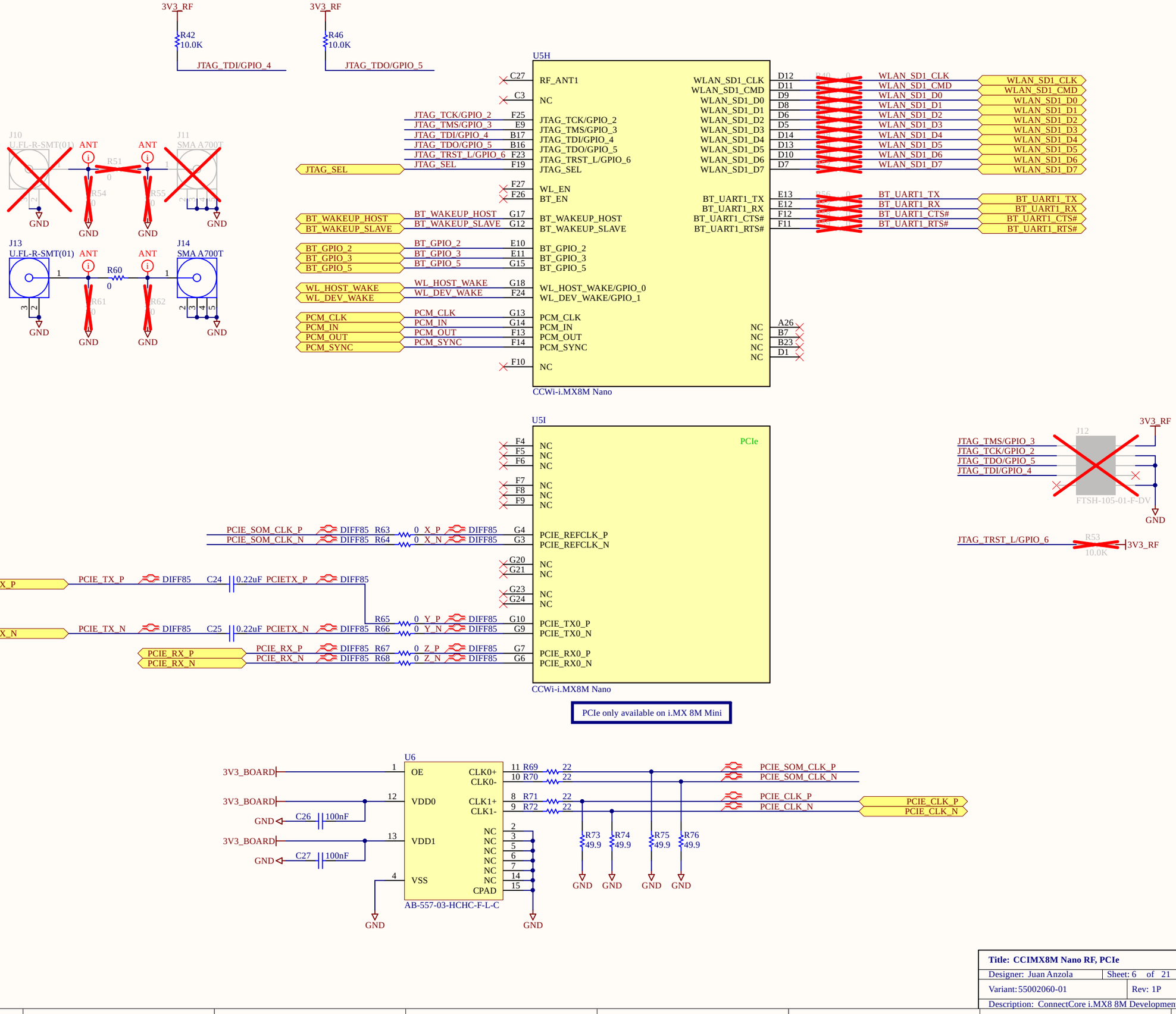
B10 NC
B9 NC
B13 NC
B12 NC
C8 GPIO1_IO12
C7 GPIO1_IO14
C9 GPIO1_IO13
C11 GPIO1_IO15
B6 USB_OTG1_VBUS
A7 DIFF90 USB_OTG1_P
A6 DIFF90 USB_OTG1_N
C6 USB_OTG1_ID
E7 USB_OTG2_VBUS
A9 DIFF90 USB_OTG2_P
A8 DIFF90 USB_OTG2_N
C10 USB_OTG2_ID

CCWi-i.MX8M Nano

USB_OTG2 only available on i.MX 8M Mini

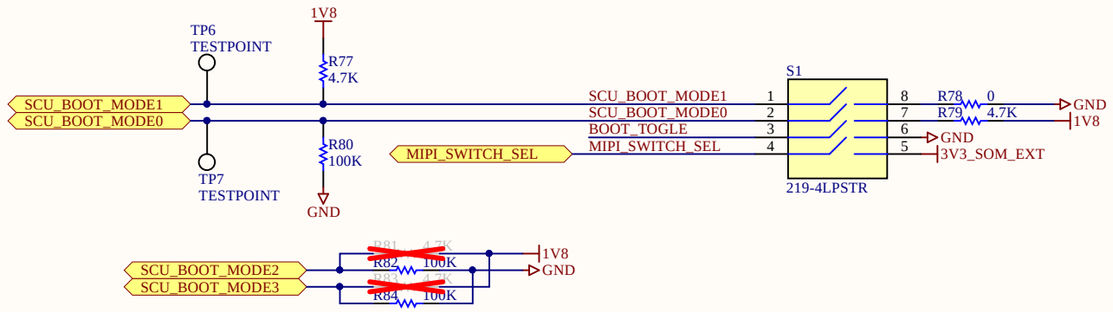
MIPI_CSI_RESET_N — MIPI_CSI_RESET_N R352 0 — GPIO1_IO12
USB_OTG1_POWER — USB_OTG1_POWER R353 0

| | | |
|---|---|---|
| Title: CCIMX8M Nano Digital interfaces | | |
| Designer: Juan Anzola | Sheet: 5 of 21 | |
| Variant: 55002060-01 | Rev: 1P | |
| Description: ConnectCore i.MX8 8M Development board | | |




| | |
|---|---|
| Title: CCIMX8M Nano RF, PCIe | |
| Designer: Juan Anzola | Sheet: 6 of 21 |
| Variant: 55002060-01 | Rev: 1P |
| Description: ConnectCore i.MX8 8M Development board | |

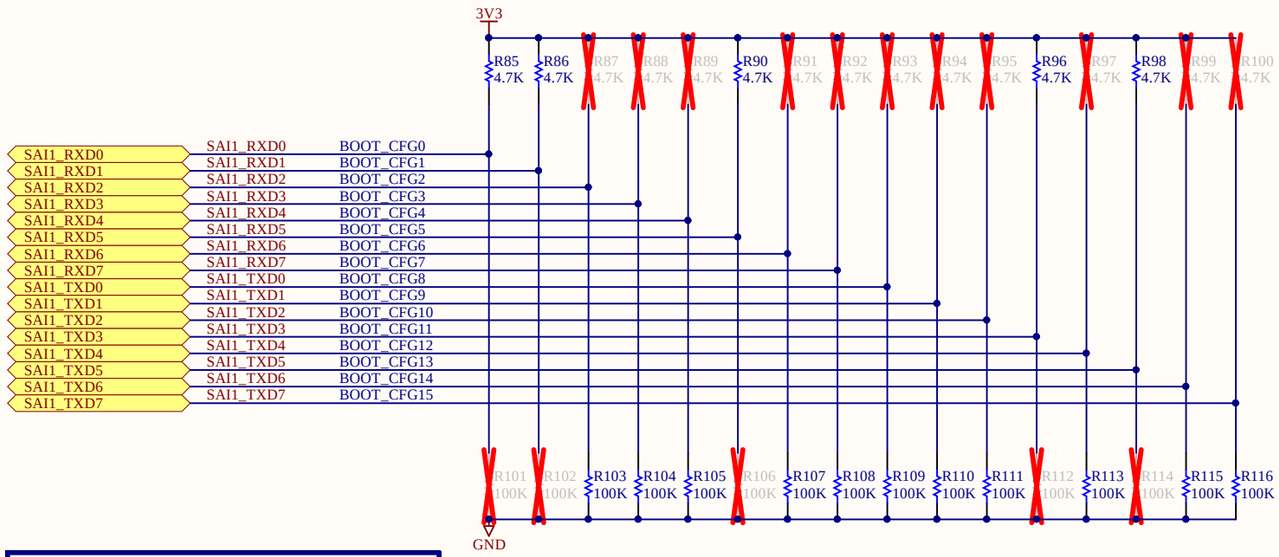
# Boot Mode



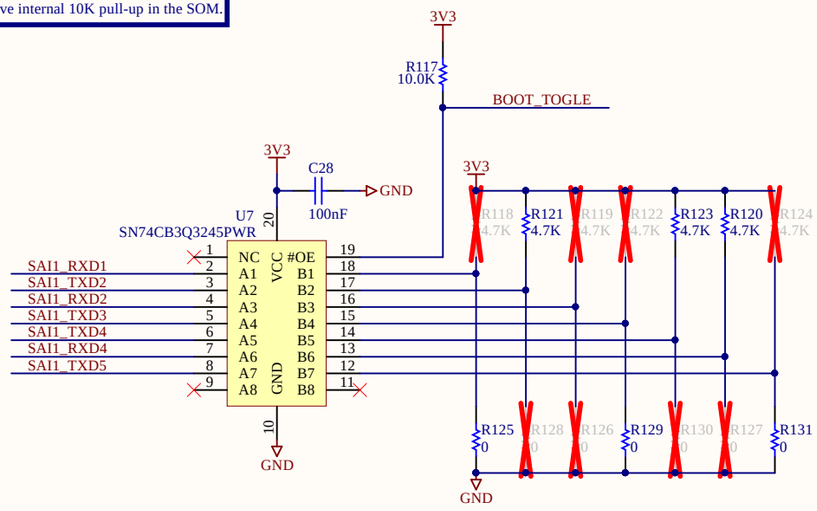

| SW1.4 | SW1.3 | SW1.2 | SW1.1 | Description |
|---|---|---|---|---|
| - | Open | Open | Open | Boot from eMMC0 |
| - | Close | Close | Open | Boot from microSD |
| - | - | Open | Close | Boot from Fuses |
| - | - | Close | Close | Serial downloader |
| Open | - | - | - | MIPI connected to HDMI |
| Close | - | - | - | MIPI connected to LVDS |

SW1.3 only required for CC8M Mini

# i.MX 8M Mini bootstrap




BOOT_CFG[1,2,5,6,11,13] have internal 10K pull-up in the SOM.




