

AM62x STARTER KIT EVM

TABLE OF CONTENTS

| PAGE | CONTENTS |
|------|--|
| 01 | TABLE OF CONTENTS |
| 02 | REVISION HISTORY |
| 03 | BLOCK DIAGRAM AM62x SKEVM |
| 04 | BLOCK DIAGRAM XDS110 |
| 05 | POWER BLOCK DIAGRAM |
| 06 | POWER SEQUENCE |
| 07 | I2C TREE |
| 08 | GPIO MAPPING TABLE |
| 09 | USB TYPE-C POWER |
| 10 | PERIPHERAL POWER SUPPLY-1 |
| 11 | PERIPHERAL POWER SUPPLY-2 |
| 12 | SOC POWER SUPPLY |
| 13 | CURRENT MONITORING DEVICES |
| 14 | SOC POWER |
| 15 | SOC POWER CAPS AND VSS |
| 16 | DDR4 INTERFACE |
| 17 | WL1837 MODULE |
| 18 | eMMC FLASH |
| 19 | SD CARD INTERFACE |
| 20 | OSPI INTERFACE |
| 21 | BOARD ID EEPROM & TEMPERATURE SENSORS |
| 22 | CPSW RGMII_1 ETHERNET PHY |
| 23 | CPSW RGMII_2 ETHERNET PHY |
| 24 | ETHERNET PHY CLOCK BUFFER & LED DRIVER |
| 25 | TEST AUTOMATION |
| 26 | BOOT MODE BUFFER & SWITCHES |
| 27 | XDS110 DEBUGGER |
| 28 | AUTOMATION SIGNALS BUFFER |
| 29 | JTAG BUFFER |
| 30 | JTAG 20 PIN cTI CONNECTOR |
| 31 | FT4232 UART TO USB BRIDGE |
| 32 | PRU HEADER |
| 33 | USER EXPANSION CONNECTOR |
| 34 | MCU HEADER |
| 35 | USB0 TYPE-C DRP |
| 36 | USB1 TYPE-A |
| 37 | OLDI DISPLAY INTERFACE |
| 38 | CSI INTERFACE |
| 39 | IO EXPANDER |
| 40 | AUDIO CODEC |

| PAGE | CONTENTS |
|------|----------------|
| 41 | HDMI INTERFACE |
| 42 | OSCILLATOR |
| 43 | RESET |
| 44 | ACCESSORIES |
| | |
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|------------|------|
| REV | E3 |
| VER | 0.07 |



REVISION HISTORY

| VER # | DATE | DESCRIPTION OF CHANGES | AUTHOR | REVIEWED BY | APPROVED BY |
|-------|---------------|--|---------------------|-------------|-------------|
| 0.01 | 16 MARCH 2022 | Drafted from E2 Schematics Changed the LVDS Connector J21 Pinout | Mistral Design Team | | |
| 0.02 | 25 MARCH 2022 | Updated the UART1_BT signals connection for Buffer U3 and Buffer U60 connections are modified | Mistral Design Team | | |
| 0.03 | 31 MARCH 2022 | Added isolation buffers for XDS_TA signals from TM4C129 microcontroller Removed the 0E res option for VCC3V3_TA supply | Mistral Design Team | | |
| 0.04 | 11 APRIL 2022 | Connected the VCC of U18 ESD device on MMC1_SDCD line to VCC_3V3_SYS rail | Mistral Design Team | | |
| 0.05 | 13 APRIL 2022 | Connected the I2C2_IRQ from PD controller to IO Expander U70.18 Terminated the TEST_GPIO2 signal to a TP Tripad RES stuffing option(R697 and R698) provided for P14 GPIO from IO EXP to either HDMI and OLDI reset | Mistral Design Team | | |
| 0.06 | 19 APRIL 2022 | U60 I/O connections swapped to ease routing U76 PS/SYNC pin connected to VMAIN through 10K Res | Mistral Design Team | | |
| 0.07 | 22 APRIL 2022 | Changed U23 and U25 I2C slave addressed to 0x4D and 0x47 | Mistral Design Team | | |

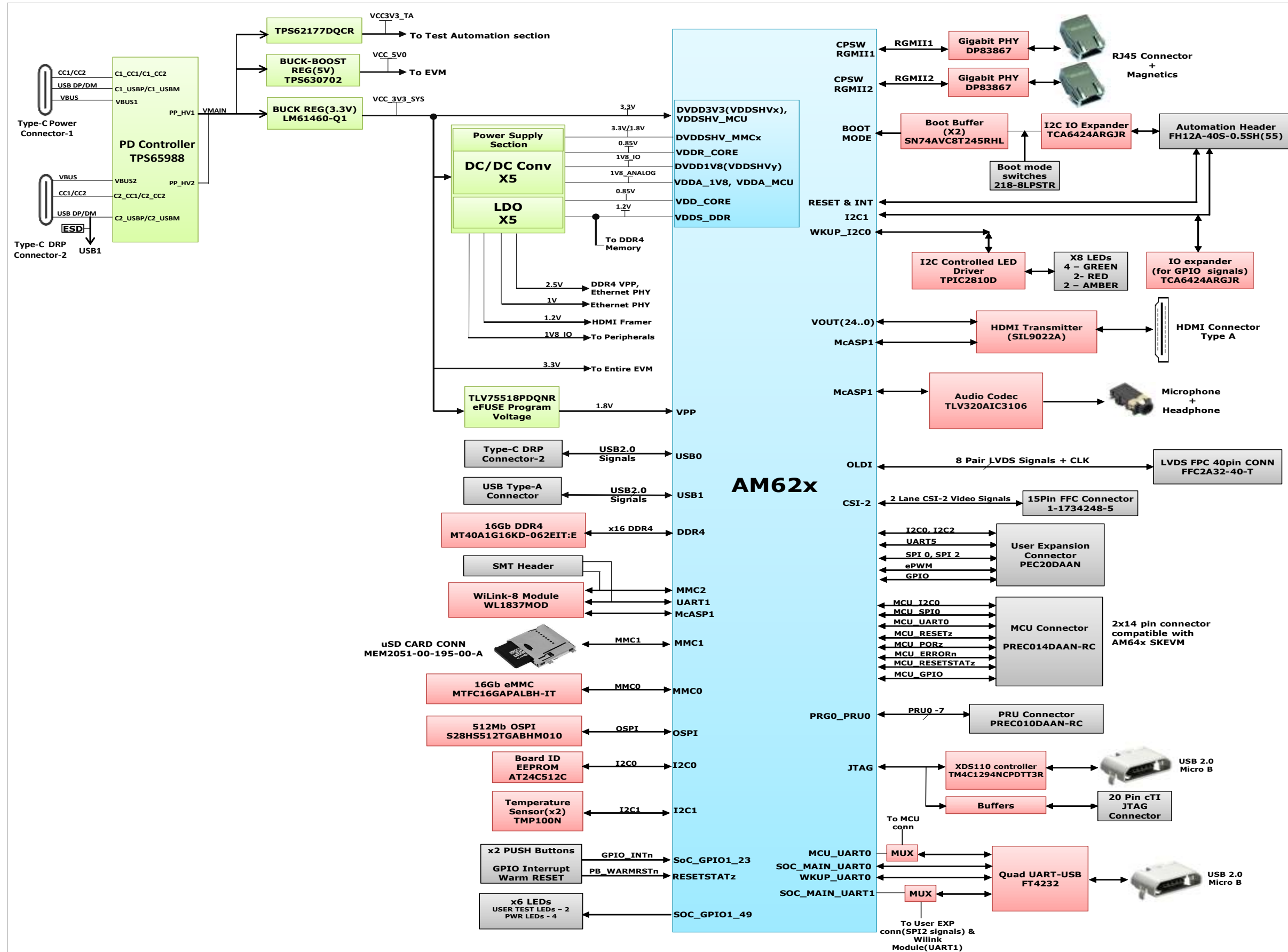
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Title REVISION HISTORY

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| Size | PROC114E3 | Rev |
| C | | E3 |
| Date: | Wednesday, May 04, 2022 | Sheet 2 of 44 |

BLOCK DIAGRAM AM62x SKEVM



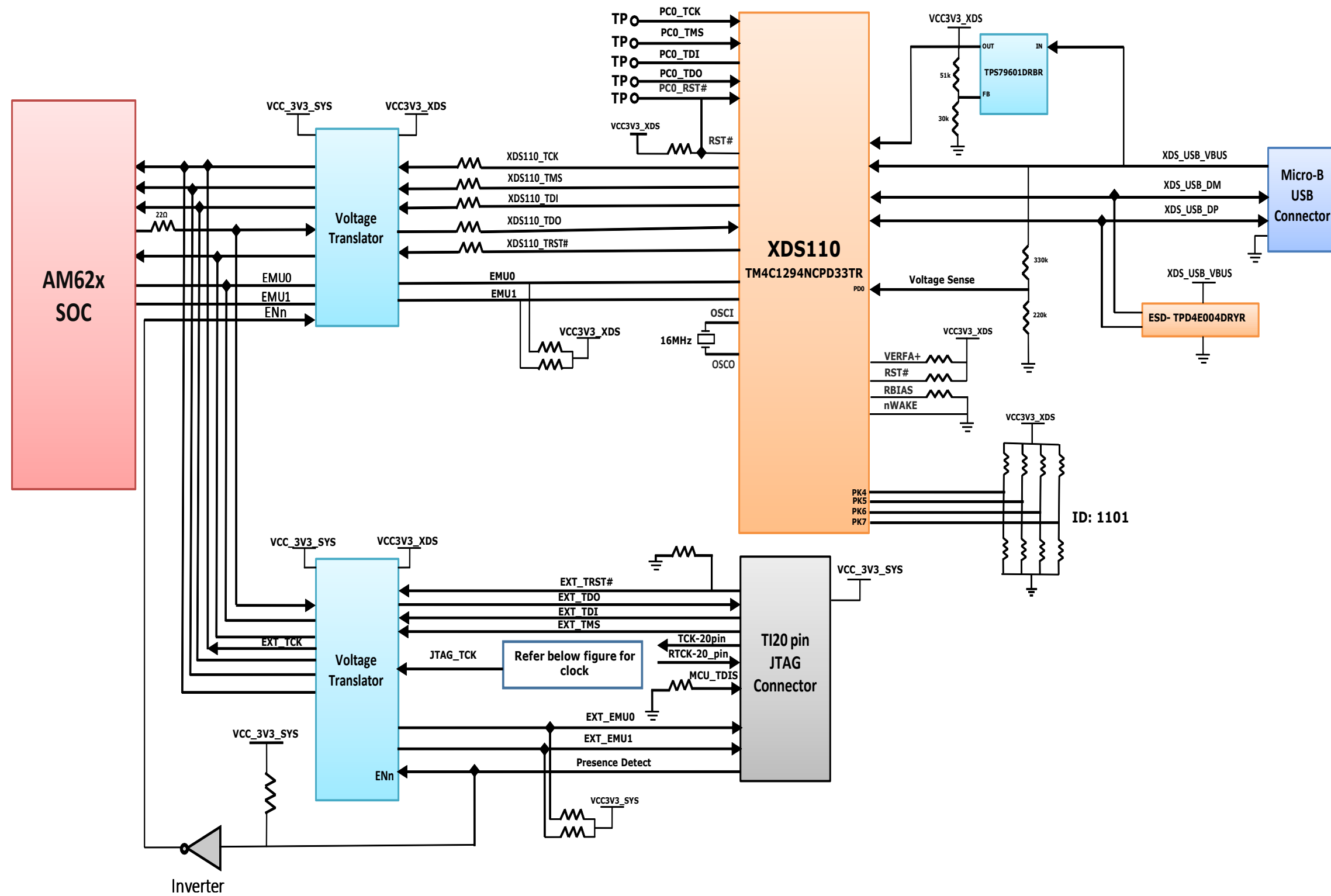
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Title BLOCK DIAGRAM AM62x SKEVM

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| Size | PROC114E3 | Rev | E3 |
| Date: | Wednesday, April 27, 2022 | Sheet | 3 of 44 |

BLOCK DIAGRAM_XDS110



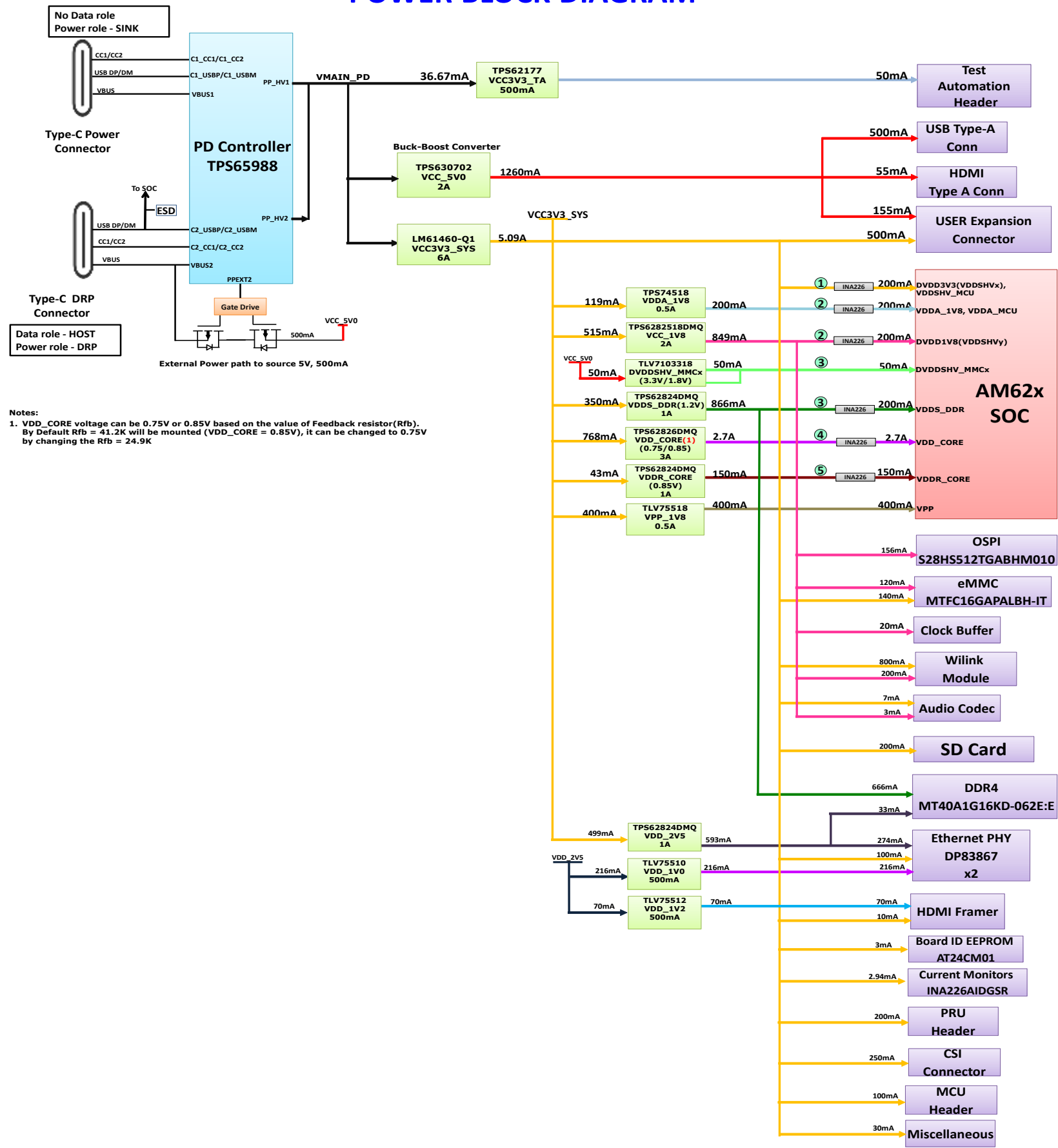
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Title BLOCK DIAGRAM_XDS110

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| Size | PROC114E3 | Rev | E3 |
| Date: | Wednesday, April 27, 2022 | Sheet | 4 of 44 |