| BOOT_CFG[15] | BOOT_CFG[14] | BOOT_CFG[13] | BOOT_CFG[12] | BOOT_CFG[11] | BOOT_CFG[10] | BOOT_CFG[9] | BOOT_CFG[8] |
|---|---|---|---|---|---|---|---|
| Infinity loop (Debug USE only) 0 - Disable 1 - Enable | 001 - SD/eSD | | | Port Select: 00 - uSDHC1 01 - uSDHC2 10 - uSDHC3 | | Power Cycle Enable: 0 - No Power Cycle 1 - Enabled via | SD Loopback Clock Source Sel (for SDR50 and SDR104 only): 0 - through SD pad 1 - direct |
| | 010 - MMC/eMMC | | | | | | |
| | 011 - NAND | | | Pages In Block: 00 - 128 01 - 64 10 - 32 11 - 256 | | Nand_Row_address_bytes: 00 - 3 01 - 2 10 - 4 11 - 5 | |
| | 100 - QSPI | | | Flash Auto Probe | FLASH_TYPE: 000 - Device supports 3B read by default 001 - Device supports 4B read by default 010 - HyperFlash 1V8 011 - HyperFlash 3V3 100 - MXIC Octal DDR | | |
| | 110 - SPI NOR | | | Port Select 000 - eCSPI1 001 - eCSPI2 010 - eCSPI3 | | SPI Addressing: 0 - 3-bytes (24-bit) 1 - 2-bytes (16-bit) | |

| | BOOT_CFG[7] | BOOT_CFG[6] | BOOT_CFG[5] | BOOT_CFG[4] | BOOT_CFG[3] | BOOT_CFG[2] | BOOT_CFG[1] | BOOT_CFG[0] |
|---|---|---|---|---|---|---|---|---|
| SD/eSD | Fast Boot: 0 - Regular 1 - Fast Boot | Reserved | Reserved | Bus Width: 0 - 1-bit 1 - 4-bit | Speed 000 - Normal/SDR12 001 - High/SDR25 010 - SDR50 011 - SDR104 101 - Reserved for DDR50 Others - Reserved | | | Reserved |
| MMC/eMMC | | Bus Width 000 - 1-bit 001 - 4-bit 010 - 8-bit 101 - 4-bit DDR (MMC 4.4) 110 - 8-bit DDR (MMC 4.4) Else - Reserved | | | Speed: 00 - Normal 01 - High 10 - Reserved for HS200 11 - Reserved | | USDHC IO VOLTAGE SELECTION For Normal Boot Mode 0 - 3.3V 1 - 1.8V | USDHC IO VOLTAGE SELECTION For Manufacture Mode 0 - 3.3V 1 - 1.8V |
| NAND | BT_TOGGLEMODE | BOOT_SEARCH_COUNT: 00 - 2 01 - 2 10 - 4 11 - 8 | | Toggle Mode 33MHz Preamble Delay, Read Latency: 000 - 16 GPMICLK cycles 001 - 1 GPMICLK cycles 010 - 2 GPMICLK cycles 011 - 3 GPMICLK cycles 100 - 4 GPMICLK cycles 101 - 5 GPMICLK cycles 110 - 6 GPMICLK cycles 111 - 7 GPMICLK cycles 1111 - 15 GPMICLK cycles | | | Reserved |
| FlexSPI | HOLD TIME: 00 - 500us 01 - 1ms 10 - 3ms 11 - 10ms | FLASH Auto Probe Type | | | FLexSPI FLASH Dummy Cycle | | | |
| SPINOR | CS select SPI only: 00 - CS#0 default 01 - CS#1 10 - CS#2 11 - CS#3 | Reserved | Reserved | Reserved | Reserved | Reserved | Reserved | Reserved |

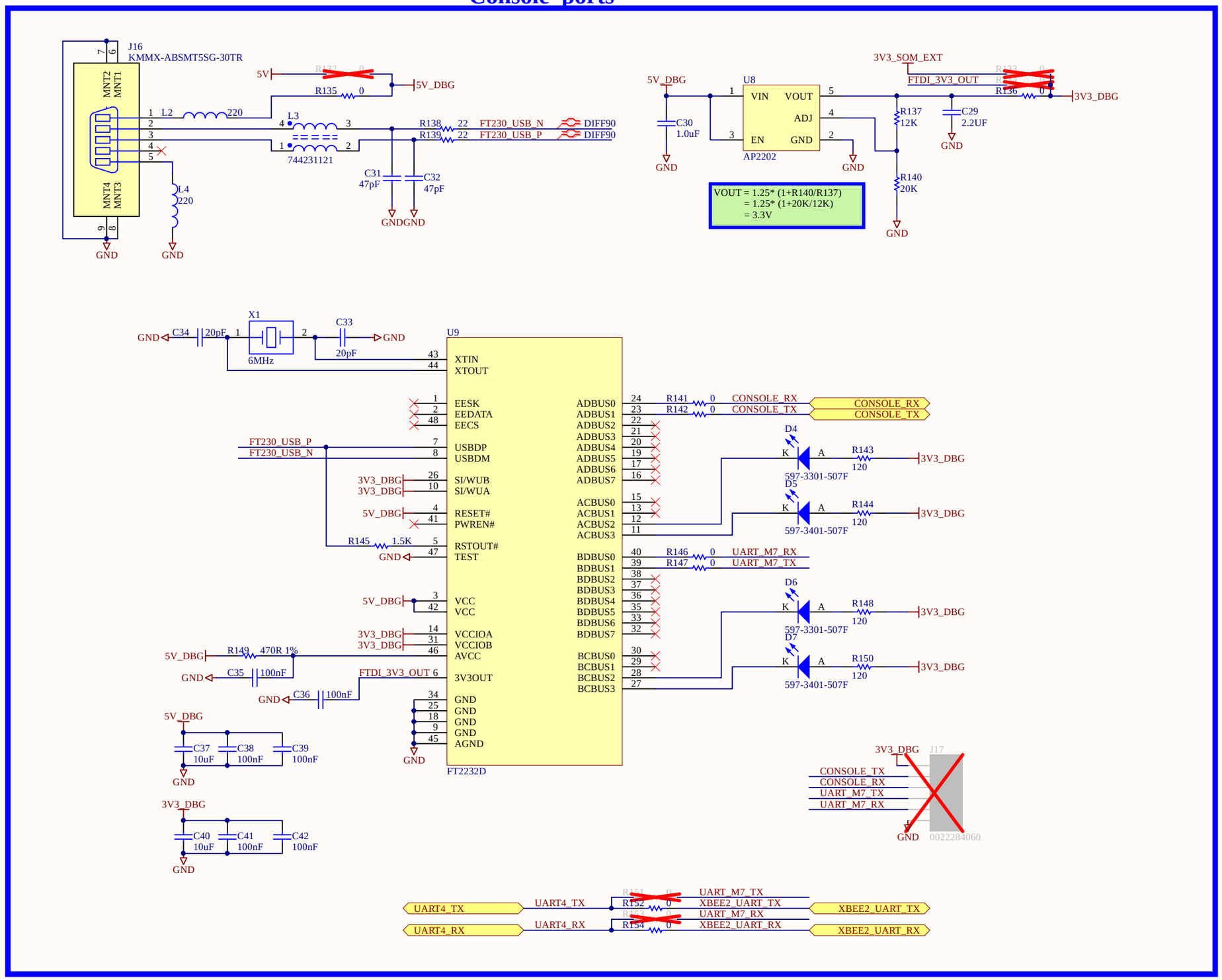
**Title: Bootstrap**

Designer: Juan Anzola | Sheet: 7 of 21

Variant: 55002060-01 | Rev: 1P

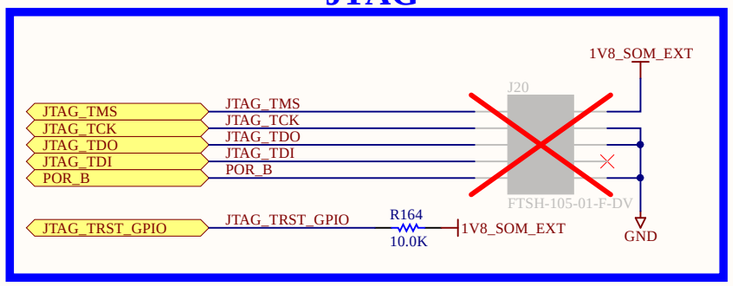
Description: ConnectCore i.MX8 8M Development board

# Console_ports

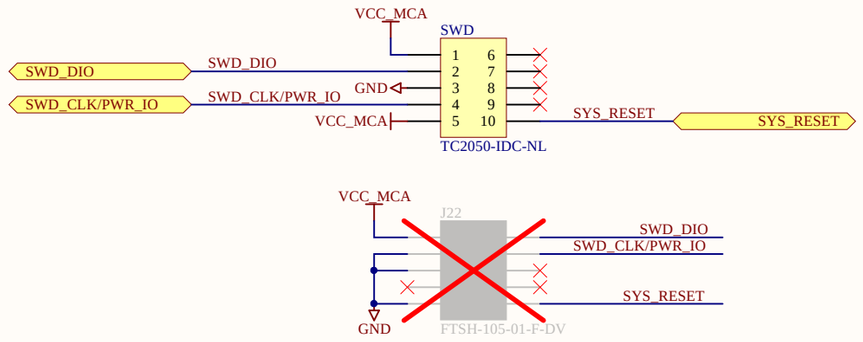



| | |
|---|---|
| **Title: Consoles** | |
| Designer: Juan Anzola | Sheet: 8 of 21 |
| Variant: 55002060-01 | Rev: 1P |
| Description: ConnectCore i.MX8 8M Development board | |

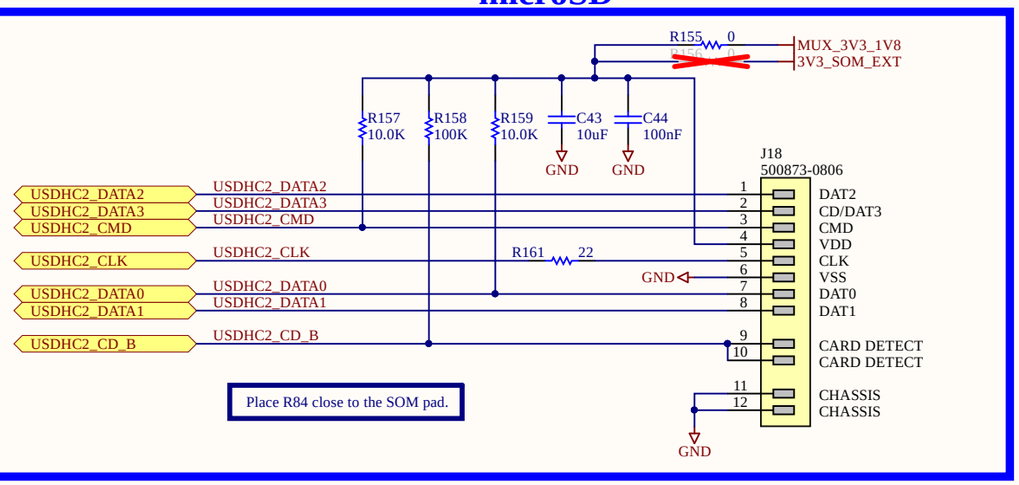
## JTAG



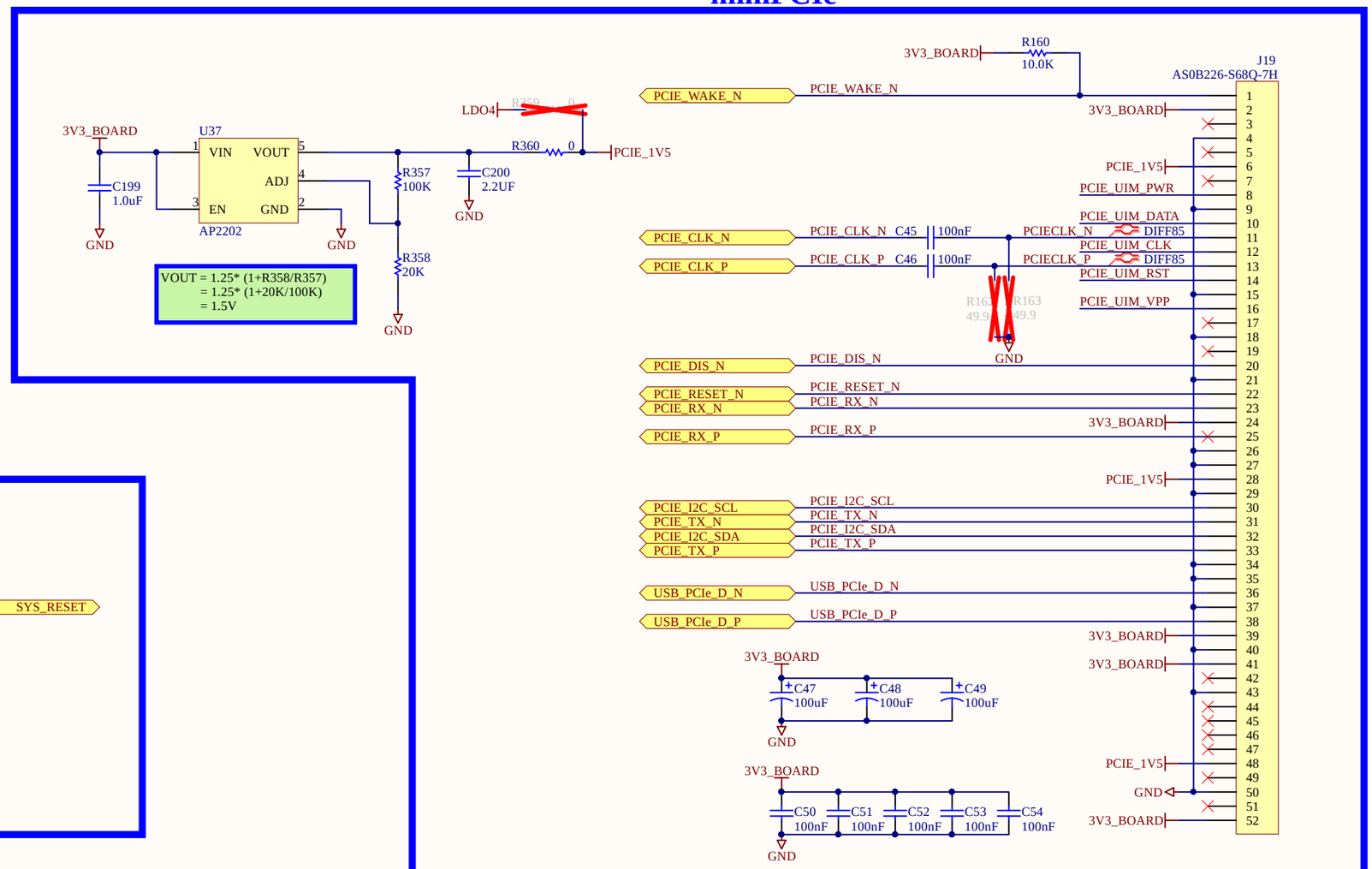

## SWD



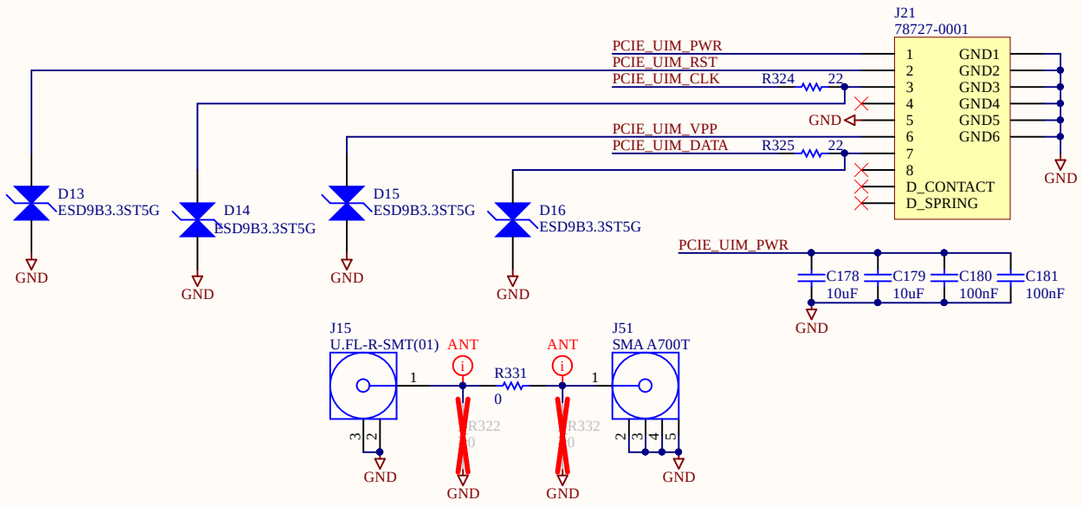

## microSD




## miniPCIe

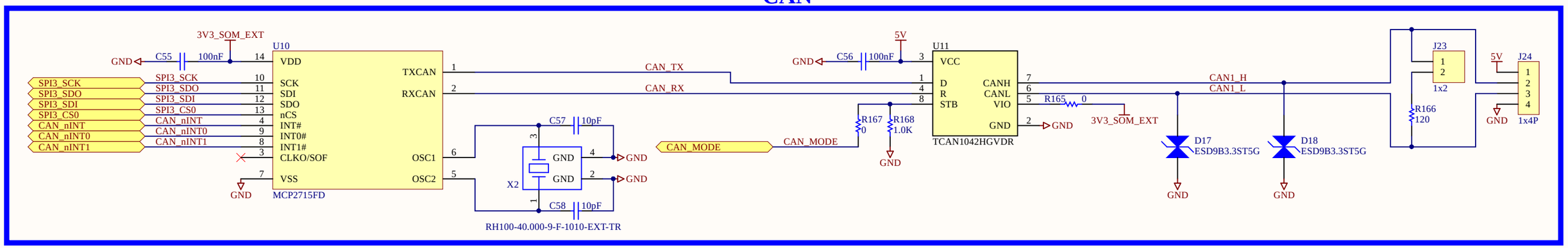



## micro SIM

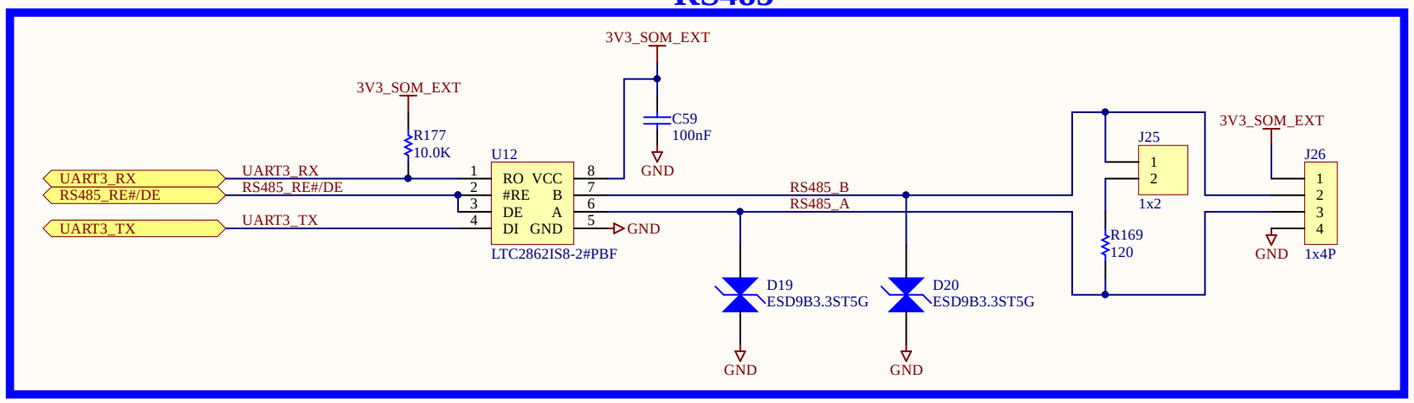



| | |
|---|---|
| **Title: JTAG, SWD, uSD, Mini PCIe, uSIM** | |
| Designer: Juan Anzola | Sheet: 9 of 21 |
| Variant: 55002060-01 | Rev: 1P |
| Description: ConnectCore i.MX8 8M Development board | |

# CAN

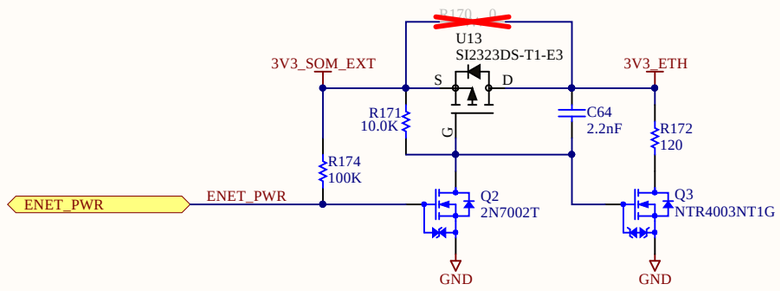


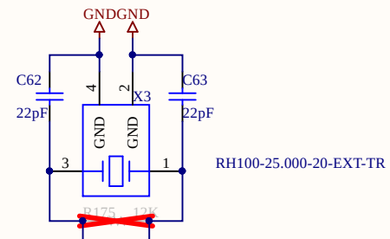

# RS485

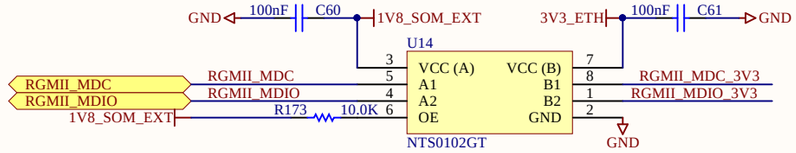



| | |
|---|---|
| **Title: RS485, CAN** | |
| Designer: Juan Anzola | Sheet: 10 of 21 |
| Variant: 55002060-01 | Rev: 1P |
| Description: ConnectCore i.MX8 8M Development board | |