POWER BLOCK DIAGRAM



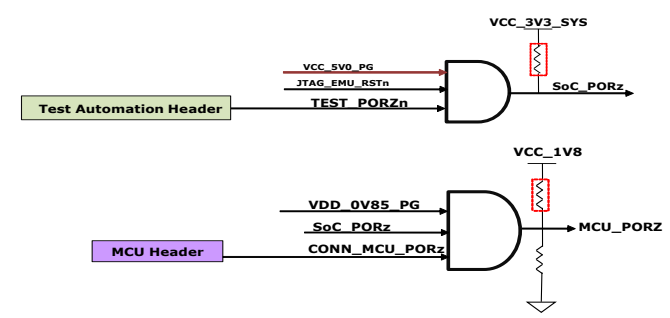
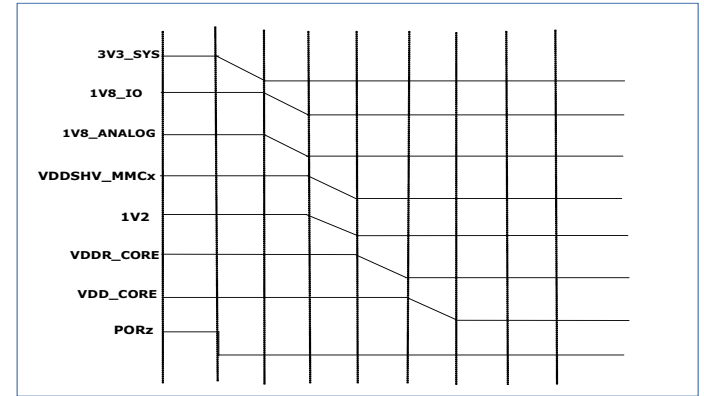
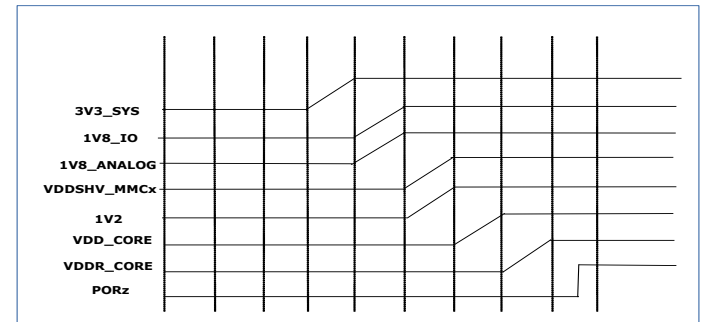
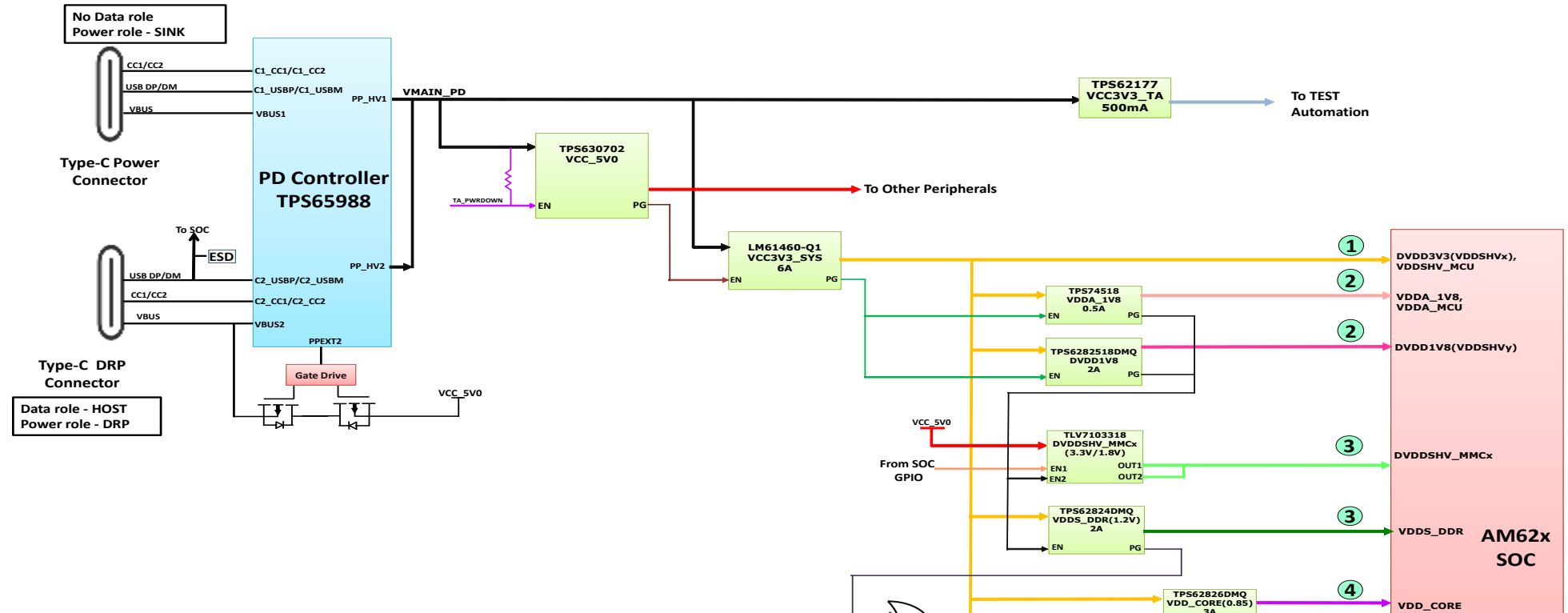
Notes:
 1. VDD_CORE voltage can be 0.75V or 0.85V based on the value of Feedback resistor (Rfb).
 By Default Rfb = 41.2K will be mounted (VDD_CORE = 0.85V), it can be changed to 0.75V
 by changing the Rfb = 24.9K

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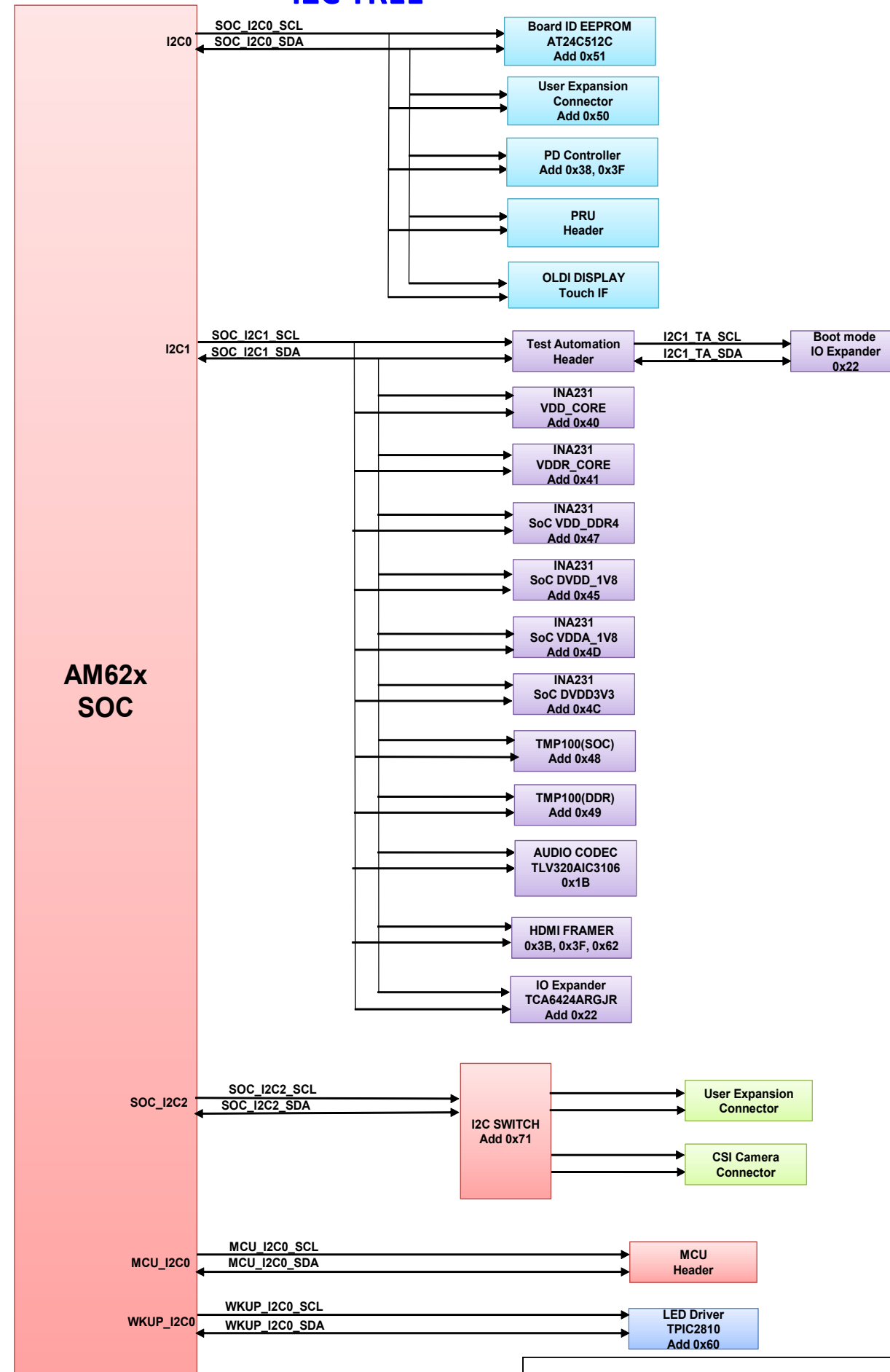


| | | |
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| Title POWER BLOCK DIAGRAM | | |
| Size C | PROC114E3 | Rev E3 |
| Date: Wednesday, April 27, 2022 | Sheet 5 of 44 | |

POWER SEQUENCE



I2C TREE



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| | | | |
|-------|-----------|----------|---------------------------|
| Title | | I2C TREE | |
| Size | PROC114E3 | Rev | E3 |
| C | | Date: | Wednesday, April 27, 2022 |
| | | Sheet | 7 of 44 |

GPIO MAPPING TABLE

| SL NO. | GPIO DESCRIPTION | GPIO NETNAME | FUNCTIONALITY | GPIO USED | SOC MUXED SIGNAL NAME | DIRECTION WITH RESPECT TO CONTROL | DEFAULT STATE | ACTIVE STATE | VOLTAGE DOMAIN ON SOC SIDE | VOLTAGE CONNECTED ON SKEVM |
|-------------------------|--|--------------------------|---------------|-------------------|-----------------------|-----------------------------------|---------------|--------------|----------------------------|----------------------------|
| 1 | Enable for WLAN Interface | WLAN_EN | ENABLE | GPIO0_71 | MMC2_SDCD | OUTPUT | LOW | HIGH | VDDSHV6 | SoC_DVDD1V8 |
| 2 | WLAN Interrupt | WLAN_IRQ | INTERRUPT | GPIO0_72 | MMC2_SDWP | INPUT | HIGH | LOW | VDDSHV6 | SoC_DVDD1V8 |
| 3 | Enable for BT Interface | BT_EN_SOC | ENABLE | MCU_GPIO0_1 | MCU_SPIO_CS0 | OUTPUT | LOW | HIGH | VDDSHV_MCU | SoC_DVDD3V3 |
| 4 | CPSW Ethernet PHY Interrupt | CPSW_RGMII_INTn/PRU_INTn | INTERRUPT | GPIO1_31 | EXTINTn | INPUT | HIGH | LOW | VDDSHV0 | SoC_DVDD3V3 |
| | PRU Connector Interrupt | | | | | | | | | |
| 5 | OSPI Reset Control GPIO | GPIO_OSPI_RSTn | RESET | GPIO0_12 | OSPI0_CSn1 | OUTPUT | HIGH | LOW | VDDSHV1 | SoC_DVDD1V8 |
| 6 | OSPI Interrupt | OSPI_INTn | INTERRUPT | GPIO0_13 | OSPI0_CSn2 | INPUT | HIGH | LOW | VDDSHV1 | SoC_DVDD1V8 |
| 7 | SD Card IO Voltage Select | VSEL_SD | ENABLE | GPIO0_31 | GPMC0_CLK | OUTPUT | LOW | HIGH | VDDSHV3 | SoC_DVDD3V3 |
| 8 | IO Expander Interrupt | GPIO1_23_INTn | INTERRUPT | SoC_GPIO1_23 | UART0_RTsn | INPUT | HIGH | LOW | VDDSHV0 | SoC_DVDD3V3 |
| 9 | User Interrupt Push Button/ TEST GPIO1 from Test Automation Connector | | | | | | | | | |
| 10 | User Test LED 1 | SOC_GPIO1_49 | GPIO | GPIO1_49 | MMC1_SDWP | OUTPUT | LOW | HIGH | VDDSHV0 | SoC_DVDD3V3 |
| IO EXPANDER - 01 | | | | | | | | | | |
| 1 | CPSW Ethernet PHY-2 Reset Control GPIO | GPIO_CPSW2_RST | RESET | IO EXPANDER - P00 | | OUTPUT | HIGH | LOW | VDDSHV0 | SoC_DVDD3V3 |
| 2 | CPSW Ethernet PHY-1 Reset Control GPIO | GPIO_CPSW1_RST | RESET | IO EXPANDER - P01 | | OUTPUT | HIGH | LOW | VDDSHV0 | SoC_DVDD3V3 |
| 3 | PRU Board Detection | PRU_DETECT | DETECTION | IO EXPANDER - P02 | | INPUT | HIGH | LOW | VDDSHV0 | SoC_DVDD3V3 |
| 4 | SD Card Load Switch Enable | MMC1_SD_EN | ENABLE | IO EXPANDER - P03 | | OUTPUT | HIGH | LOW | VDDSHV0 | SoC_DVDD3V3 |
| 5 | SOC eFuse Voltage(VPP=1.8V) Regulator Enable | VPP_LDO_EN | ENABLE | IO EXPANDER - P04 | | OUTPUT | LOW | HIGH | VDDSHV0 | SoC_DVDD3V3 |
| 6 | EXP CONN 3.3V Power Switch Enable | EXP_PS_3V3_EN | ENABLE | IO EXPANDER - P05 | | OUTPUT | LOW | HIGH | VDDSHV0 | SoC_DVDD3V3 |
| 7 | EXP CONN 5V Power Switch Enable | EXP_PS_5V0_EN | ENABLE | IO EXPANDER - P06 | | OUTPUT | LOW | HIGH | VDDSHV0 | SoC_DVDD3V3 |
| 8 | EXP CONN HAT Board Detection | EXP_HAT_DETECT | DETECTION | IO EXPANDER - P07 | | INPUT | HIGH | LOW | VDDSHV0 | SoC_DVDD3V3 |
| 9 | Audio Codec Reset Control GPIO | GPIO_AUD_RSTn | DETECTION | IO EXPANDER - P10 | | INPUT | HIGH | LOW | VDDSHV0 | SoC_DVDD3V3 |
| 10 | eMMC Reset control GPIO | GPIO_eMMC_RSTn | RESET | IO EXPANDER - P11 | | OUTPUT | HIGH | LOW | VDDSHV0 | SoC_DVDD3V3 |
| 11 | UART1 FET Switch and Buffer Enable signal | UART1_FET_BUF_EN | ENABLE | IO EXPANDER - P12 | | OUTPUT | HIGH | LOW | VDDSHV0 | SoC_DVDD3V3 |
| 12 | Enable for Wilink Level Translators | WL_LT_EN | ENABLE | IO EXPANDER - P13 | | OUTPUT | LOW | HIGH | VDDSHV0 | SoC_DVDD3V3 |
| 13 | HDMI Transmitter Reset Control GPIO | GPIO_HDMI_RSTn | RESET | IO EXPANDER - P14 | | OUTPUT | HIGH | LOW | VDDSHV0 | SoC_DVDD3V3 |
| 14 | Raspberry Pi Camera CSIO GPIO1 | CSI_GPIO1 | INPUT/OUTPUT | IO EXPANDER - P15 | | NA | NA | NA | VDDSHV0 | SoC_DVDD3V3 |
| 15 | Raspberry Pi Camera CSIO GPIO2 | CSI_GPIO2 | INPUT/OUTPUT | IO EXPANDER - P16 | | NA | NA | NA | VDDSHV0 | SoC_DVDD3V3 |
| 16 | PRU Power Switch Enable | PRU_3V3_EN | ENABLE | IO EXPANDER - P17 | | OUTPUT | LOW | HIGH | VDDSHV0 | SoC_DVDD3V3 |
| 17 | HDMI Interrupt | HDMI_INTn | INTERRUPT | IO EXPANDER - P20 | | INPUT | HIGH | LOW | VDDSHV0 | SoC_DVDD3V3 |
| 18 | PD Controller Interrupt | PD_I2C_IRQ | INTERRUPT | IO EXPANDER - P21 | | INPUT | HIGH | LOW | VDDSHV0 | SoC_DVDD3V3 |
| 19 | MCASP1 FET Switch Enable | MCASP1_FET_EN | ENABLE | IO EXPANDER - P22 | | OUTPUT | LOW | HIGH | VDDSHV0 | SoC_DVDD3V3 |
| 20 | MCASP1 Level Translator buffer for BT Enable | MCASP1_BUF_BT_EN | ENABLE | IO EXPANDER - P23 | | OUTPUT | LOW | HIGH | VDDSHV0 | SoC_DVDD3V3 |
| 21 | MCASP1 FET Switch select pin status | MCASP1_FET_SEL | GPIO | IO EXPANDER - P24 | | INPUT | LOW | HIGH | VDDSHV0 | SoC_DVDD3V3 |
| 22 | SOC UART1 FET Switch Select | UART1_FET_SEL | SELECT | IO EXPANDER - P25 | | OUTPUT | LOW | HIGH | VDDSHV0 | SoC_DVDD3V3 |
| 23 | OLDI Display Touch Interrupt | TS_INT# | INTERRUPT | IO EXPANDER - P26 | | INPUT | HIGH | LOW | VDDSHV0 | SoC_DVDD3V3 |
| 24 | User Test LED 2 | IO_EXP_TEST_LED | GPIO | IO EXPANDER - P27 | | OUTPUT | LOW | HIGH | VDDSHV0 | SoC_DVDD3V3 |

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Title: GPIO MAPPING TABLE

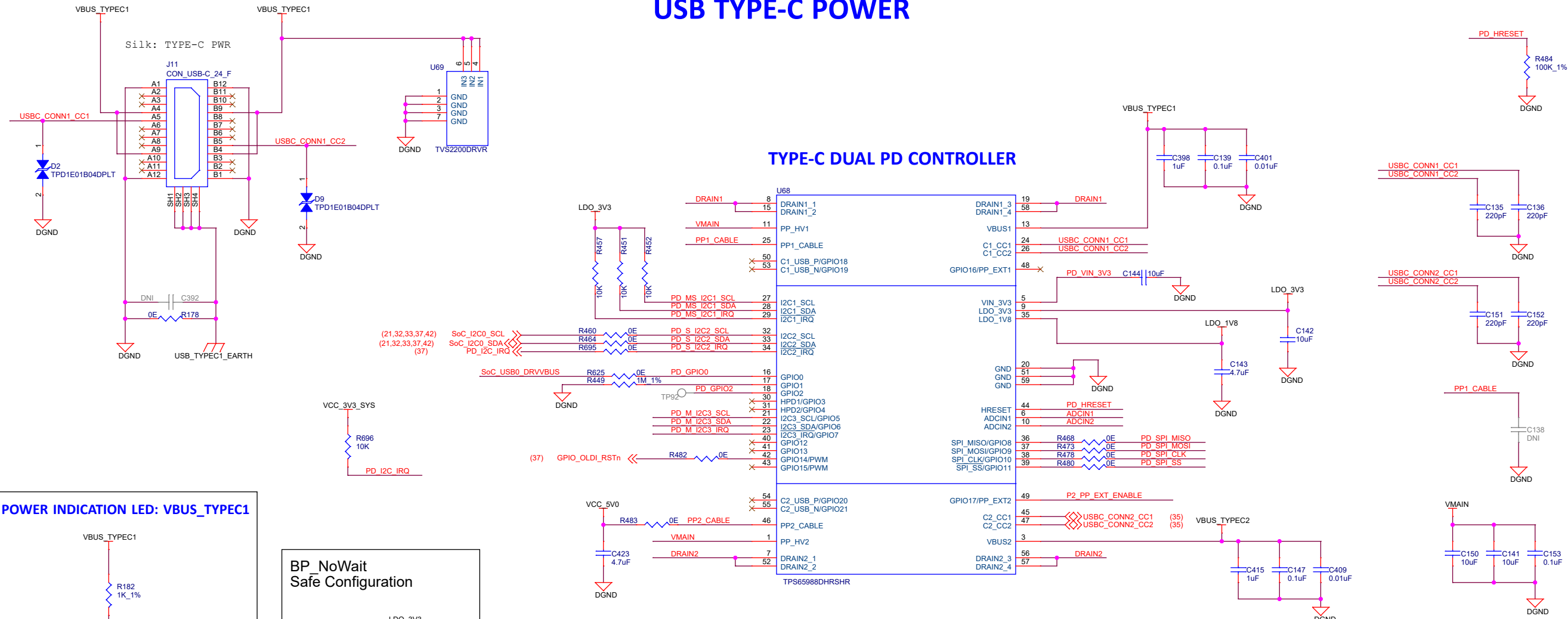
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Date: Wednesday, May 04, 2022