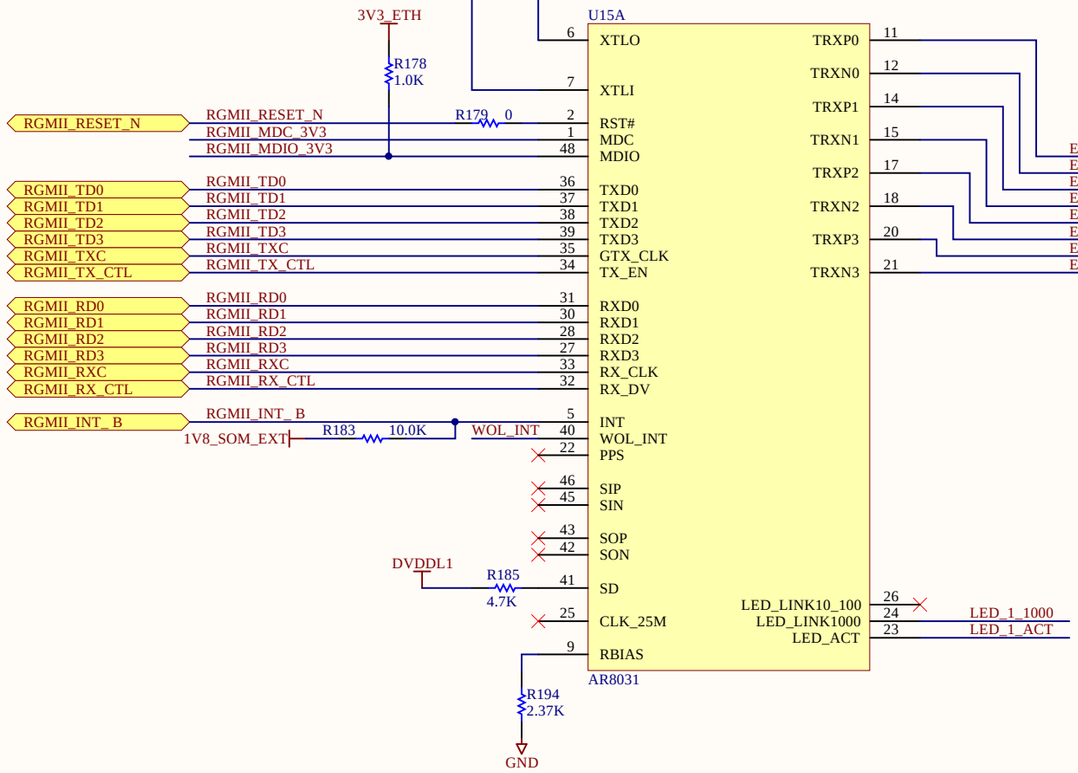
# Gigabit Ethernet

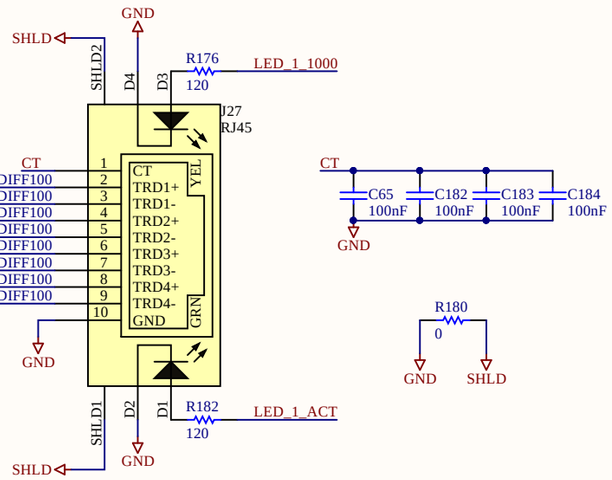


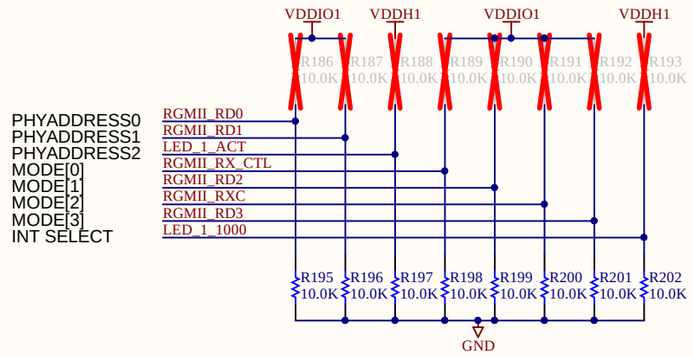


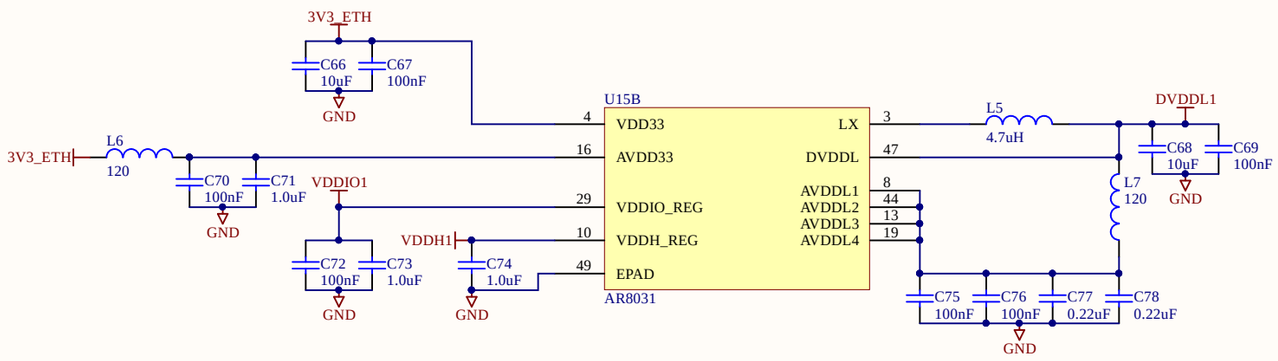






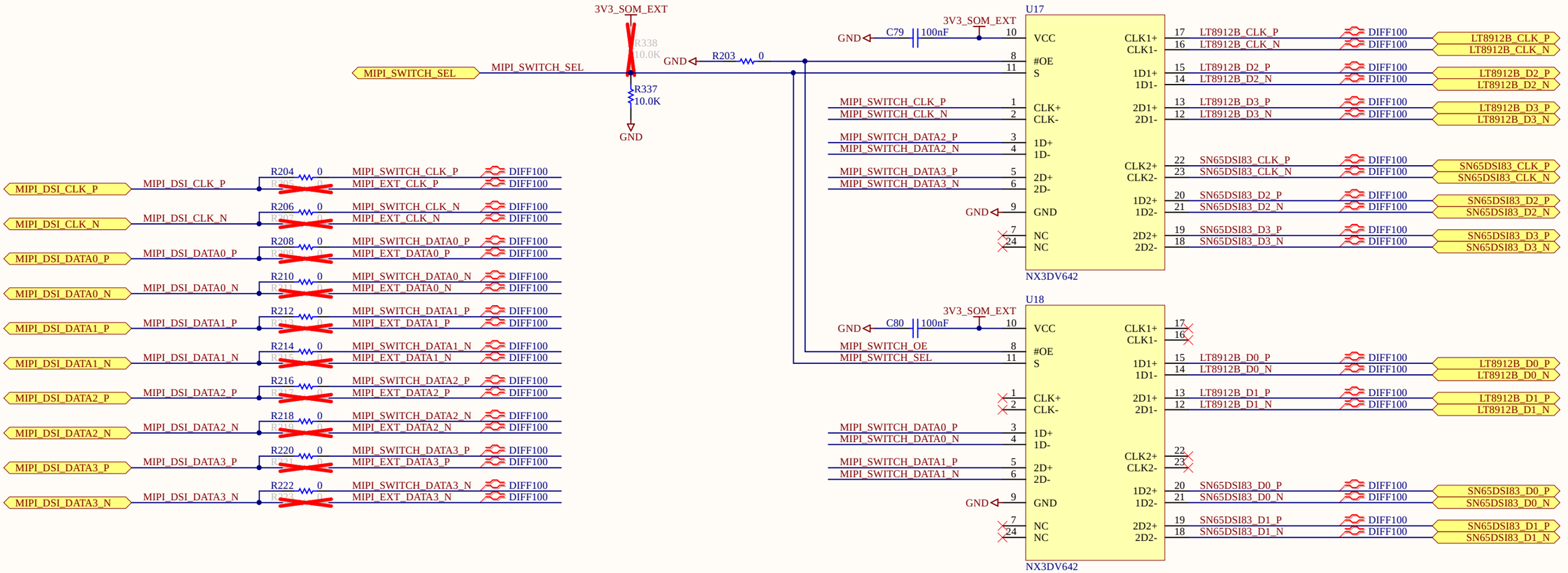


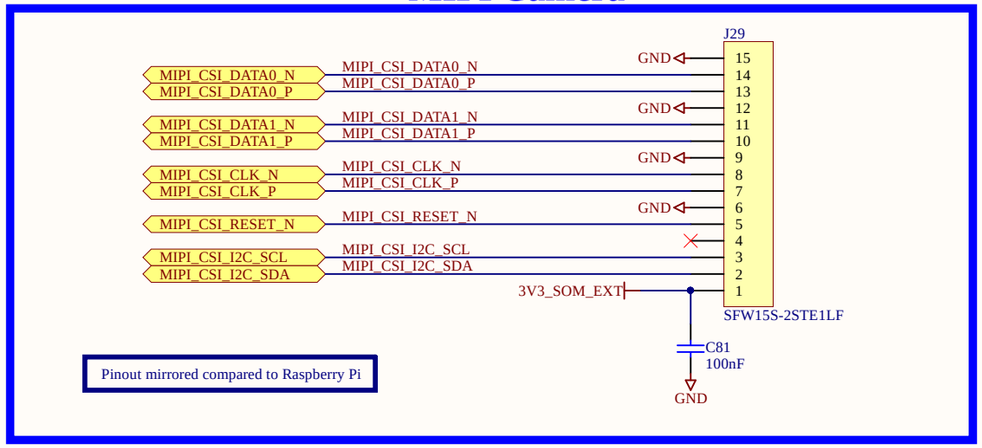

| Parameter | Default value | Description |
|---|---|---|
| PHYADRESS[2:0] | 001 | PHY address set to 0x01 |
| Mode[3:0] | 0000 | BaseT, RGMII |
| Int select | 0 | - |

| | | |
|---|---|---|
| **Title: Ethernet** | | |
| Designer: Juan Anzola | Sheet: 11 of 21 | |
| Variant: 55002060-01 | Rev: 1P | |
| Description: ConnectCore i.MX8 8M Development board | | |

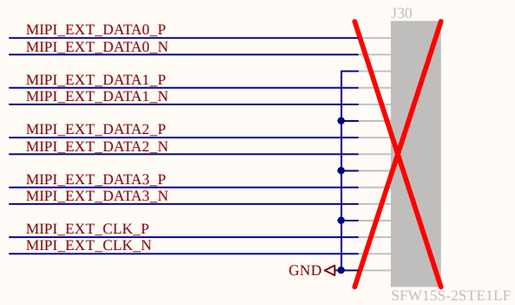
# MIPI Display switch




# MIPI Camera

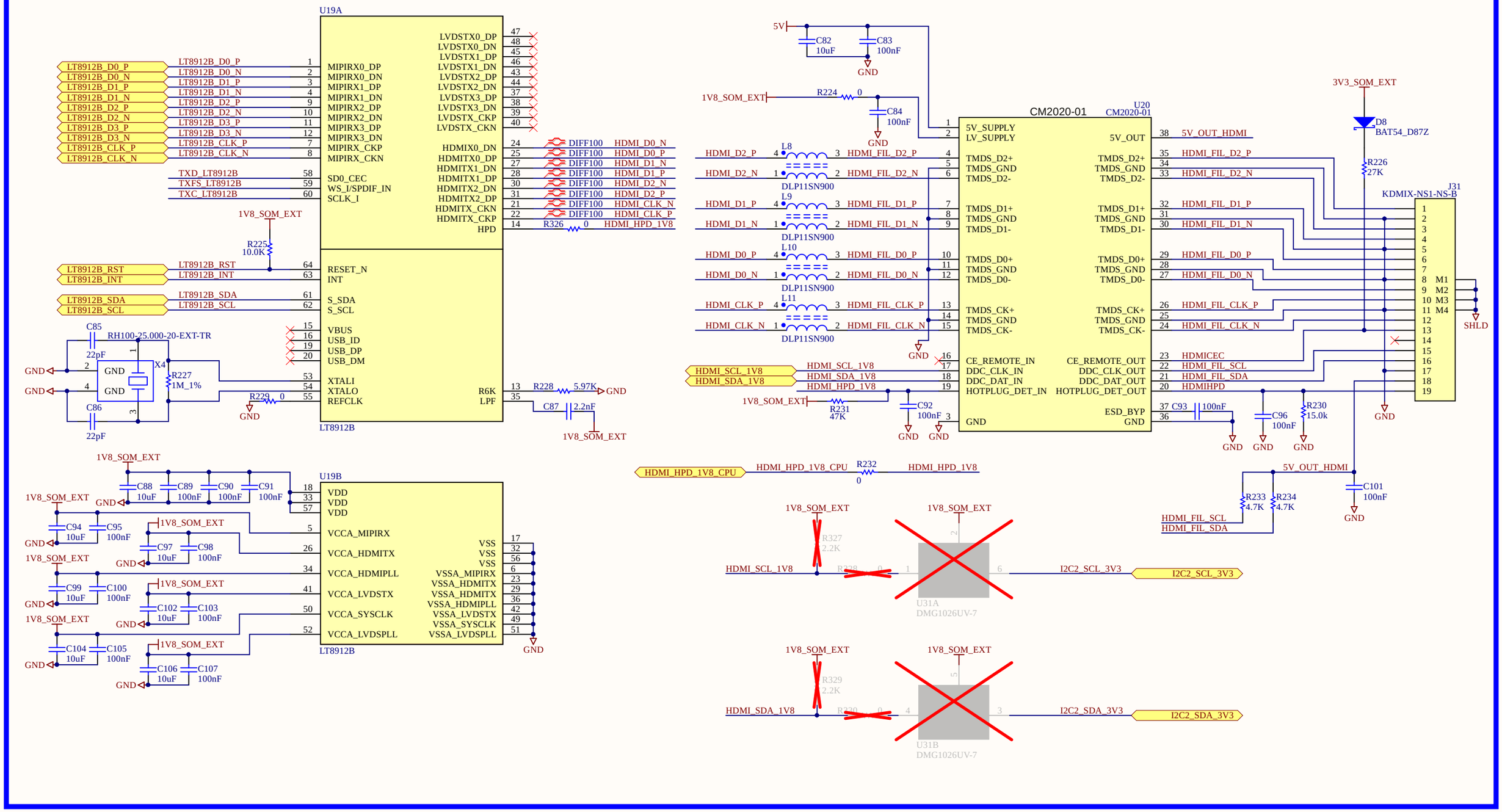



# External MIPI display

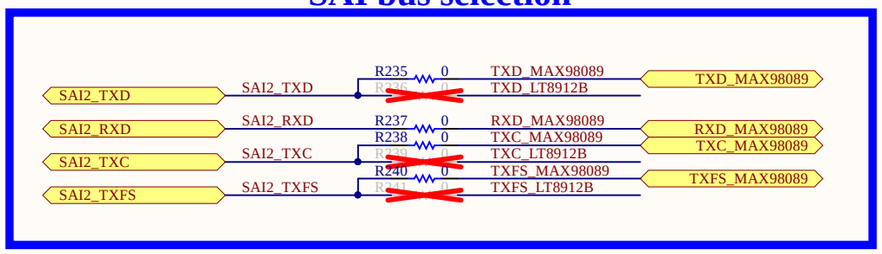



| | |
|---|---|
| **Title: MIPI display and switch, MIPI camera** | |
| Designer: Juan Anzola | Sheet: 12 of 21 |
| Variant: 55002060-01 | Rev: 1P |
| Description: ConnectCore i.MX8 8M Development board | |