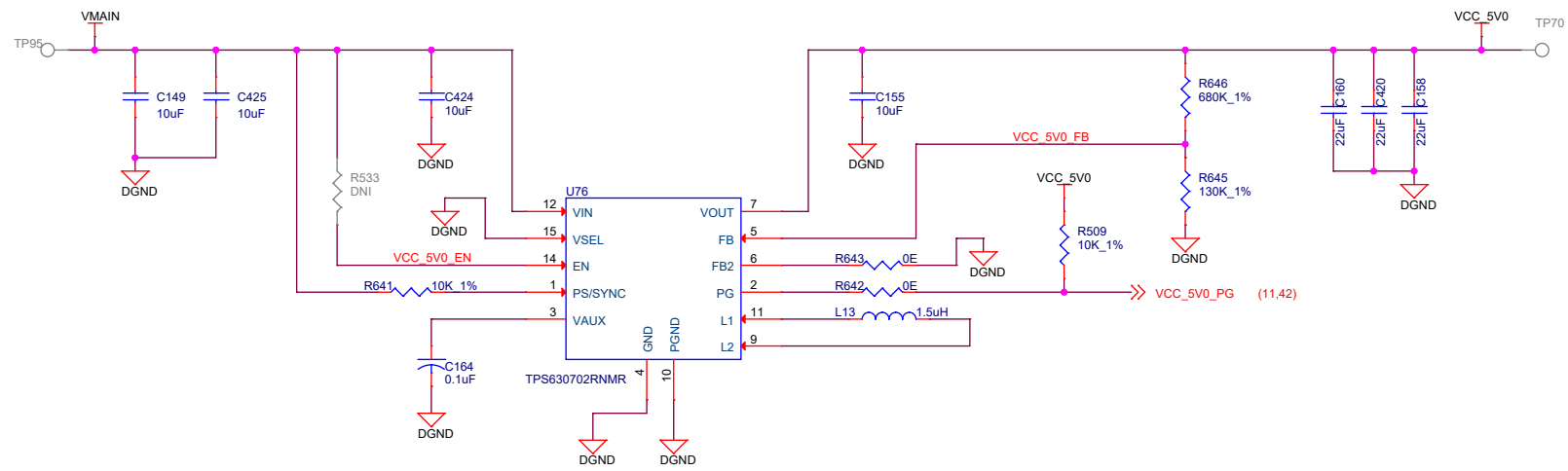
Rev: E3

Sheet 8 of 44

USB TYPE-C POWER



PERIPHERAL POWER SUPPLY-1



Power Cycle control from Test Automation



GROUND TEST POINTS



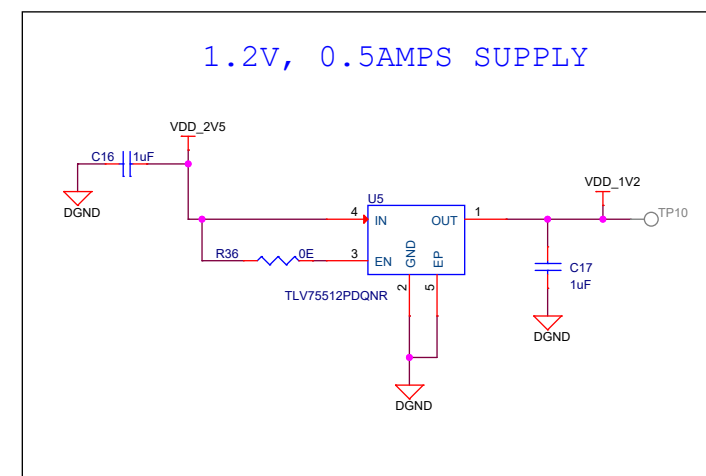
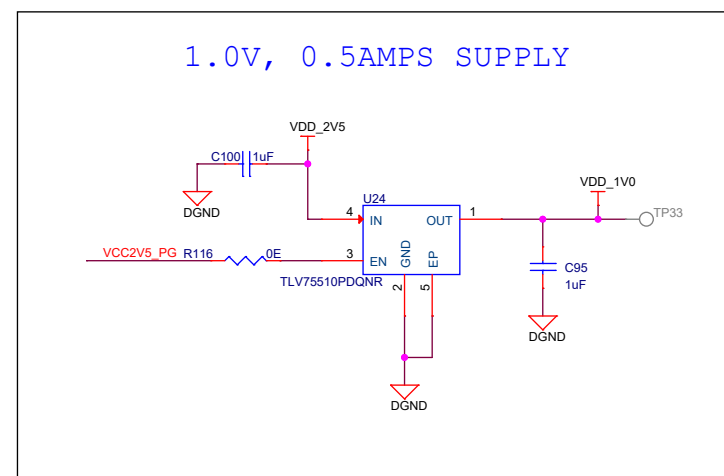
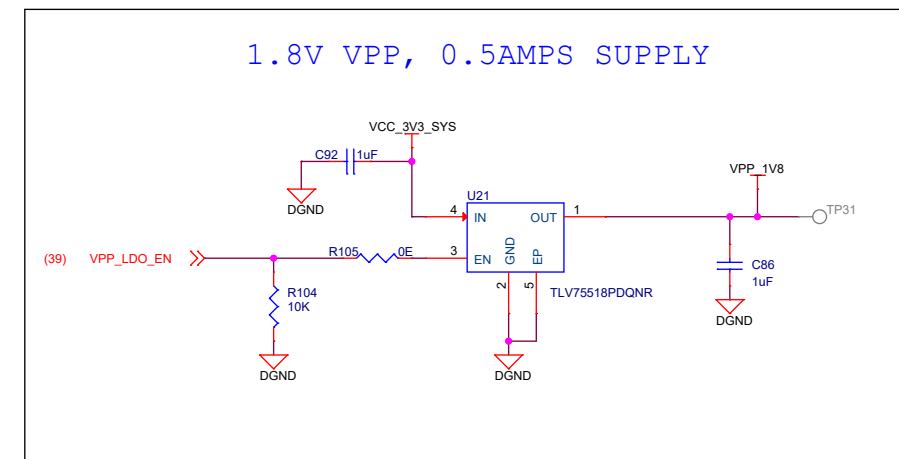
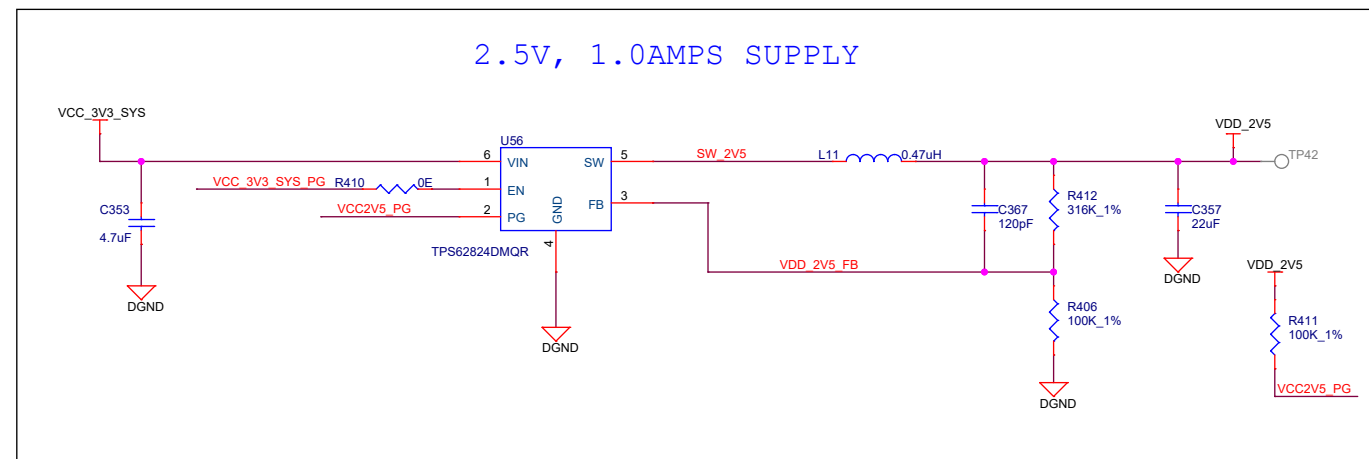
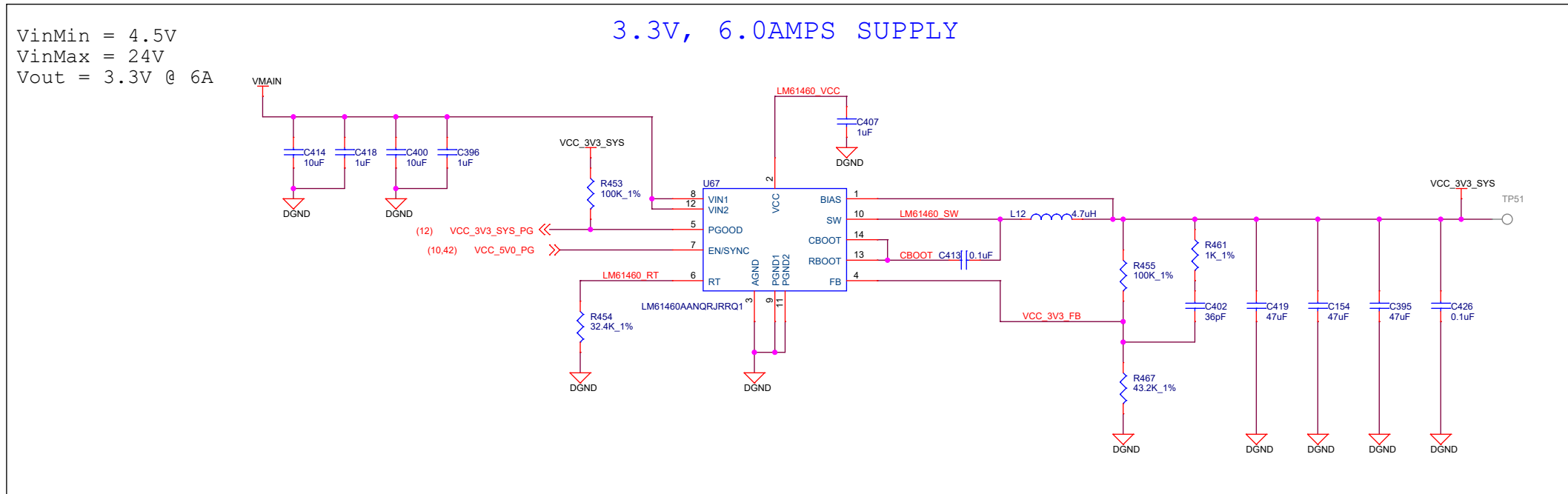
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Title PERIPHERAL POWER SUPPLY-1

| Size | Variant Name = PROC114E3 | Rev |
|-------|---------------------------|----------------|
| C | | E3 |
| Date: | Wednesday, April 27, 2022 | Sheet 10 of 44 |