# LT8912 MIPI to HDMI/LVDS bridge

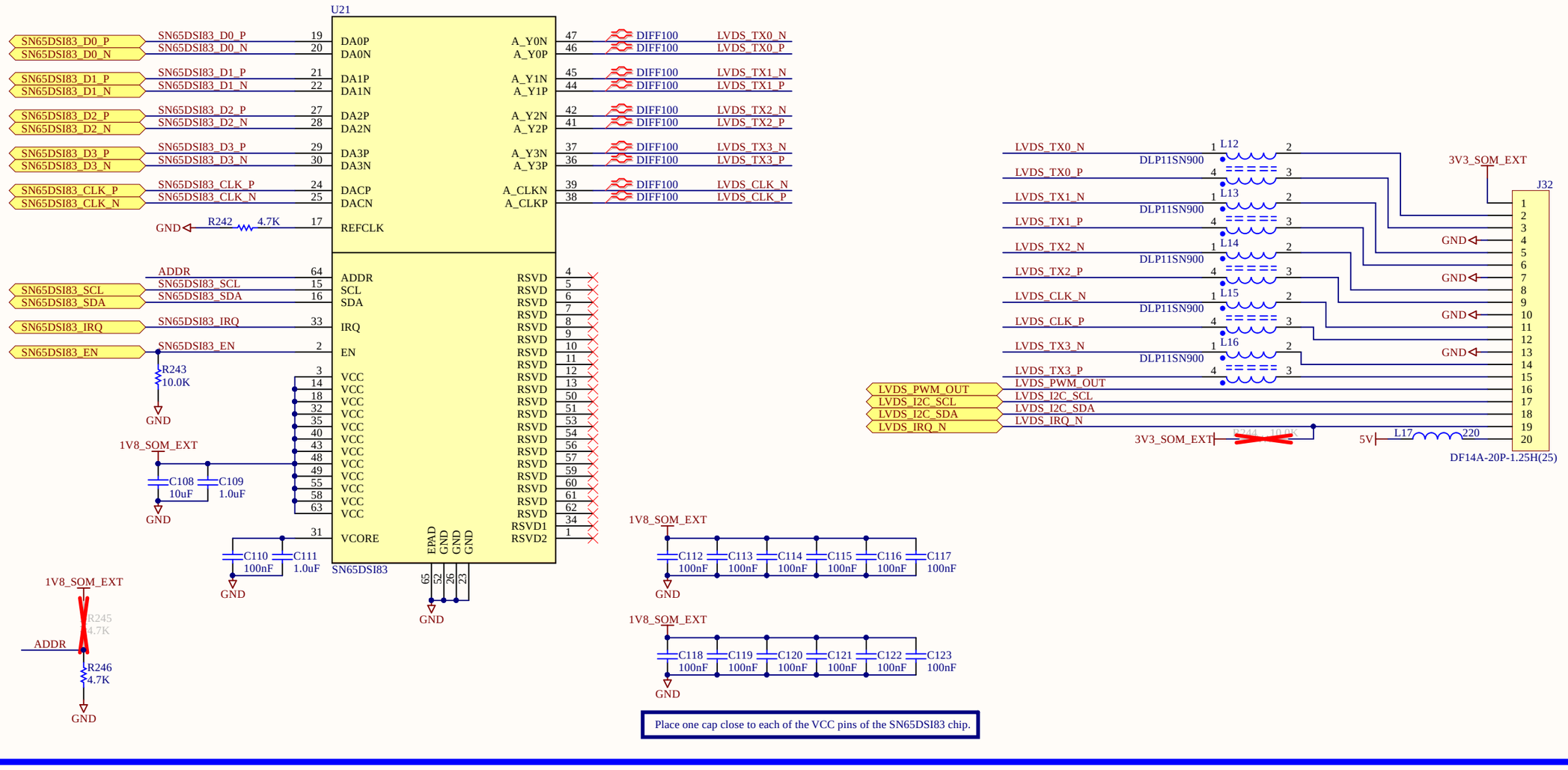



## SAI bus selection



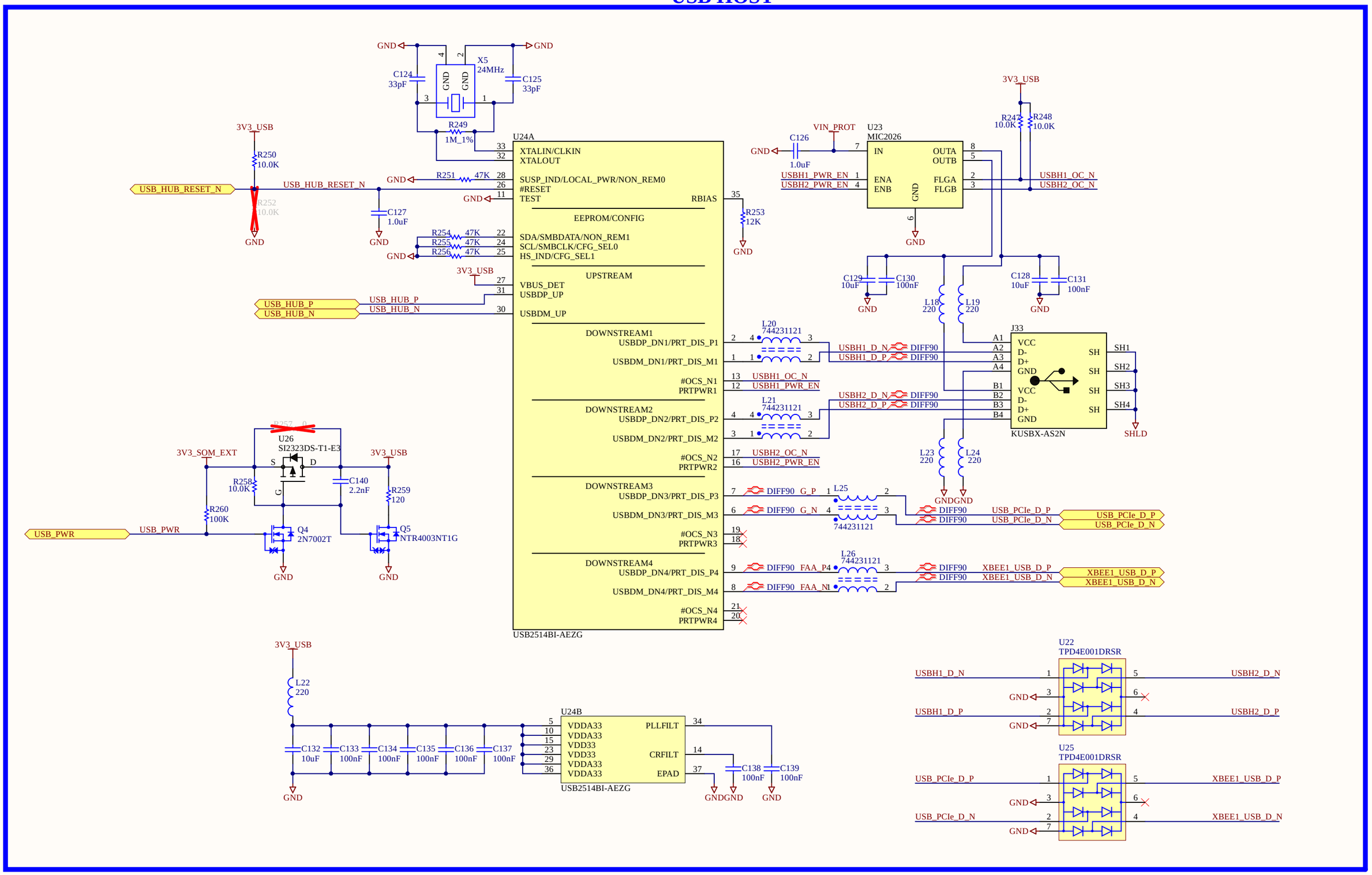

| | |
|---|---|
| **Title: MIPI to HDMI bridge** | |
| Designer: Juan Anzola | Sheet: 13 of 21 |
| Variant: 55002060-01 | Rev: 1P |
| Description: ConnectCore i.MX8 8M Development board | |

# SN65DSI83 MIPI to LVDS bridge



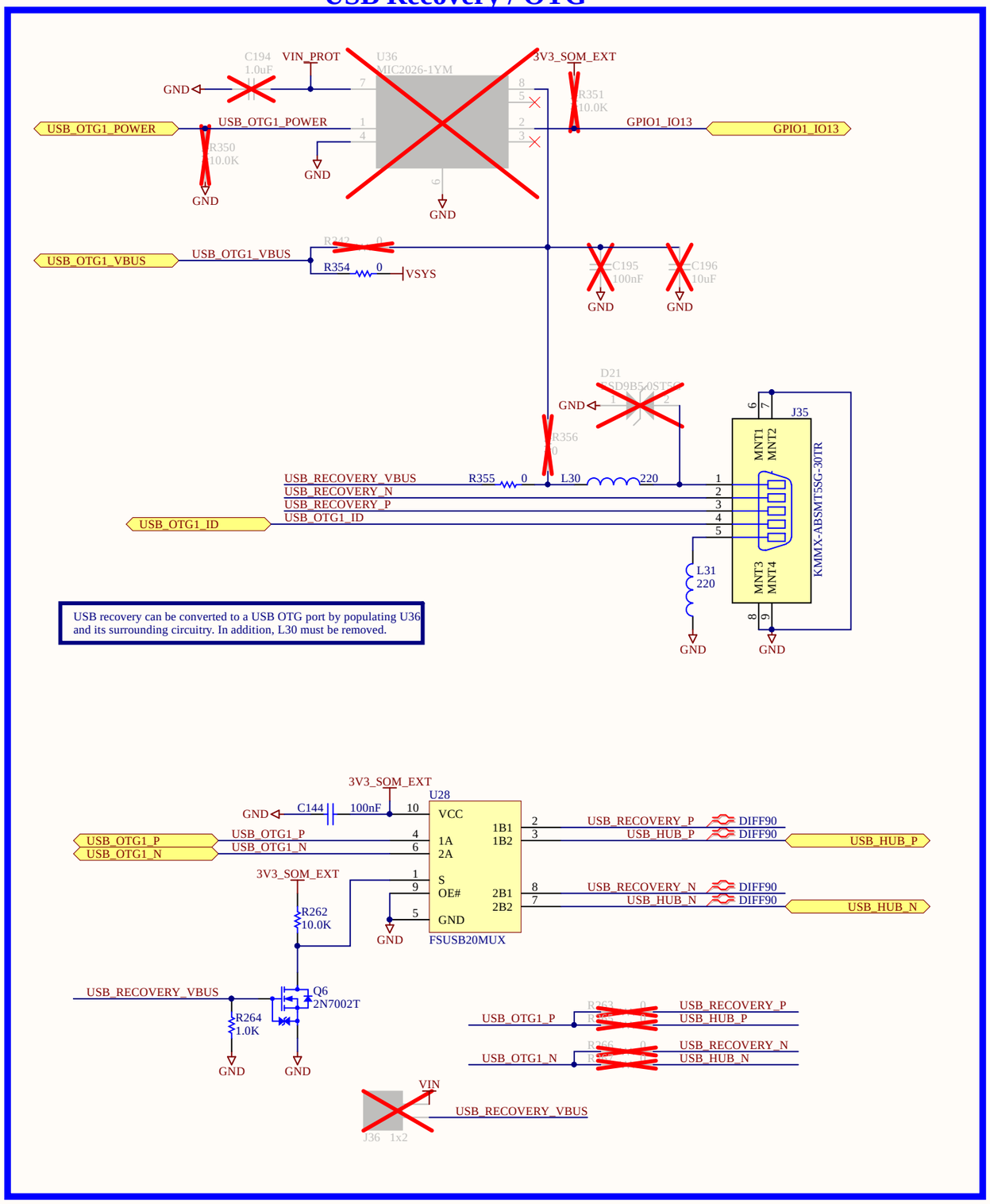

| | |
|---|---|
| Title: MIPI to LVDS bridge | |
| Designer: Juan Anzola | Sheet: 14 of 21 |
| Variant: 55002060-01 | Rev: 1P |
| Description: ConnectCore i.MX8 8M Development board | |

# USB HOST

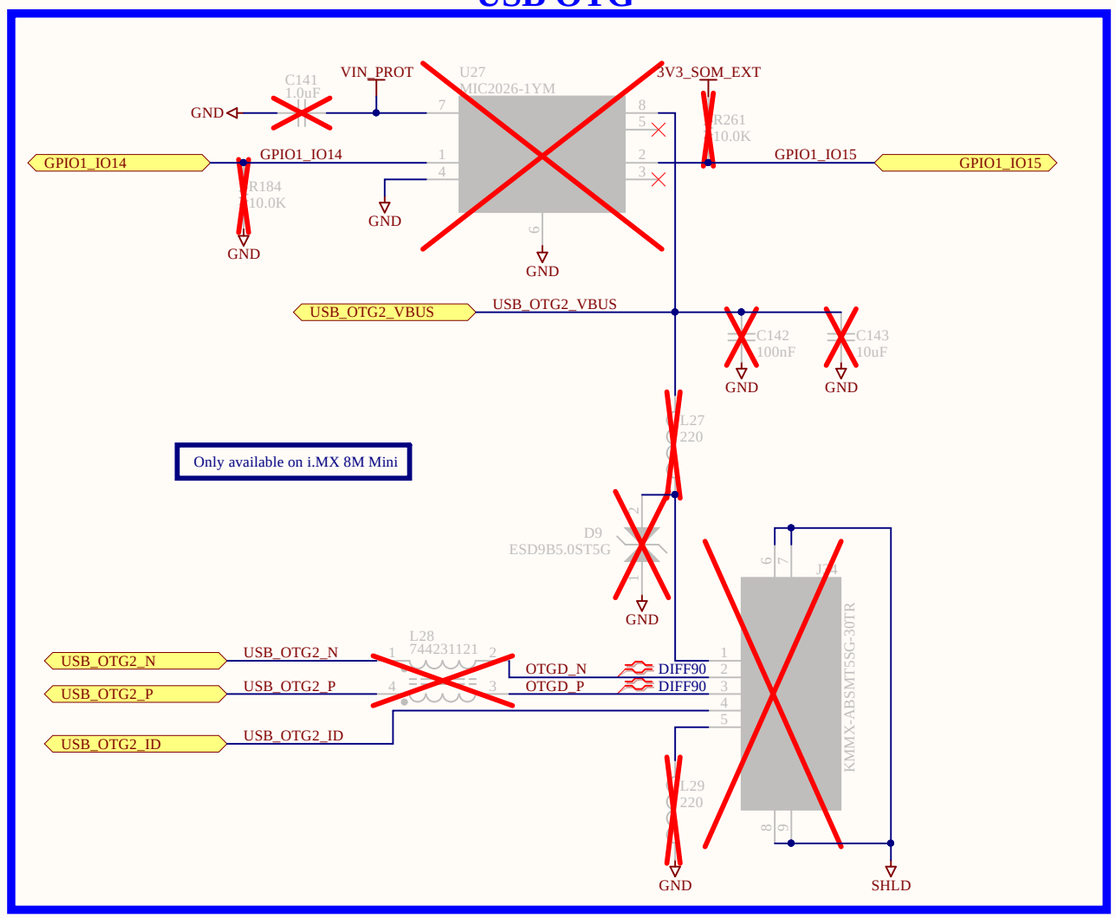



| | |
|---|---|
| **Title:** USB HUB | |
| Designer: Juan Anzola | Sheet: 15 of 21 |
| Variant: 55002060-01 | Rev: 1P |
| Description: ConnectCore i.MX8 8M Development board | |

# USB Recovery / OTG

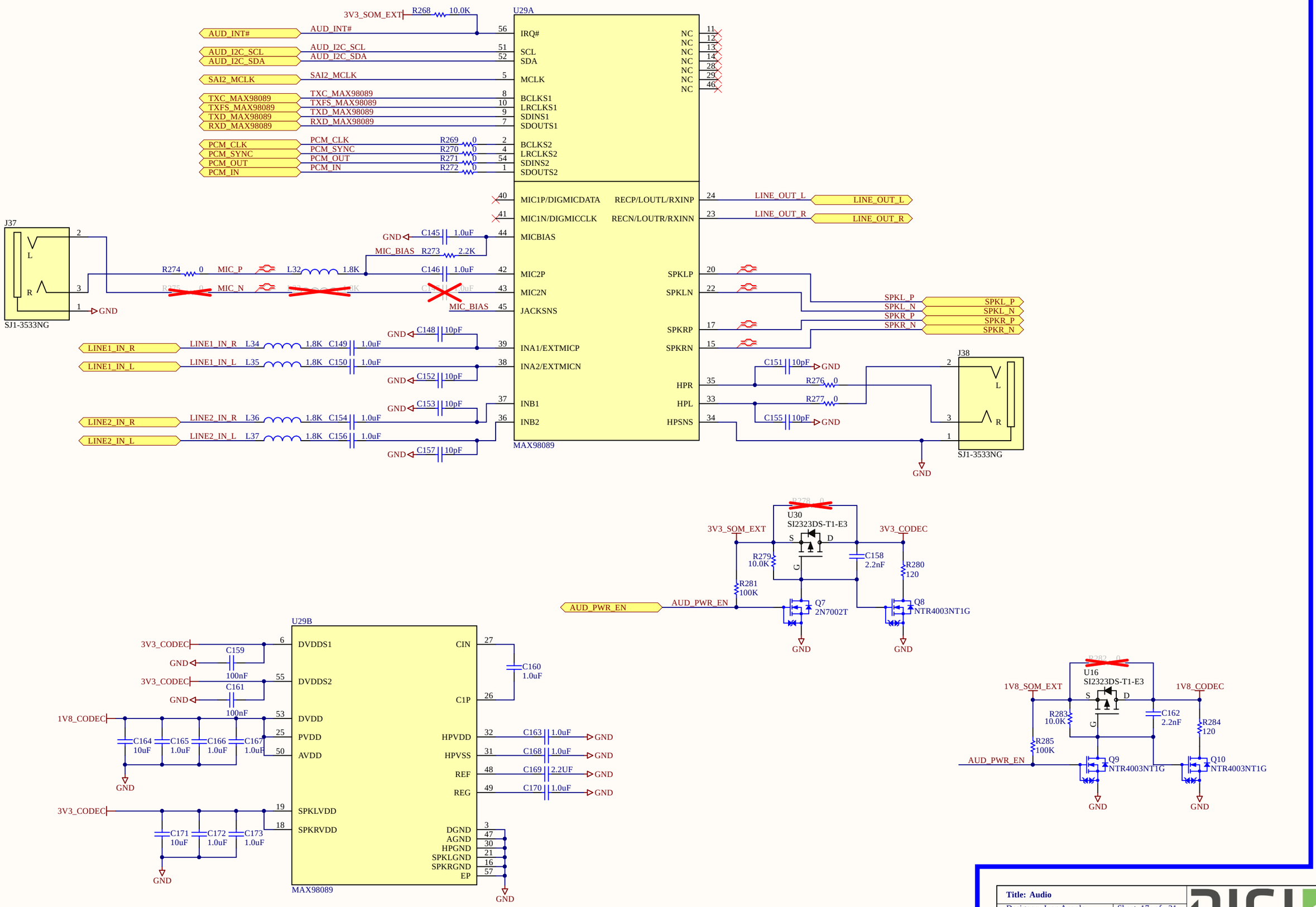



# USB OTG




| | |
|---|---|
| **Title: USB Recovery, USB OTG** | |
| Designer: Juan Anzola | Sheet: 16 of 21 |
| Variant: 55002060-01 | Rev: 1P |
| Description: ConnectCore i.MX8 8M Development board | |

# AUDIO







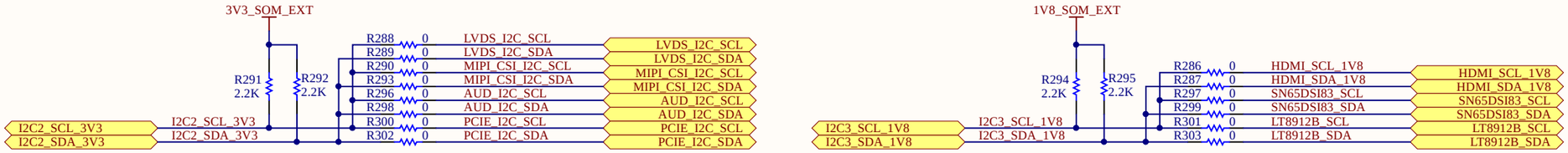




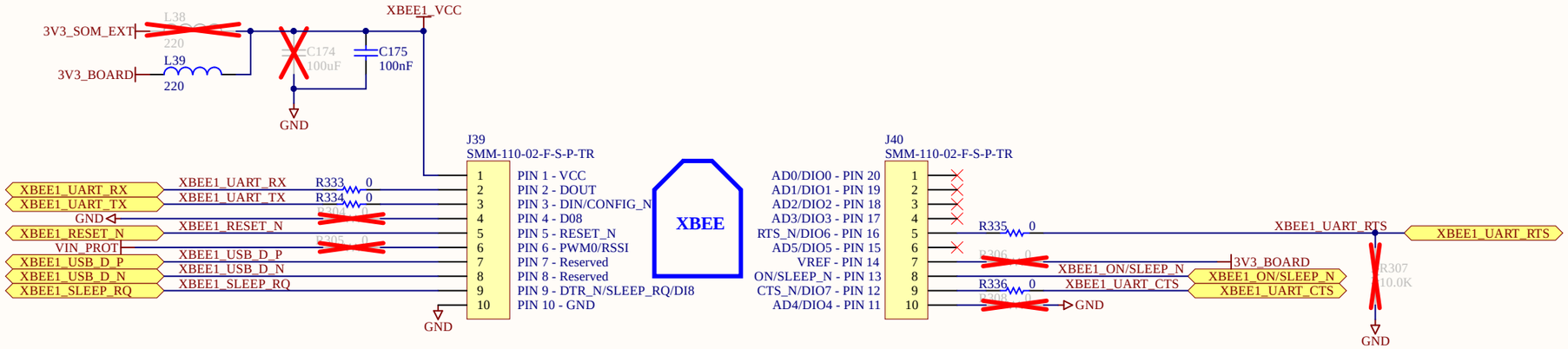


| | |
|---|---|
| **Title: Audio** | |
| Designer: Juan Anzola | Sheet: 17 of 21 |
| Variant: 55002060-01 | Rev: 1P |
| Description: ConnectCore i.MX8 8M Development board | |