PERIPHERAL POWER SUPPLY-2



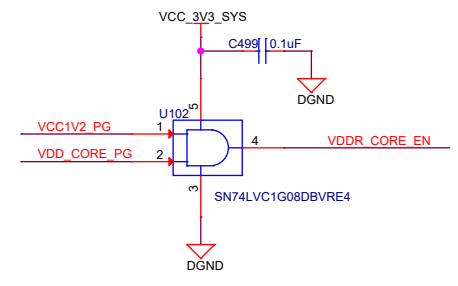
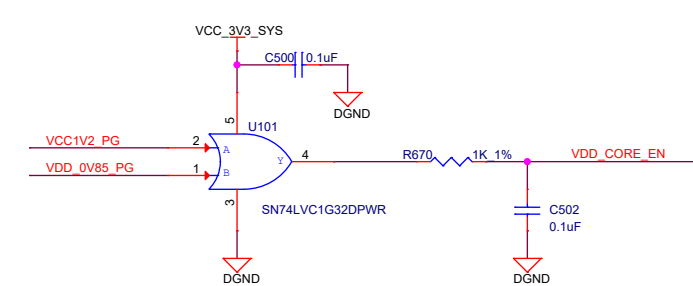
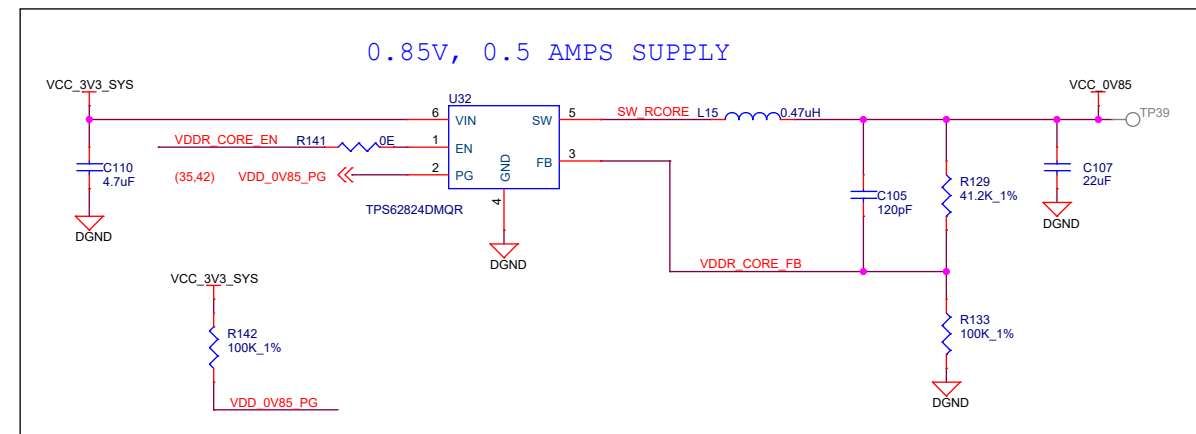
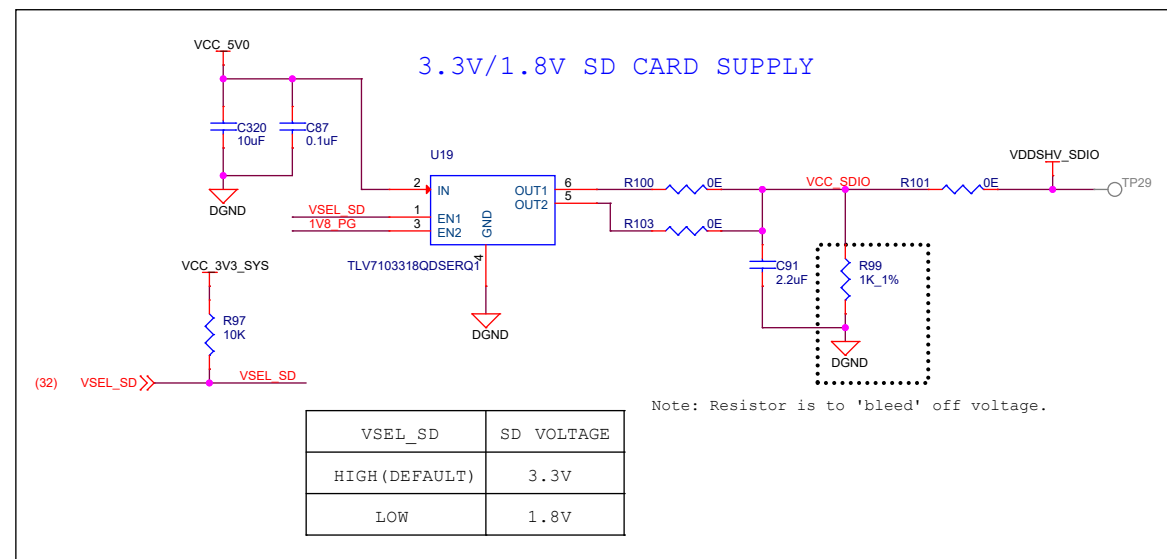
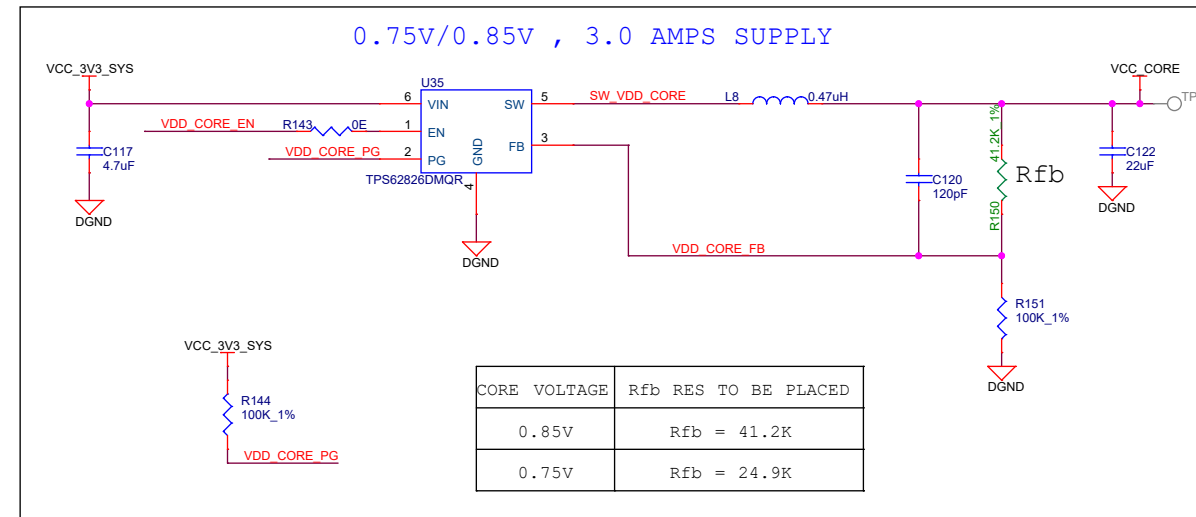
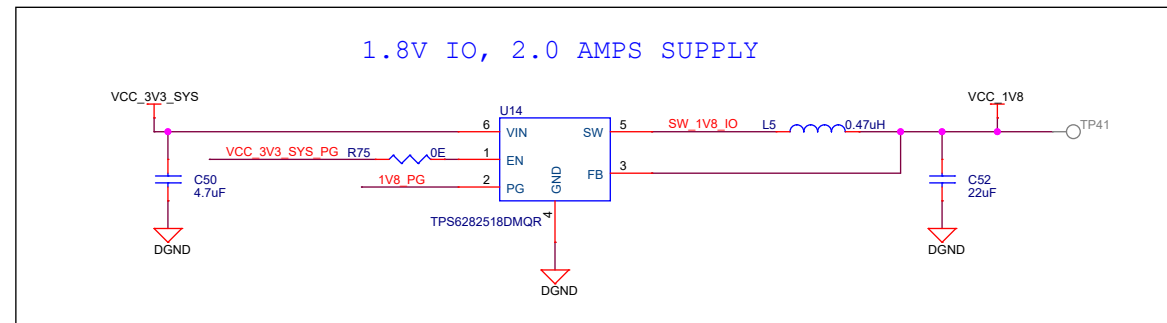
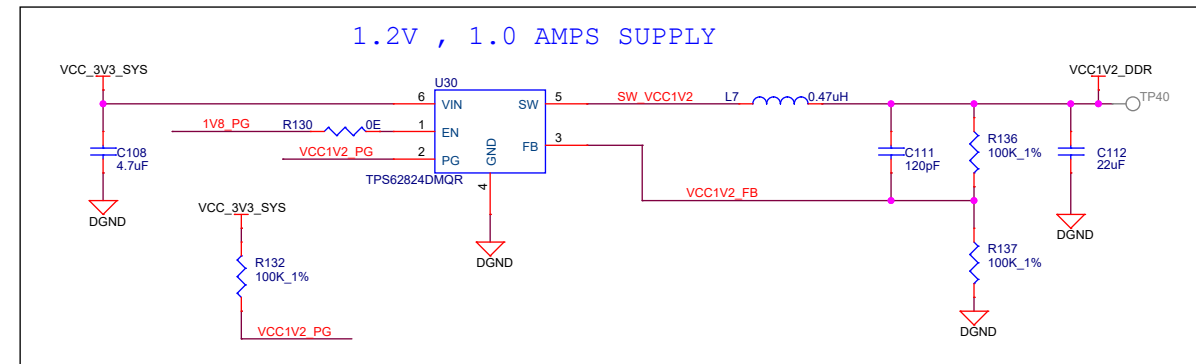
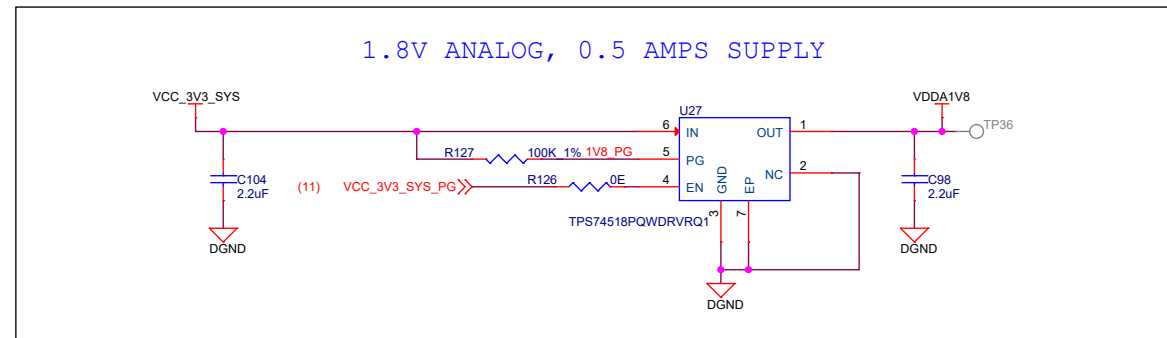
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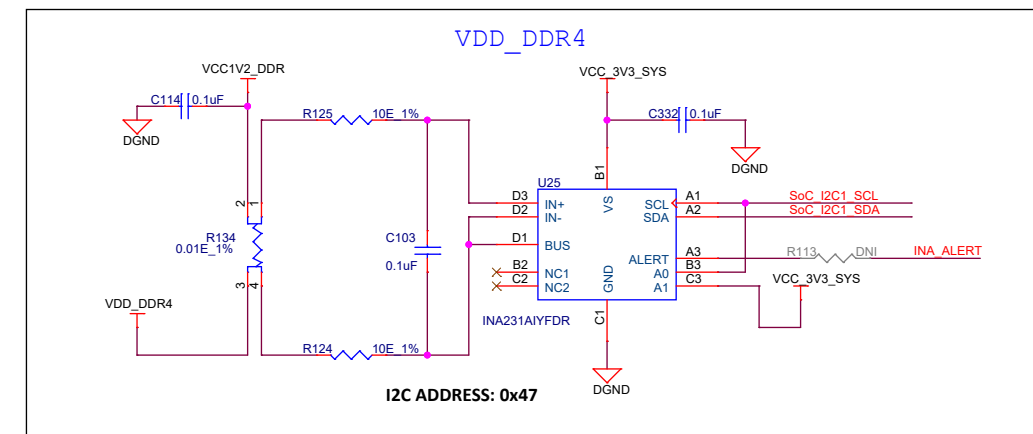
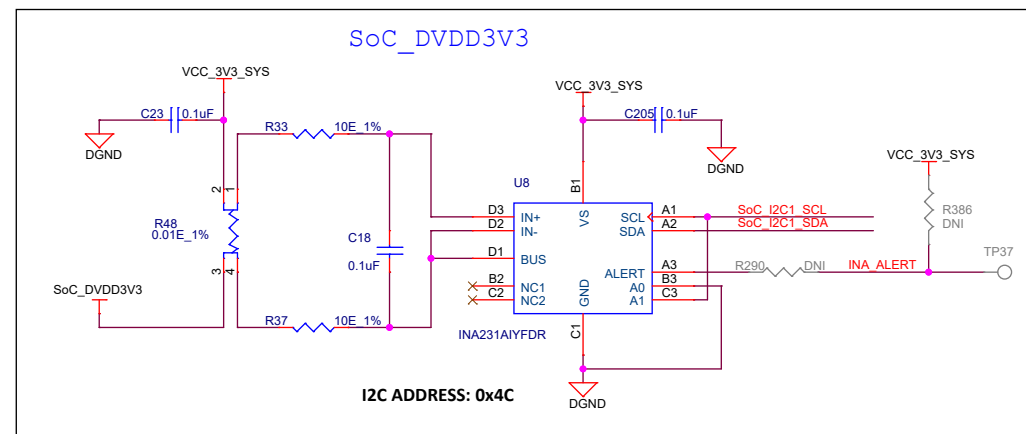
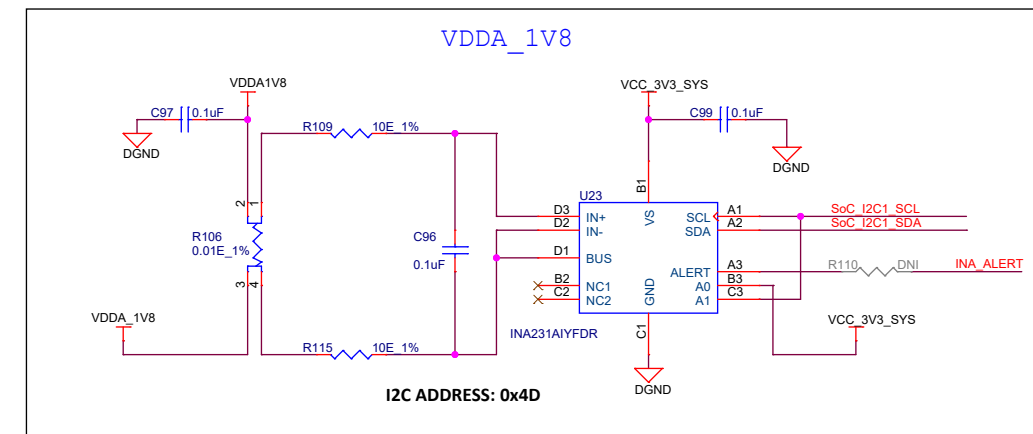
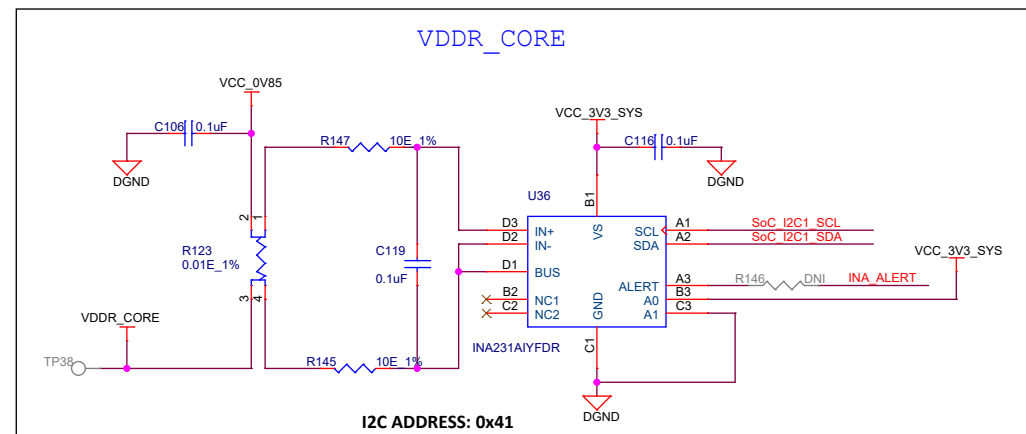
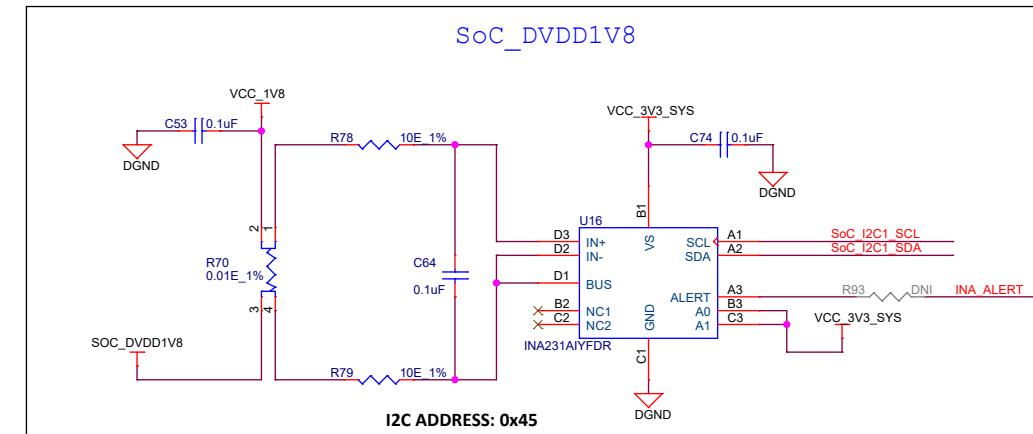
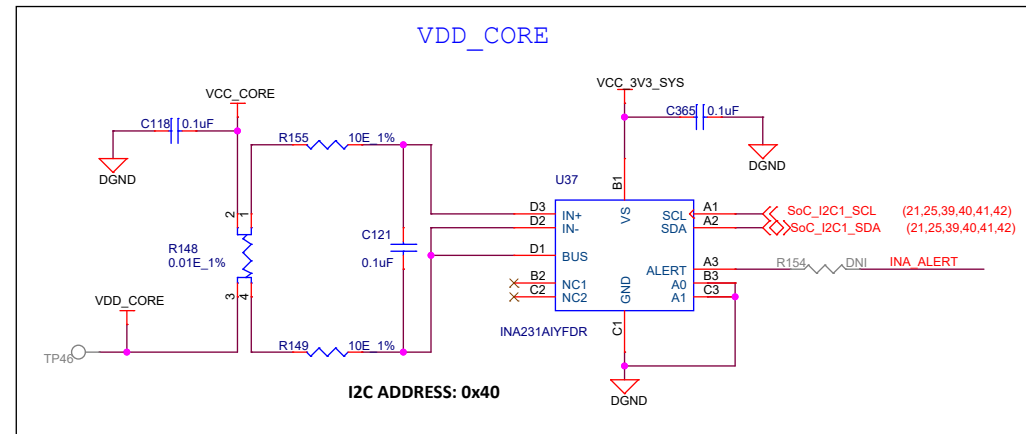
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|-------|---------------------------|-------|----------|
| Size | PROC114E3 | Rev | E3 |
| Date: | Wednesday, April 27, 2022 | Sheet | 11 of 44 |

SOC POWER SUPPLY



CURRENT MONITORING DEVICES



| INA I2C SLAVE ADDRESS | | |
|-----------------------|-------------|------------------------|
| POWER SOURCE | SUPPLY NET | SLAVE ADDRESS (IN HEX) |
| VCC_CORE | VDD_CORE | 40 |
| VCC_0V85 | VDDR_CORE | 41 |
| VCC_3V3_SYS | SoC_DVDD3V3 | 4C |
| VCC_1V8 | SoC_DVDD1V8 | 45 |
| VDDA1V8 | VDDA_1V8 | 4D |
| VCC1V2_DDR | VDD_DDR4 | 47 |

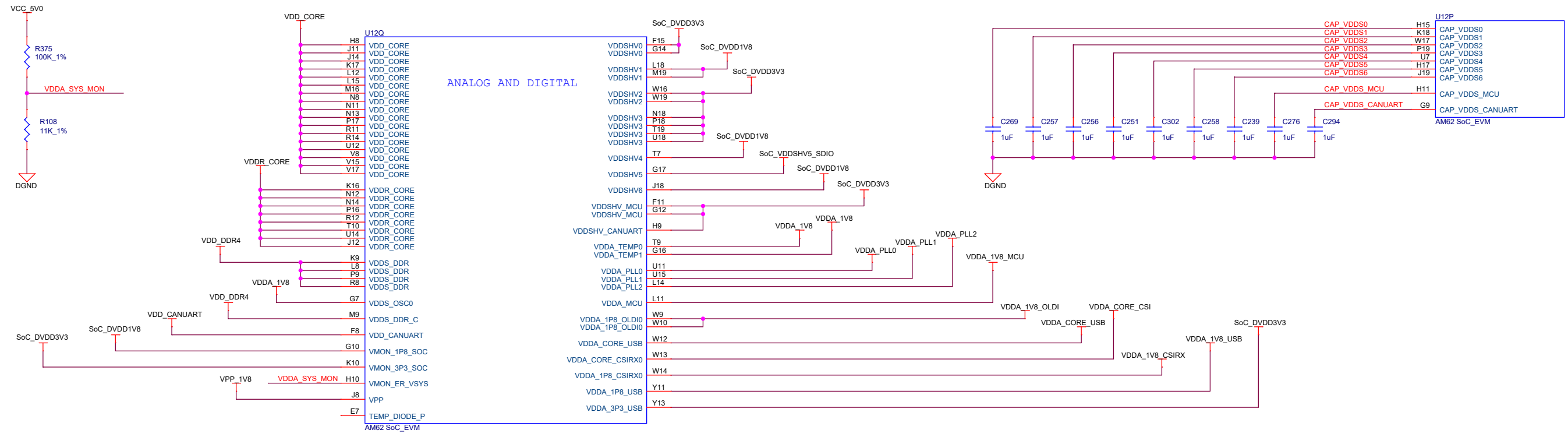
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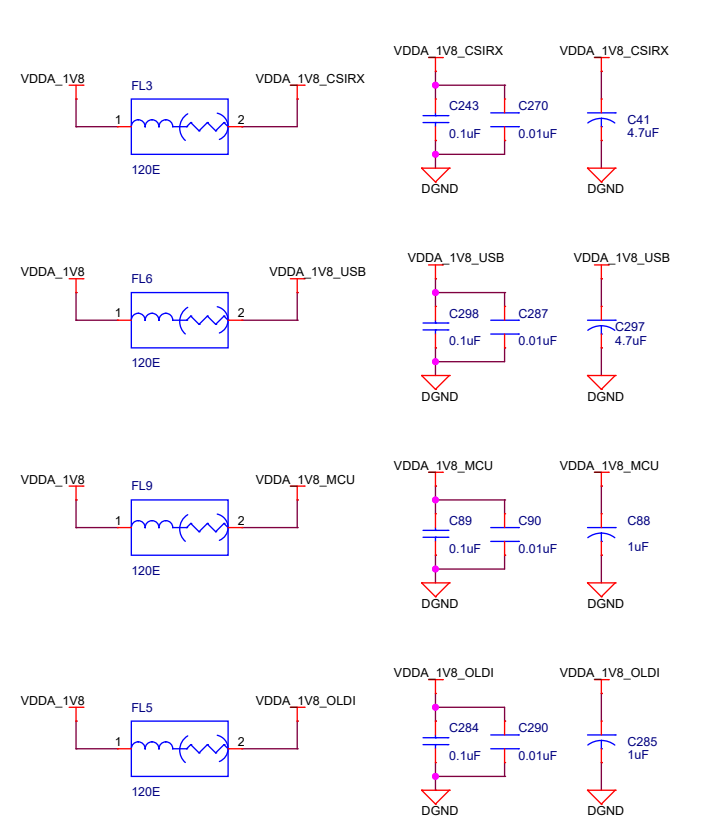
Title CURRENT MONITORING DEVICES

| | | | |
|-------|---------------------------|-------|----------|
| Size | PROC114E3 | Rev | E3 |
| Date: | Wednesday, April 27, 2022 | Sheet | 13 of 44 |