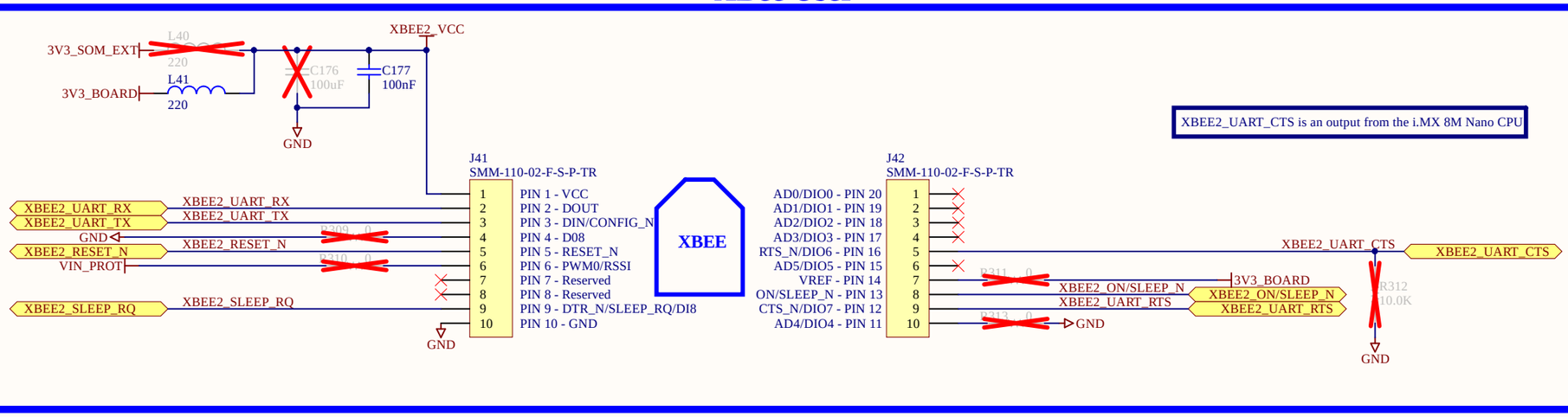
# I2C




# XBee Cellular

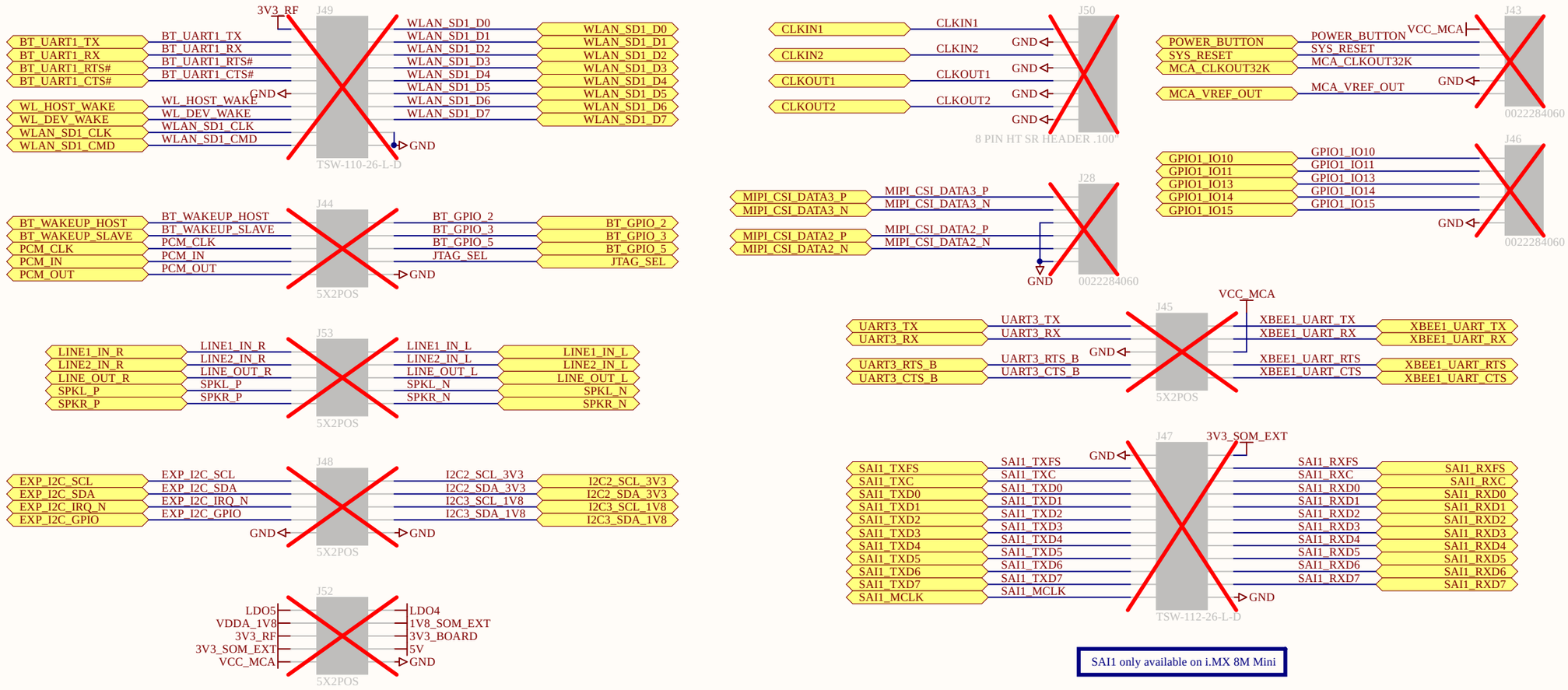



# XBee User

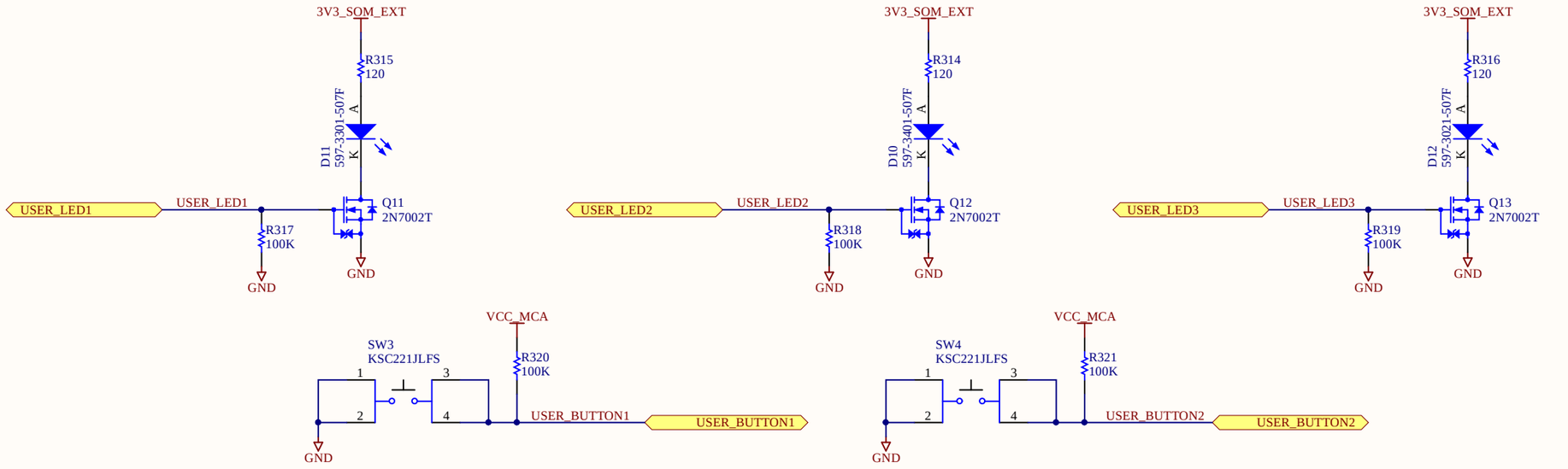



| | | |
|---|---|---|
| **Title: I2C, XBee** | | |
| Designer: Juan Anzola | Sheet: 18 of 21 | |
| Variant: 55002060-01 | Rev: 1P | |
| Description: ConnectCore i.MX8 8M Development board | | |

# Expansion connectors




# User LEDs & Buttons




| | |
|---|---|
| **Title: Expansion connectors, User LEDs, RF signal** | |
| Designer: Juan Anzola | Sheet: 19 of 21 |
| Variant: 55002060-01 | Rev: 1P |
| Description: ConnectCore i.MX8 8M Development board | |

# System Power Rails

| Voltage (V) | Supply Name | Block | Generated by | Current Capability (mA) |
|---|---|---|---|---|
| 5.0 | VIN | Input power protection | External DC supply | - |
| | | MCA LDO | | |
| | VIN_PROT | ConnectCore 8M Nano | Overvoltage Prot | - |
| | | 5V load switch | | |
| | | 3.3V board regulator | | |
| | | USB Host | | |
| | | USB OTG | | |
| | 5V | CAN | Load switch (U3) | - |
| | | HDMI | | |
| | | LVDS | | |
| 3.3 | 3V3_EXT | MicroSD | CC8M | 3A<br>Used also inside the SOM |
| | | RS-485 | | |
| | | CAN | | |
| | | Ethernet | | |
| | | MIPI CSI | | |
| | | LVDS | | |
| | | USB HUB | | |
| | | Audio | | |
| | | XBee1 | | |
| | | XBee2 | | |
| | 3V3_BOARD | PCIe | Switching regulator (U4) | 3A |
| | | XBee1 | | |
| | | XBee2 | | |
| | VCC_MCA | MCA | AP2202 | 150mA |
| 3.0 | VCC_RTC | RTC | C1 | |
| 1.8 | 1V8_EXT | HDMI | CC8M | 3A<br>Used also inside the SOM |
| | | LDVS | | |
| | | Audio | | |
| 1.5 | PCIE_1V5 | PCIe | 3V3_BOARD | 150mA |

# GPIO Table

| Signal Name | GPIO |
|---|---|
| 3V3_BOARD_EN | GPIO3_IO19 |
| 5V_DVK_PWR_ON | GPIO1_IO06 |
| AUD_INT# | GPIO3_IO22 |
| AUD_PWR_EN | GPIO3_IO24 |
| CAN_MODE | GPIO5_IO11 |
| CAN_nINT | GPIO1_IO00 |
| CAN_nINT0 | GPIO1_IO01 |
| CAN_nINT1 | GPIO1_IO05 |
| ENET_PWR | GPIO5_IO04 |
| EXP_I2C_GPIO | GPIO5_IO26 |
| EXP_I2C_IRQ_N | GPIO5_IO27 |
| HDMI_HPD_1V8_CPU | GPIO2_IO10 |
| LT8912B_INT | GPIO3_IO09 |
| LT8912B_RST | GPIO3_IO07 |
| LVDS_IRQ_N | GPIO4_IO28 |
| LVDS_PWM_OUT | MCA_IO17 |
| MIPI_CSI_RESET_N | GPIO1_IO12 |
| MUX_VSELECT_3V3/1V8 | GPIO5_IO01 |
| PCIE_DIS_N | GPIO3_IO20 |
| PCIE_RESET_N | GPIO3_IO23 |
| PCIE_WAKE_N | GPIO3_IO21 |
| POWER_LED | MCA_IO13 |
| RGMII_INT_B | GPIO5_IO02 |
| RGMII_RESET_N | GPIO5_IO03 |
| RS485_RE#/DE | GPIO1_IO03 |
| SN65DSI83_EN | GPIO3_IO00 |
| SN65DSI83_IRQ | GPIO3_IO06 |
| USB_HUB_RESET_N | GPIO5_IO10 |
| USB_PWR | GPIO3_IO25 |
| USER_BUTTON1 | MCA_IO10 |
| USER_BUTTON2 | GPIO2_IO20 |
| USER_LED1 | MCA_IO12 |
| USER_LED2 | MCA_IO18 |
| USER_LED3 | GPIO2_IO19 |
| WOL_INT | GPIO5_IO05 |
| XBEE1_ON/SLEEP_N | MCA_IO16 |
| XBEE2_ON/SLEEP_N | GPIO1_IO09 |
| XBEE1_RESET_N | MCA_IO15 |
| XBEE2_RESET_N | GPIO1_IO08 |
| XBEE1_SLEEP_RQ | MCA_IO11 |
| XBEE2_SLEEP_RQ | GPIO1_IO07 |

# I2C2

| Peripheral | 7-bit address (Hex) |
|---|---|
| LVDS | - |
| MIPI CSI | - |
| Audio | 0x10 |
| PCIe | - |
| Expansion I2C | - |

# I2C3

| Peripheral | 7-bit address (Hex) |
|---|---|
| SN65DSI83 | 0x2C |
| LT8912B | 0x48, 0x49, 0x4A |

**Title: GPIO Table, I2C Addresses**

Designer: Juan Anzola | Sheet: 20 of 21

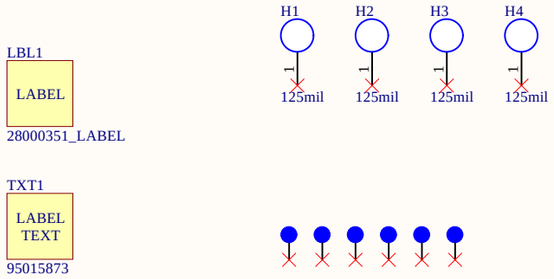
Variant: 55002060-01 | Rev: 1P

Description: ConnectCore i.MX8 8M Development board

Format: DD/MM/YYYY

11/11/2019 - CC8M Development Board
* Revision: 01
- Initial version.

18/12/2019 - CC8M Development Board
* Revision: 02
- PCB spin: 3001623x-01 revA => 3001623x-02 revA




| | |
|---|---|
| **Title: History, Mechanicals** | |
| Designer: Juan Anzola | Sheet: 21 of 21 |
| Variant: 55002060-01 | Rev: 1P |
| Description: ConnectCore i.MX8 8M Development board | |