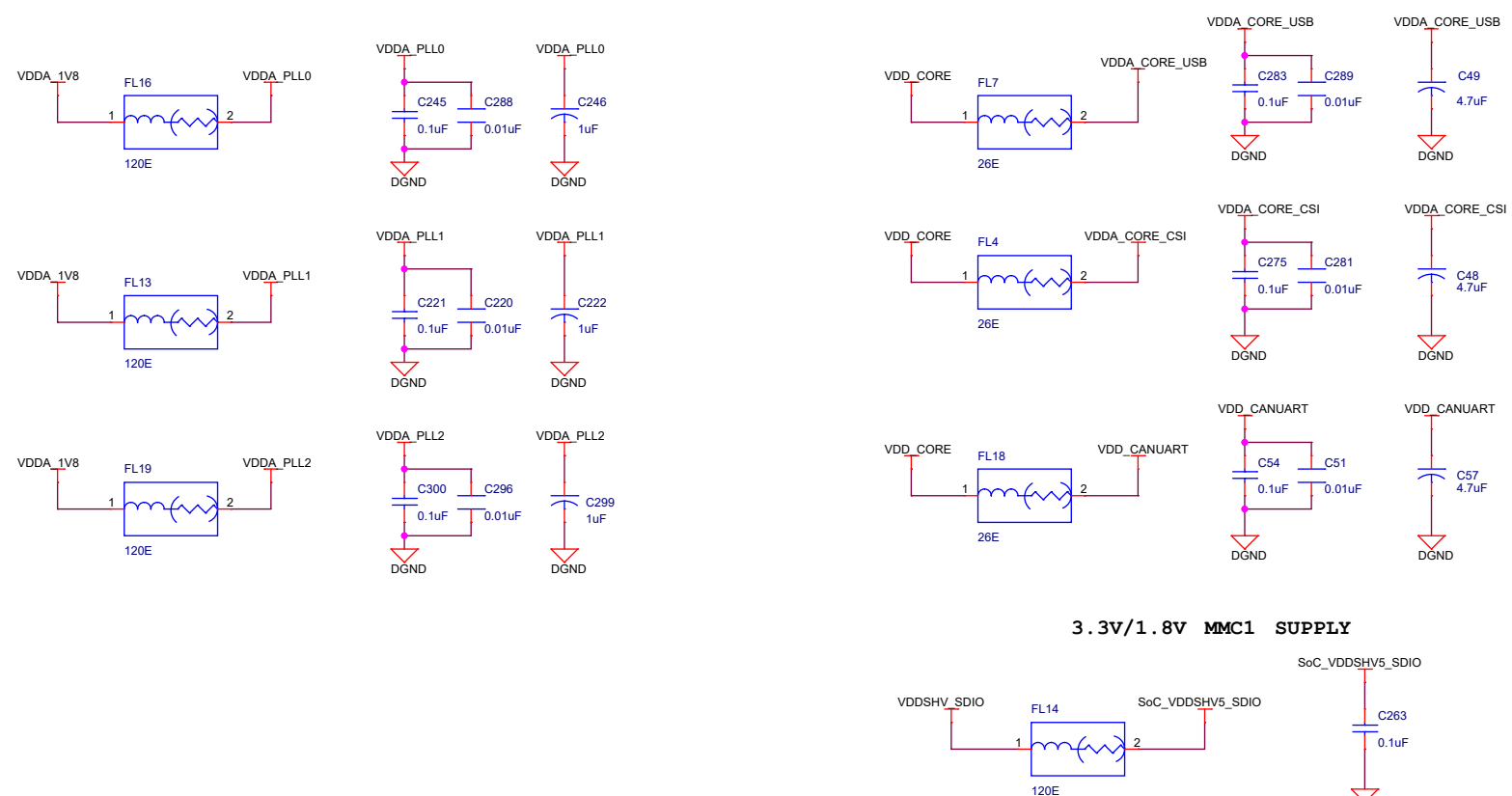
SOC POWER



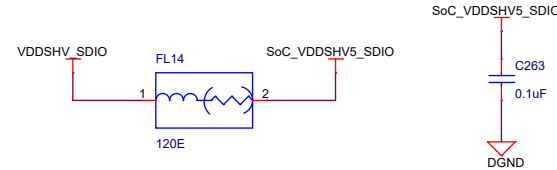
1.8V Analog SUPPLY



CORE SUPPLY



3.3V/1.8V MMC1 SUPPLY

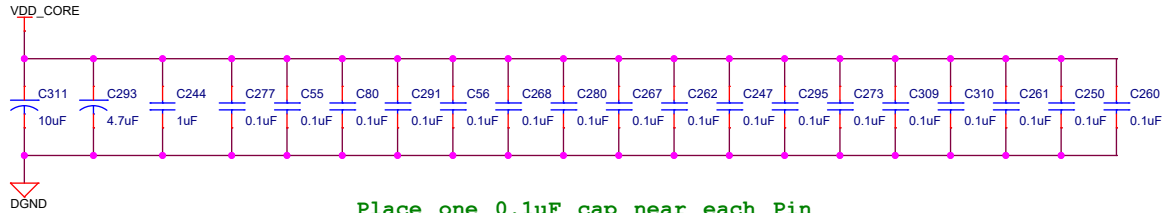


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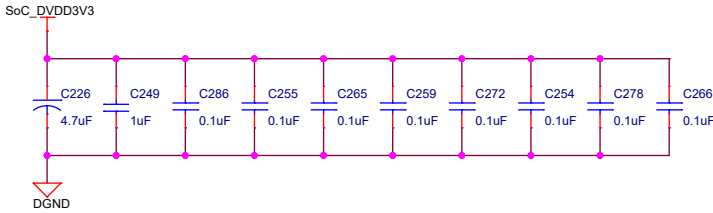


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| Title | | SOC POWER | |
| Size | Variant Name = PROC114E3 | Rev | |
| C | | E3 | |
| Date: | Wednesday, April 27, 2022 | Sheet | 14 of 44 |

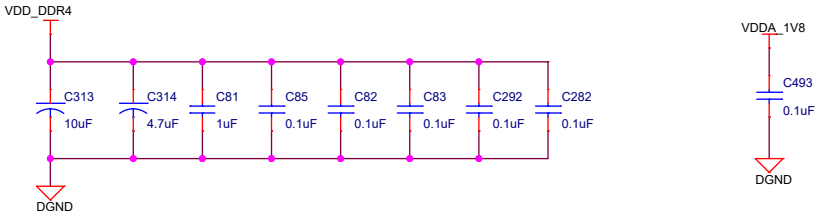
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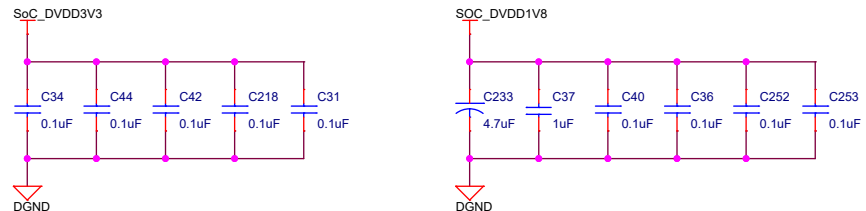
Place one 0.1uF cap near each Pin



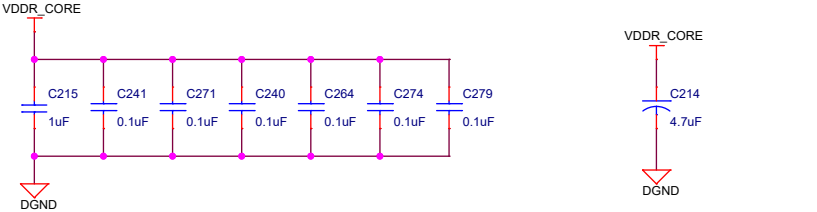
Place one 0.1uF cap near each Pin



Place one 0.1uF cap near each Pin

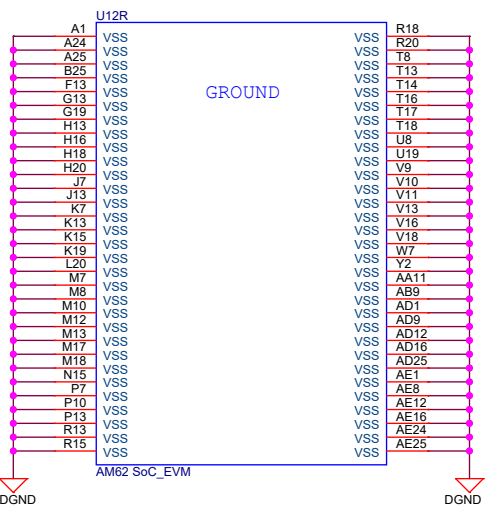


Place one 0.1uF cap near each Pin

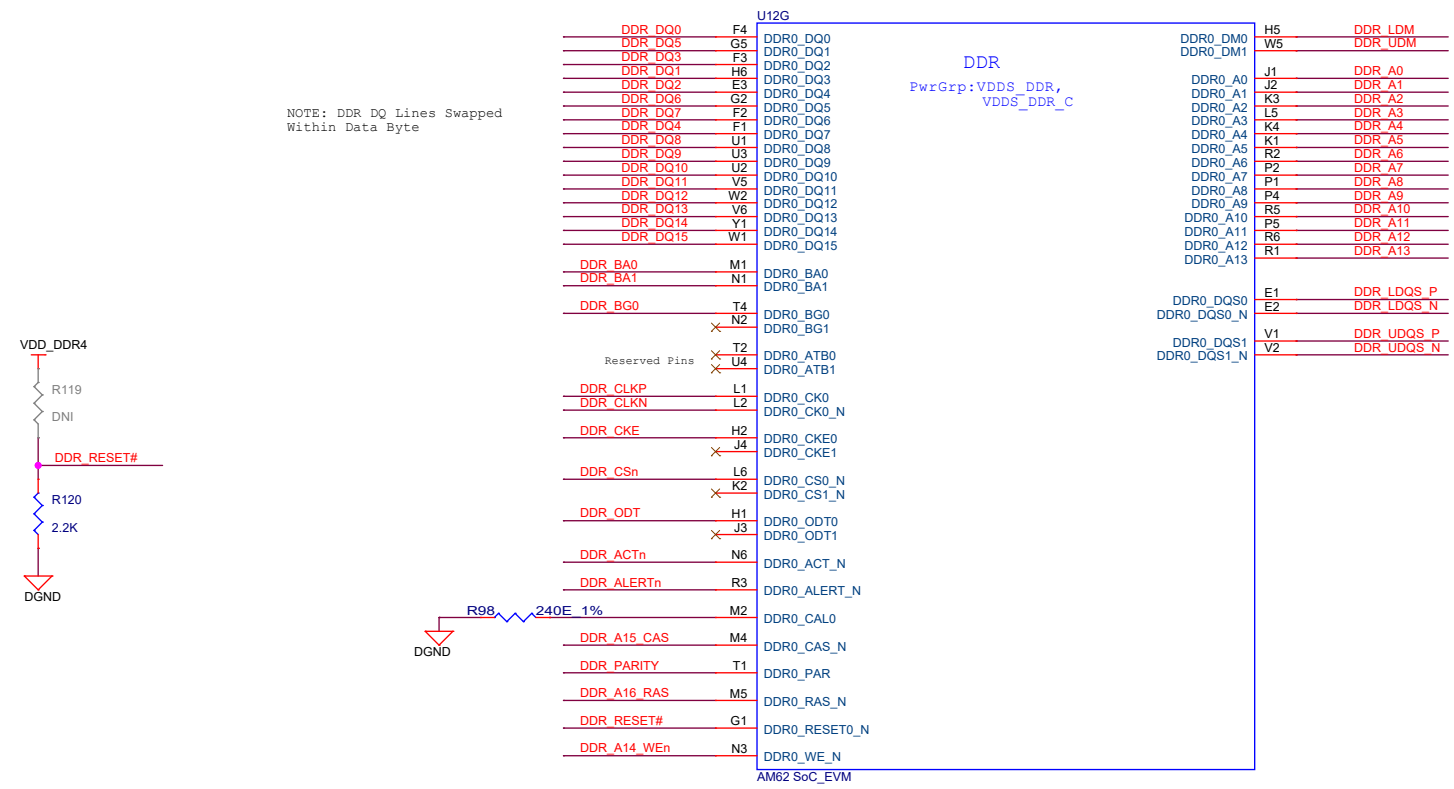


Place one 0.1uF cap near each Pin

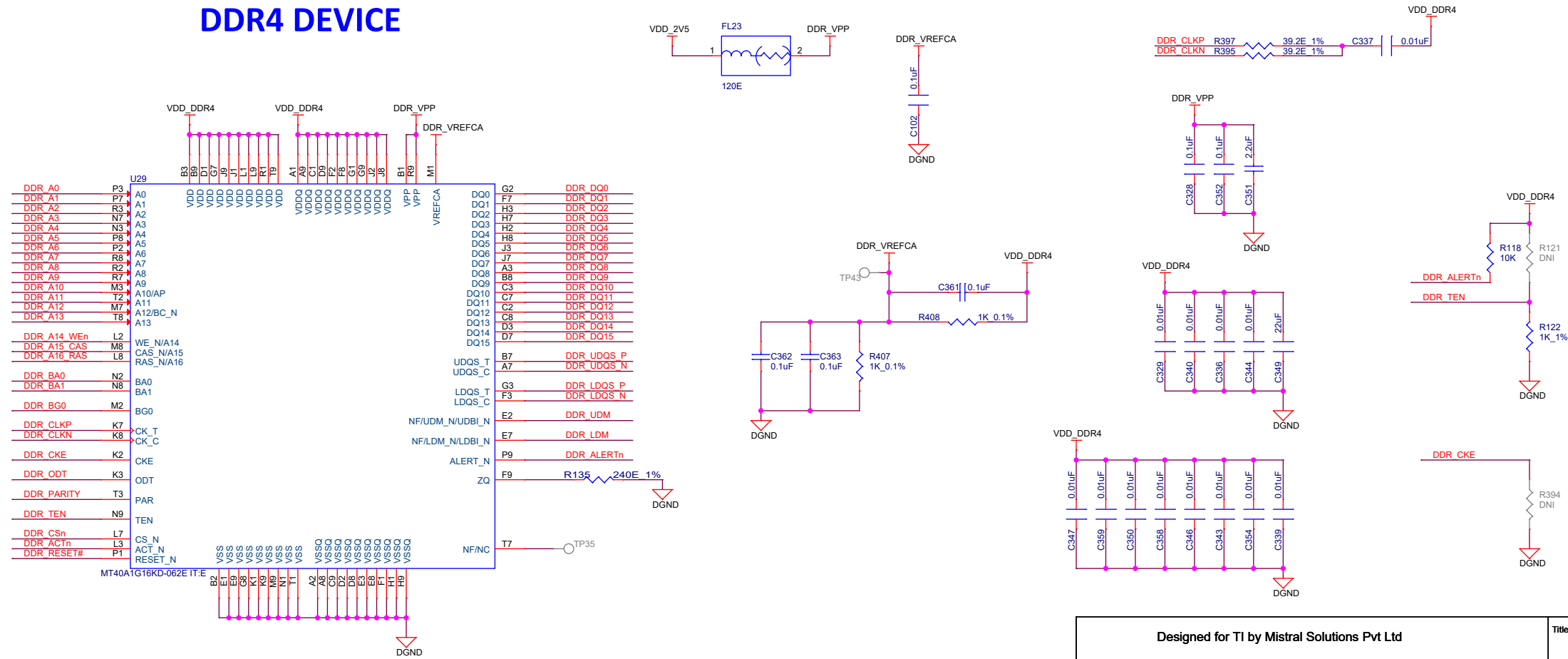
SOC VSS



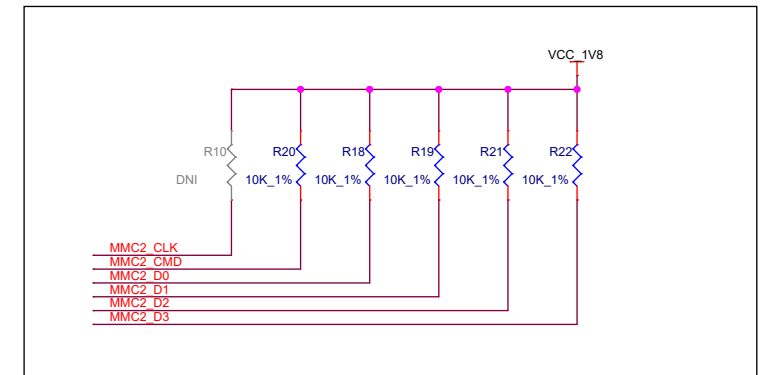
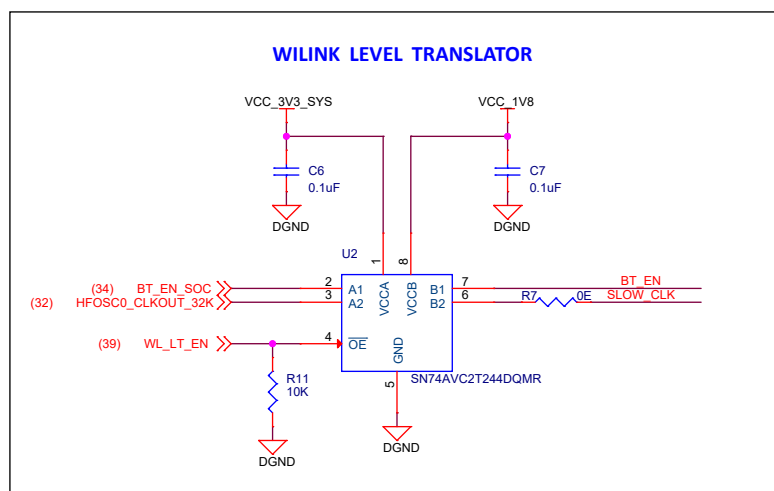
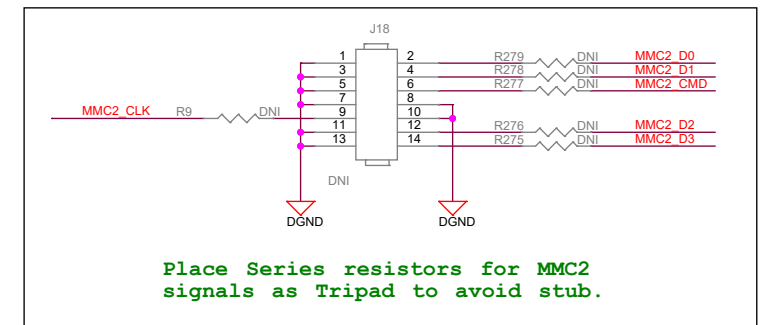
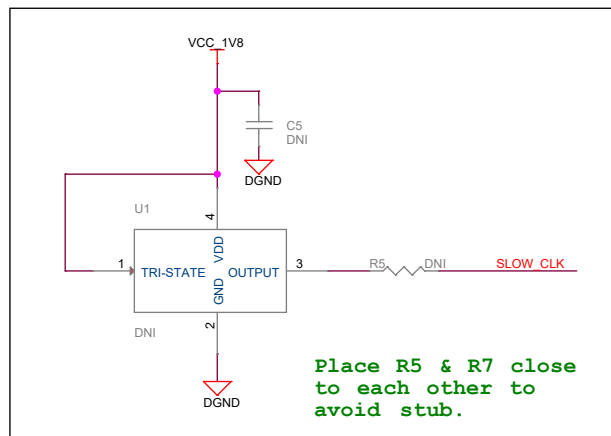
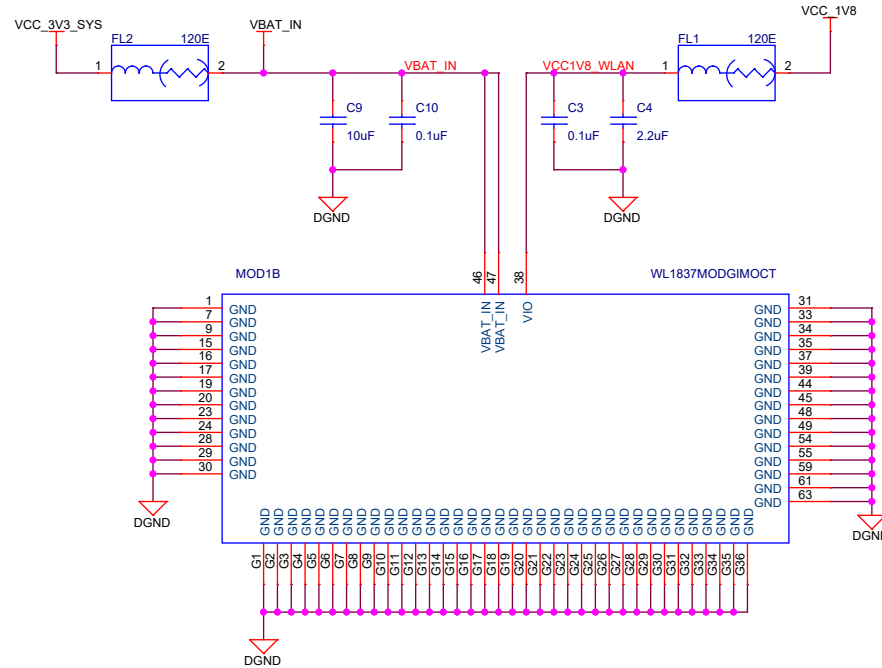
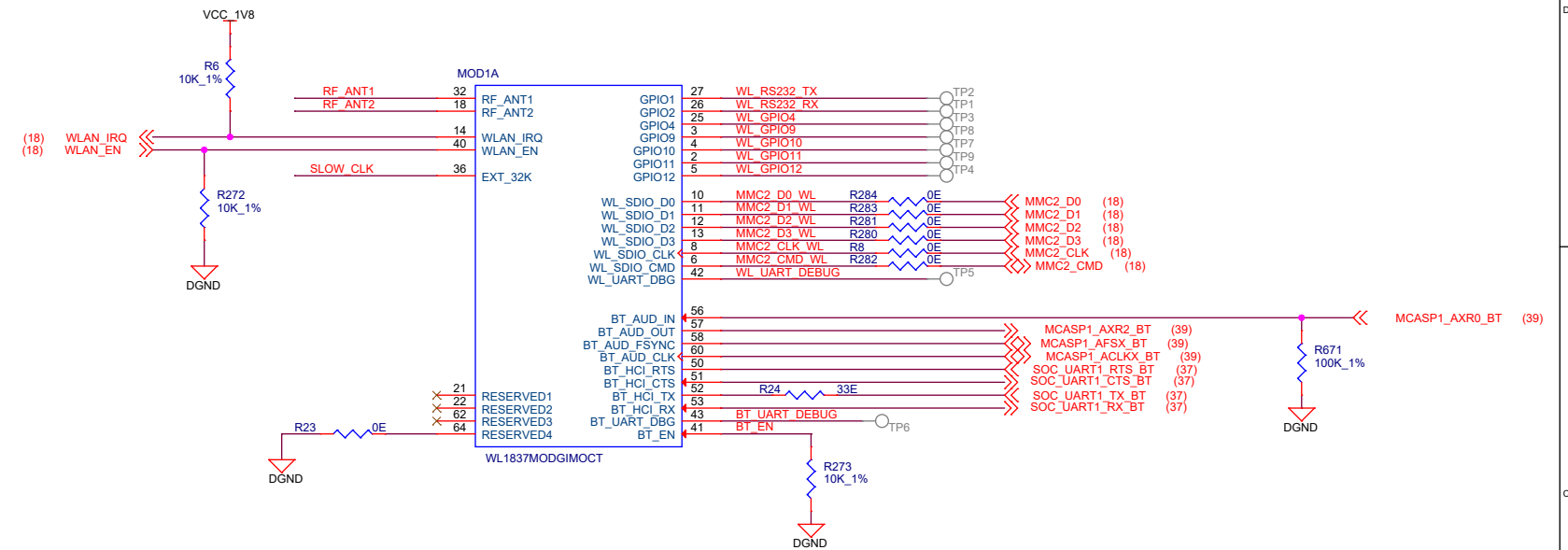
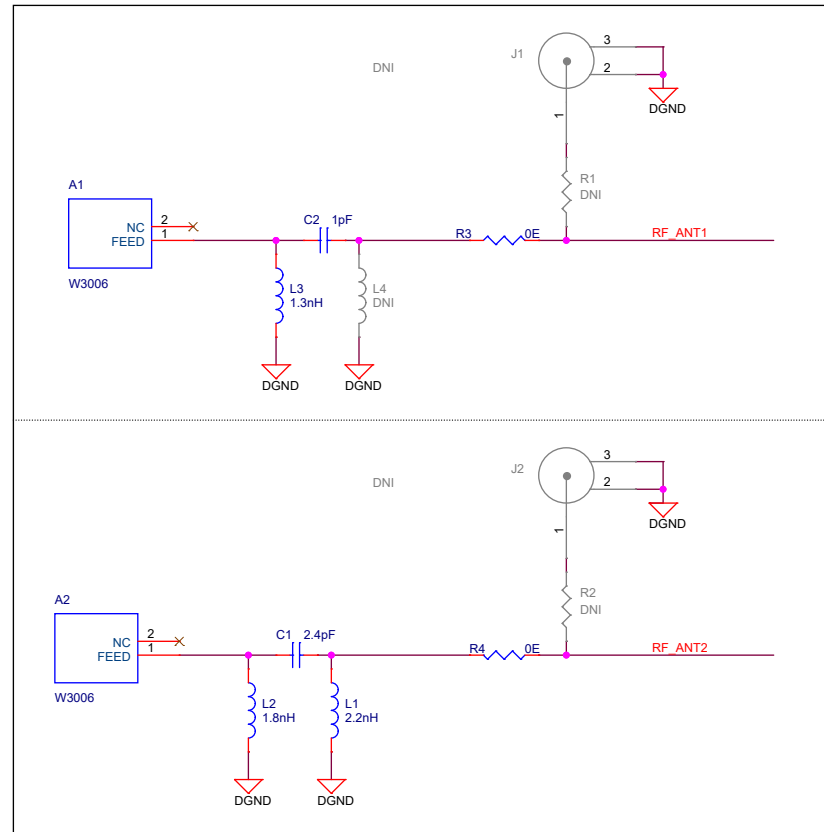
SOC DDR INTERFACE



DDR4 DEVICE



WL1837 MODULE



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Title WL1837 MODULE

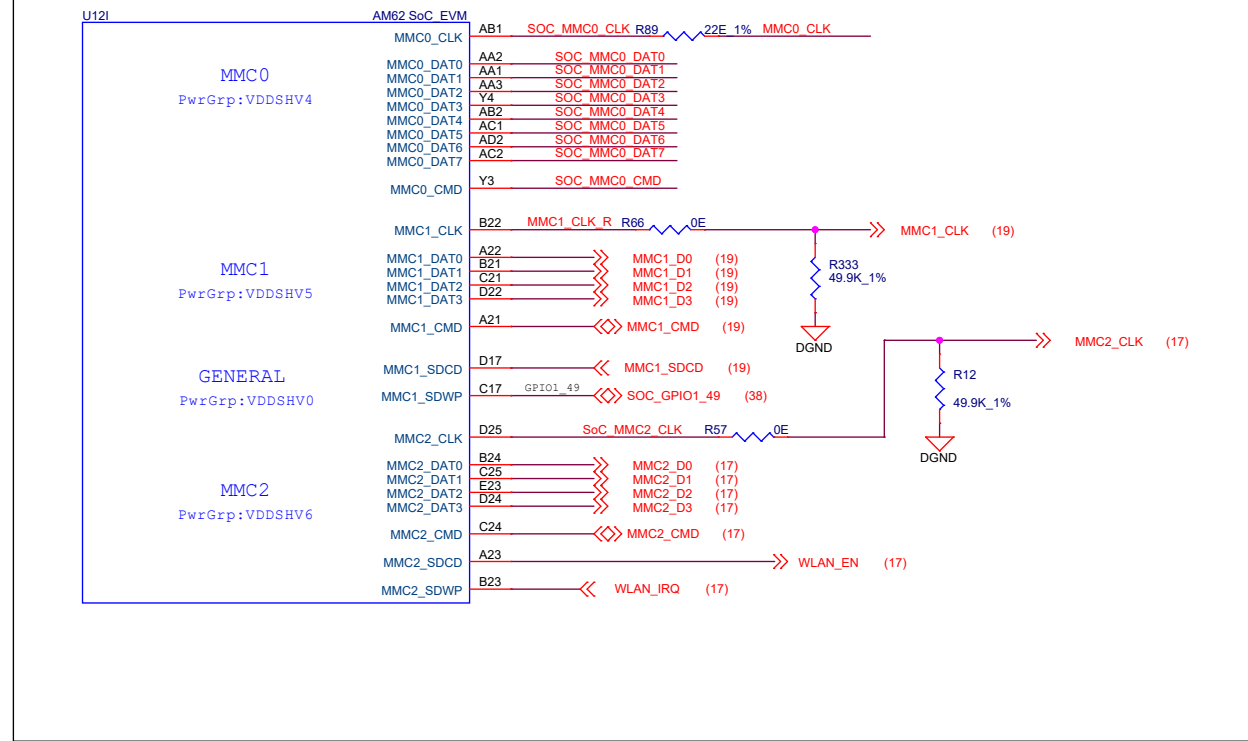
Size PROC114E3

Date: Wednesday, April 27, 2022

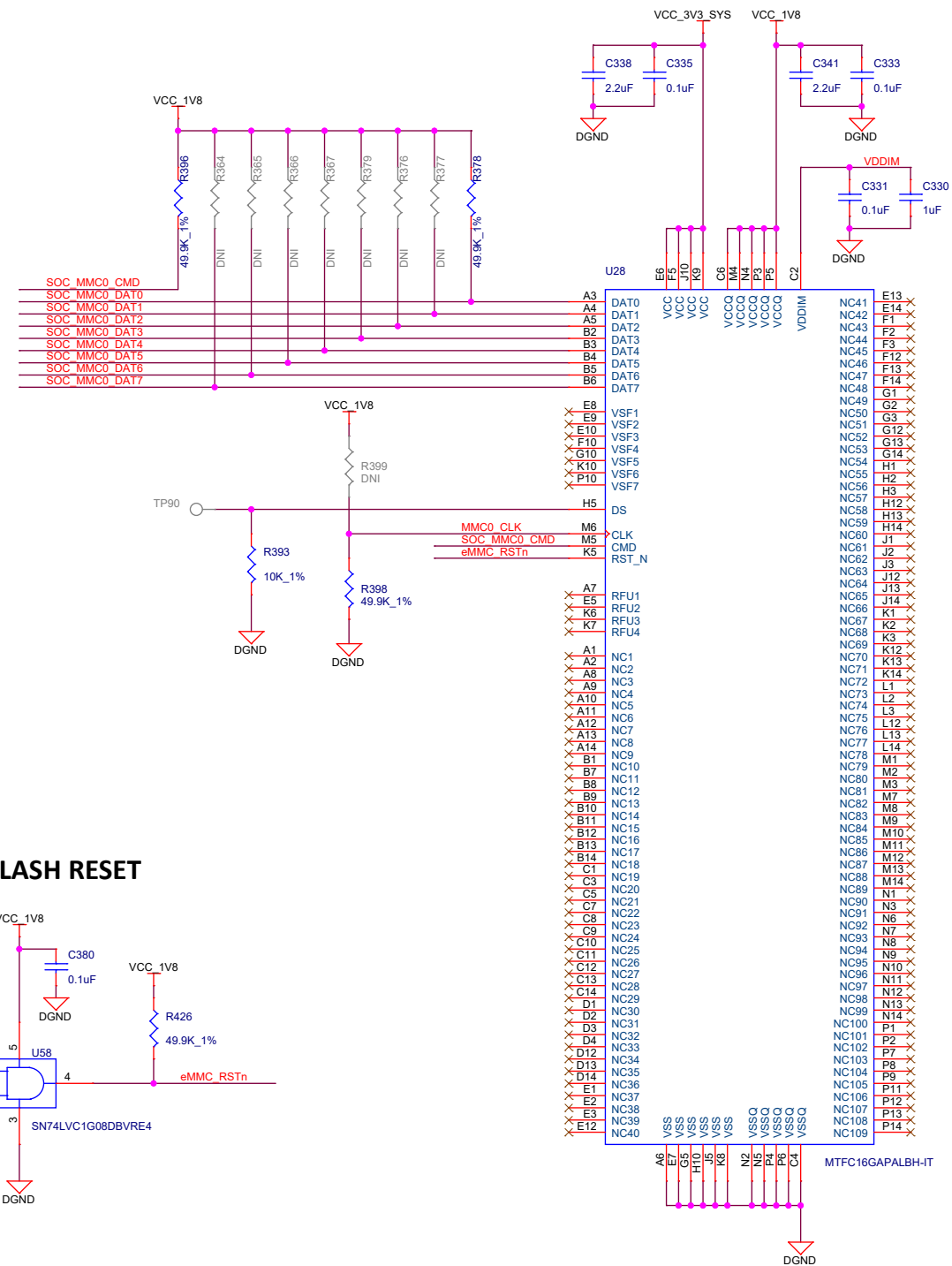
Rev E3

Sheet 17 of 44

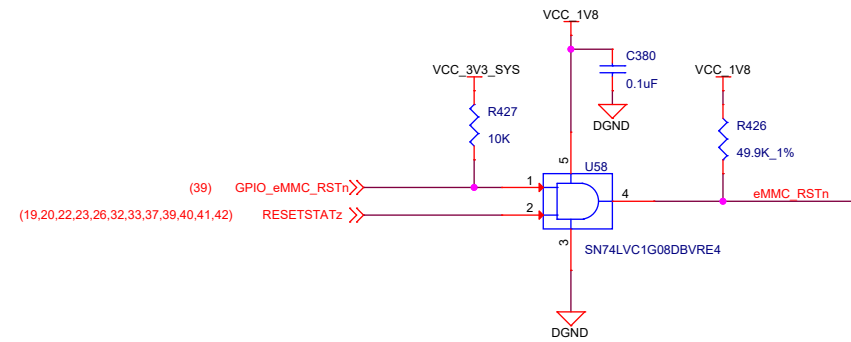
SOC - MMC Interface



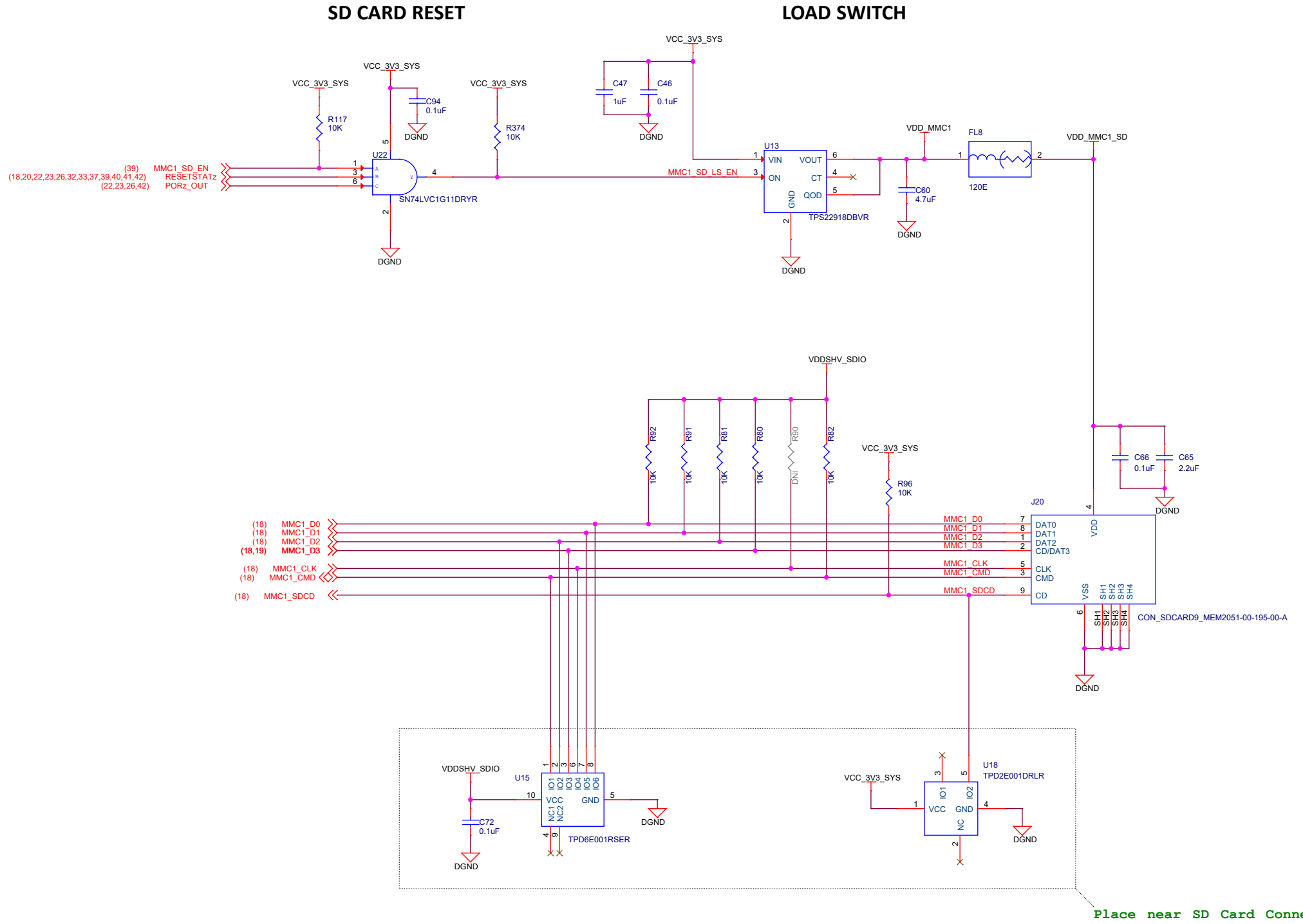
eMMC FLASH



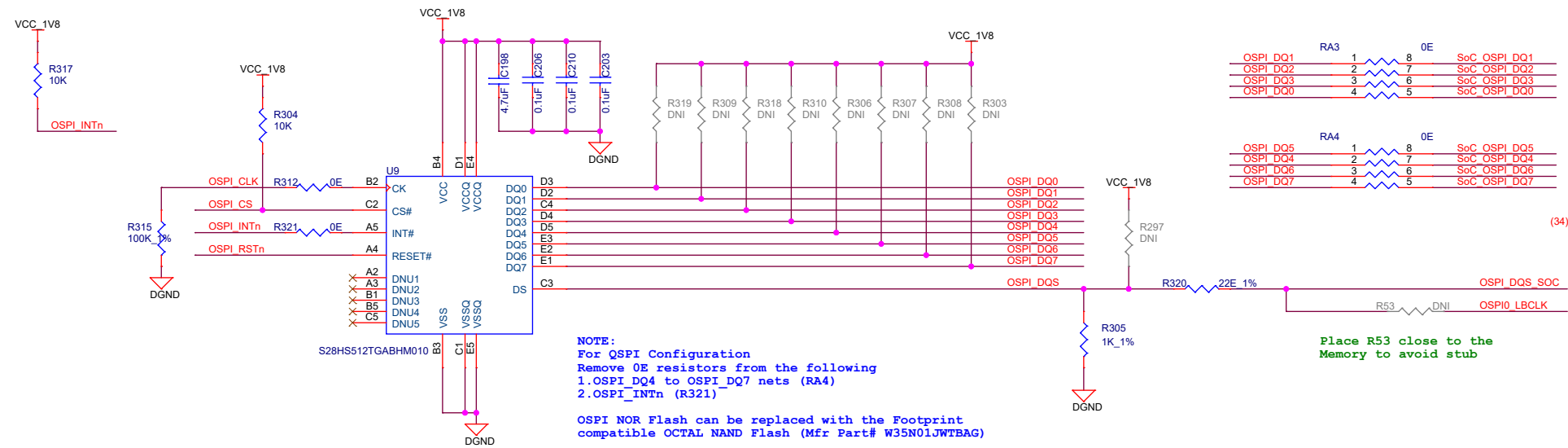
eMMC FLASH RESET



SD CARD INTERFACE



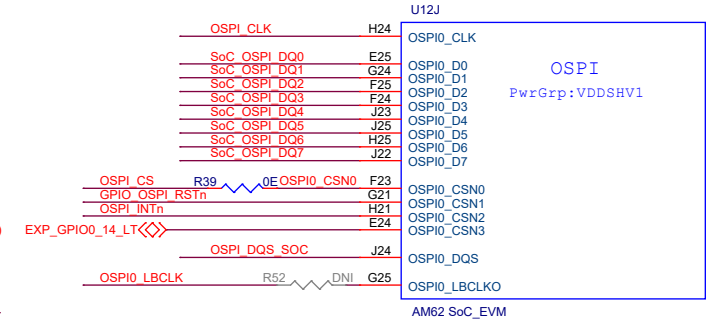
OSPI FLASH



NOTE:
 For QSPI Configuration
 Remove OE resistors from the following
 1.OSPI_DQ4 to OSPI_DQ7 nets (RA4)
 2.OSPI_INTn (R321)
 OSPI NOR Flash can be replaced with the Footprint compatible OCTAL NAND Flash (Mfr Part# W35N01JWTBAG)

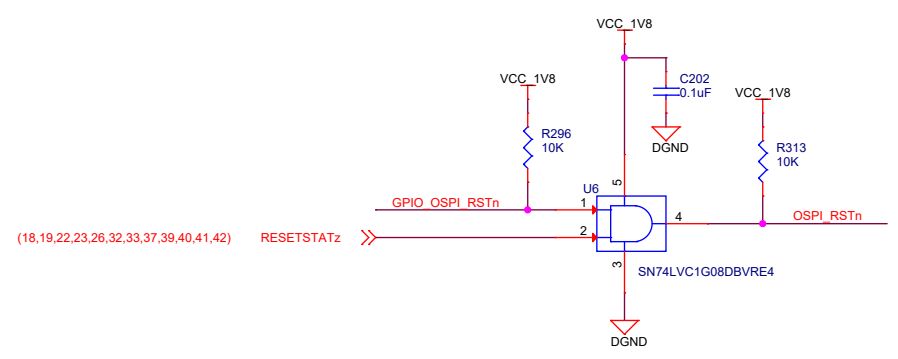
Place R53 close to the Memory to avoid stub

SOC OSPI INTERFACE

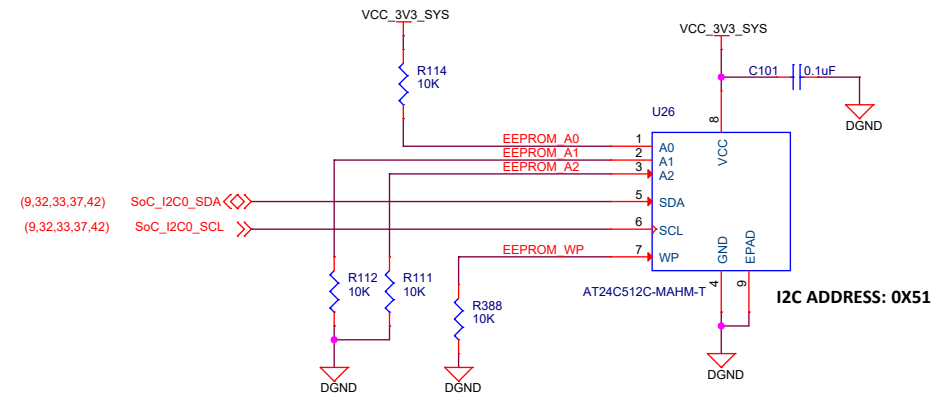


Place R52 close to the SOC Ball with as little trace as possible

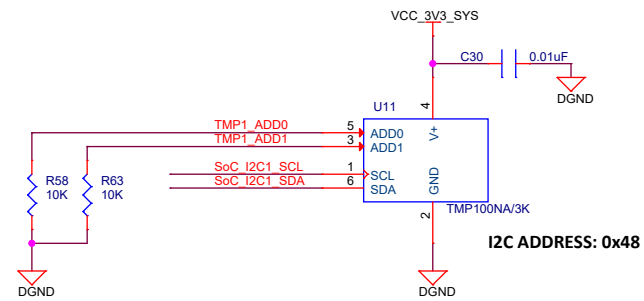
OSPI FLASH RESET



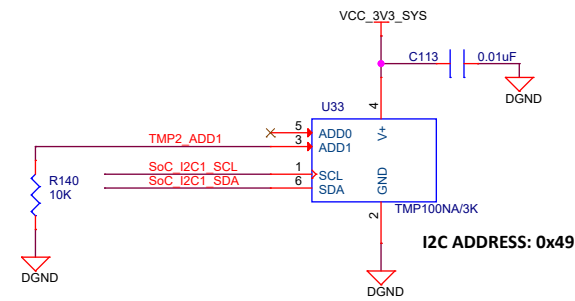
BOARD ID EEPROM



TEMPERATURE SENSORS



CAD NOTE: PLACE TEMP SENSOR U11 CLOSE TO SoC



CAD NOTE: PLACE TEMP SENSOR U33 CLOSE TO DDR4



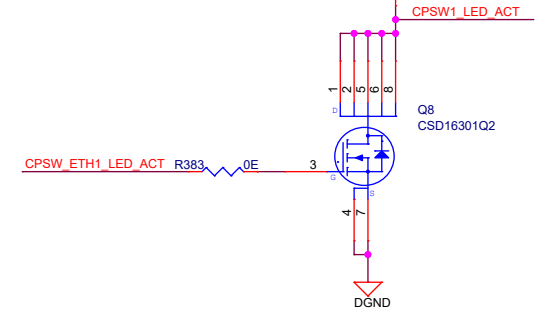
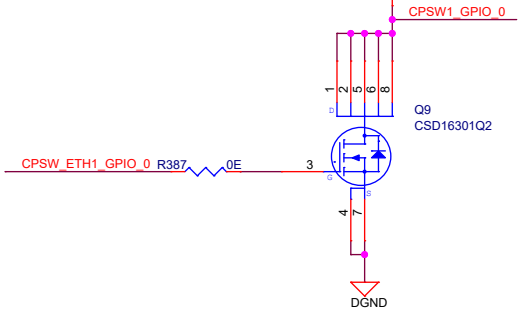
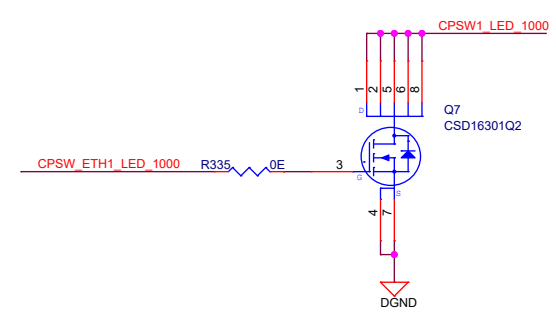
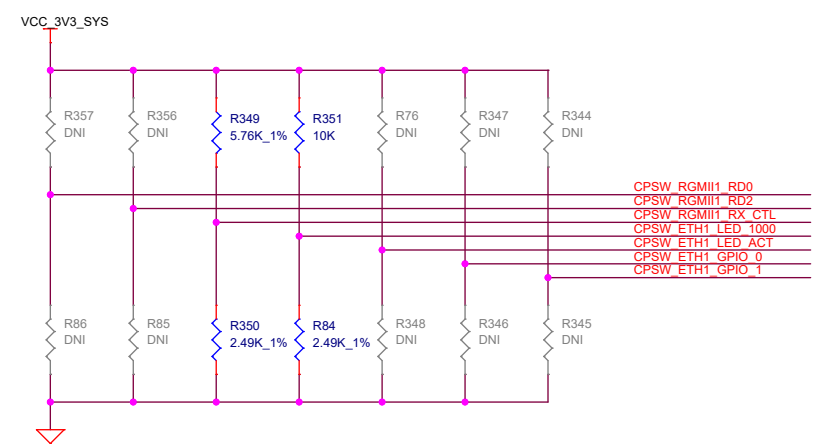
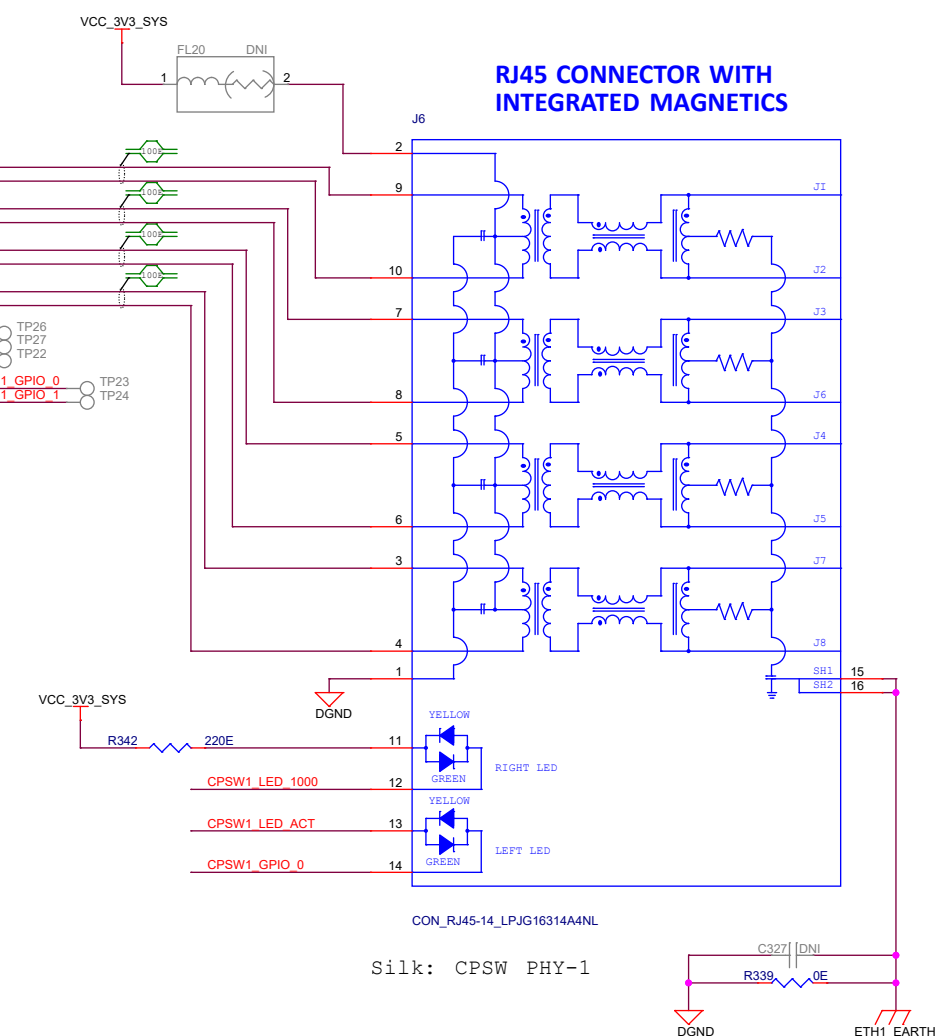
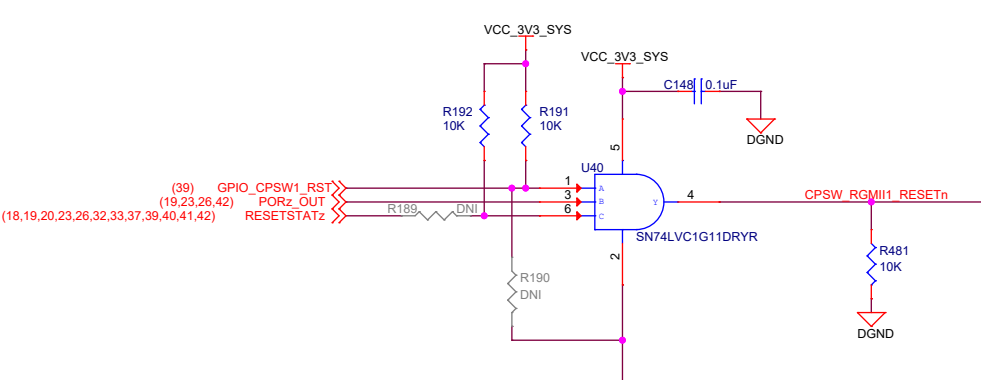
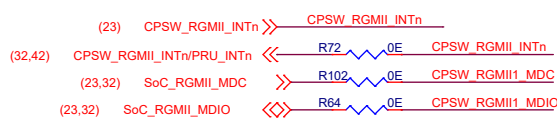
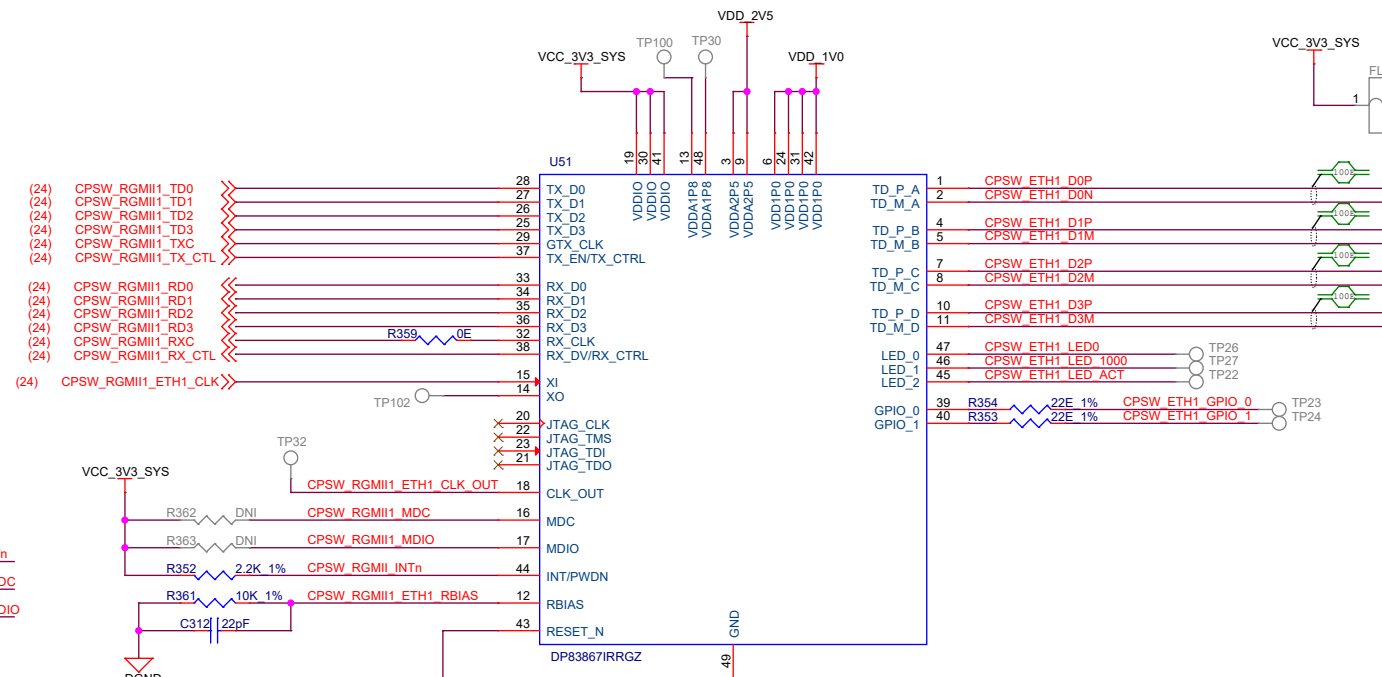
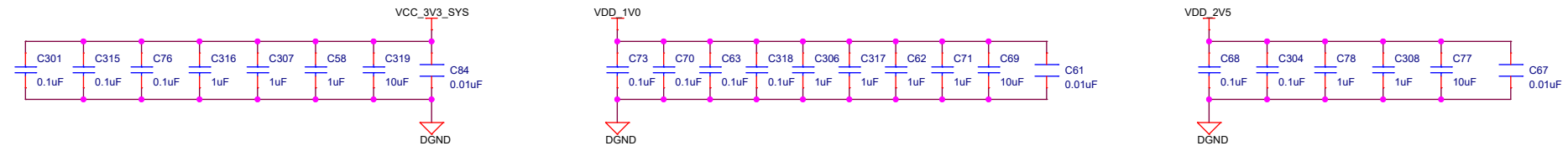
Designed for TI by Mistral Solutions Pvt Ltd



Title BOARD ID EEPROM & TEMPERATURE SENSORS

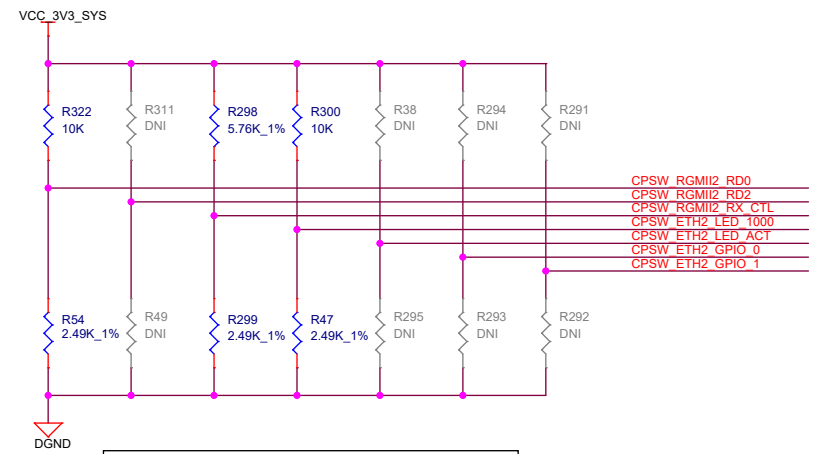
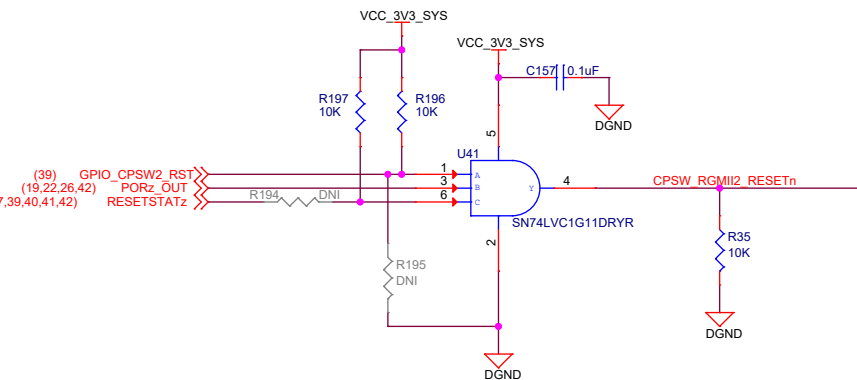
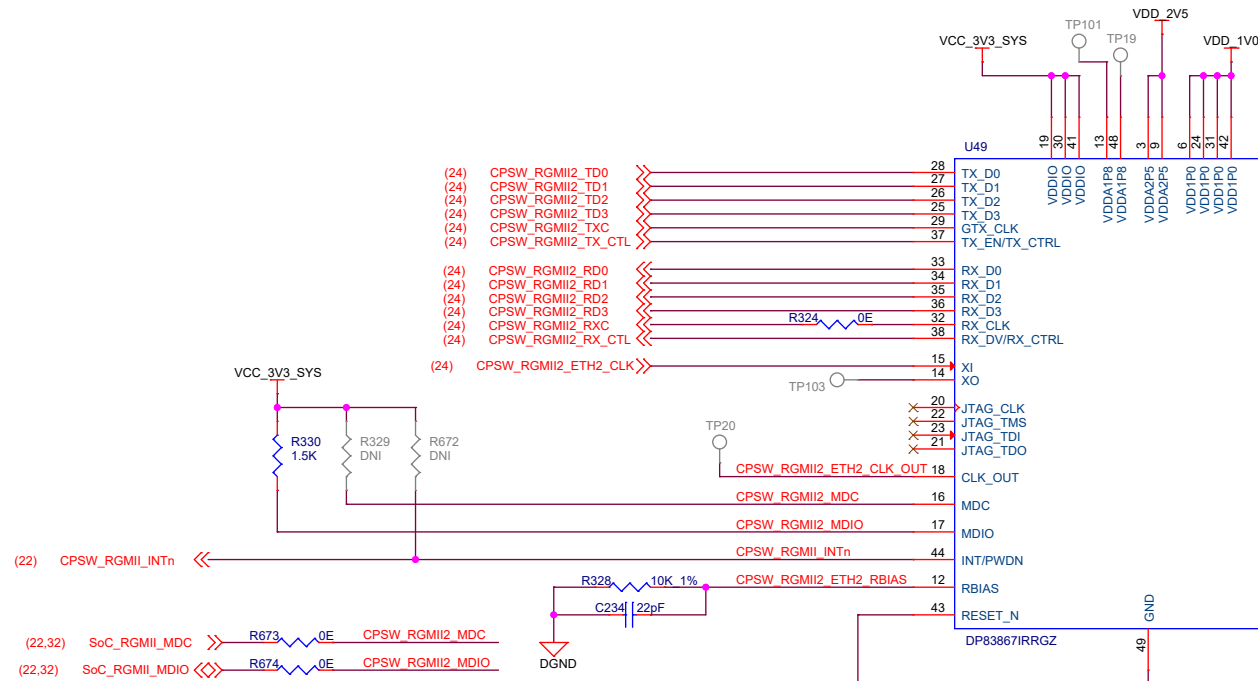
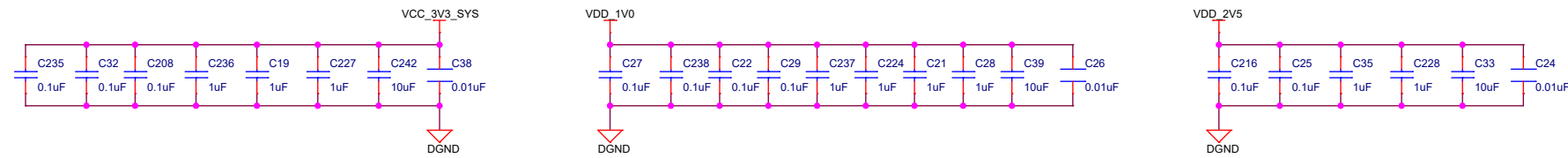
| | | | |
|-------|---------------------------|-------|----------|
| Size | PROC114E3 | Rev | E3 |
| Date: | Wednesday, April 27, 2022 | Sheet | 21 of 44 |

CPSW RGMII 1 - PHY

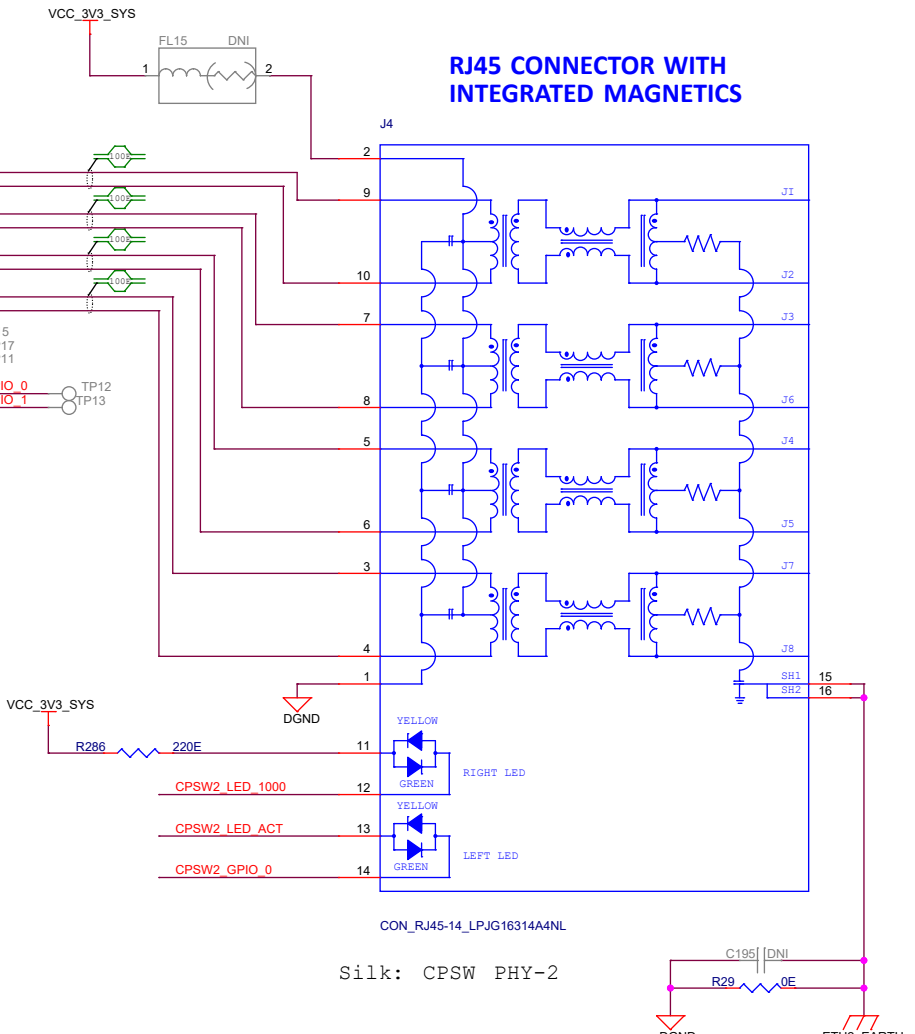


PHY ADDRESS = 00000
 Auto-negotiation Enabled
 10/100/1000 advertised, Auto-MDI-X
 Tx Clock Skew = 2ns
 Rx Clock Skew = 2ns

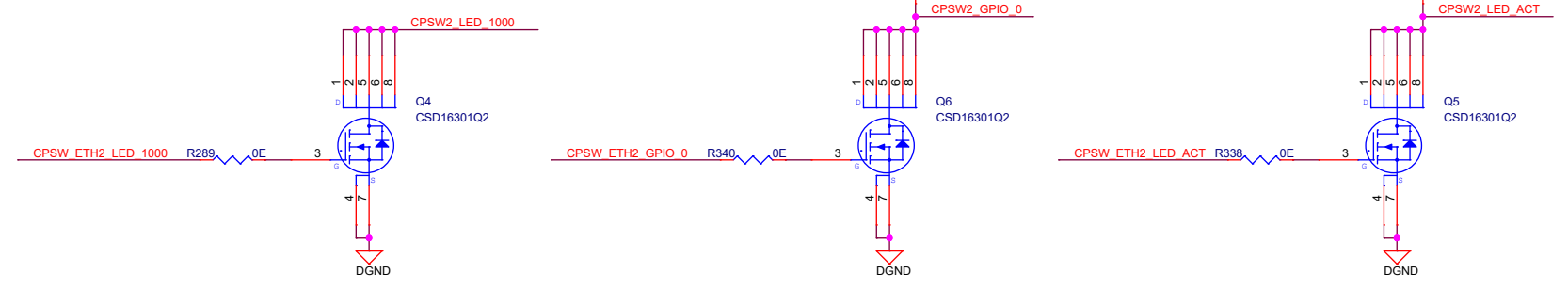
CPSW RGMII 2 - PHY



PHY ADDRESS = 00001
 Auto-negotiation Enabled
 10/100/1000 advertised, Auto-MDI-X
 Tx Clock Skew = 2ns
 Rx Clock Skew = 2ns



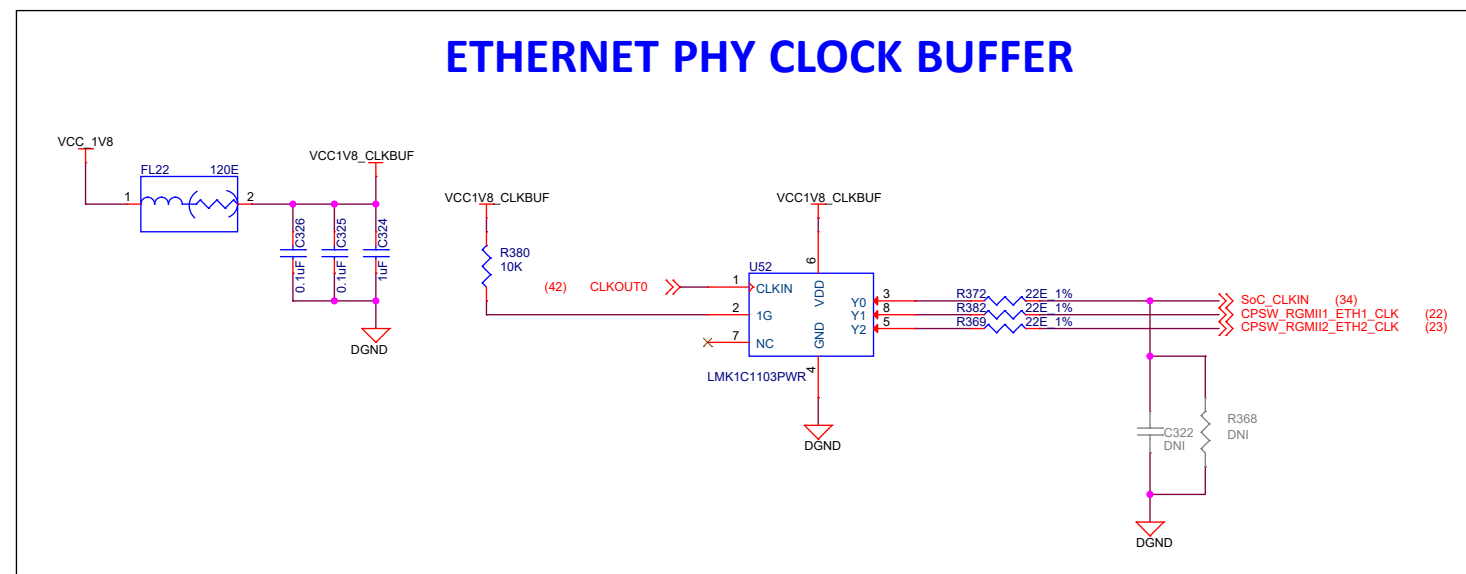
Silk: CPSW PHY-2



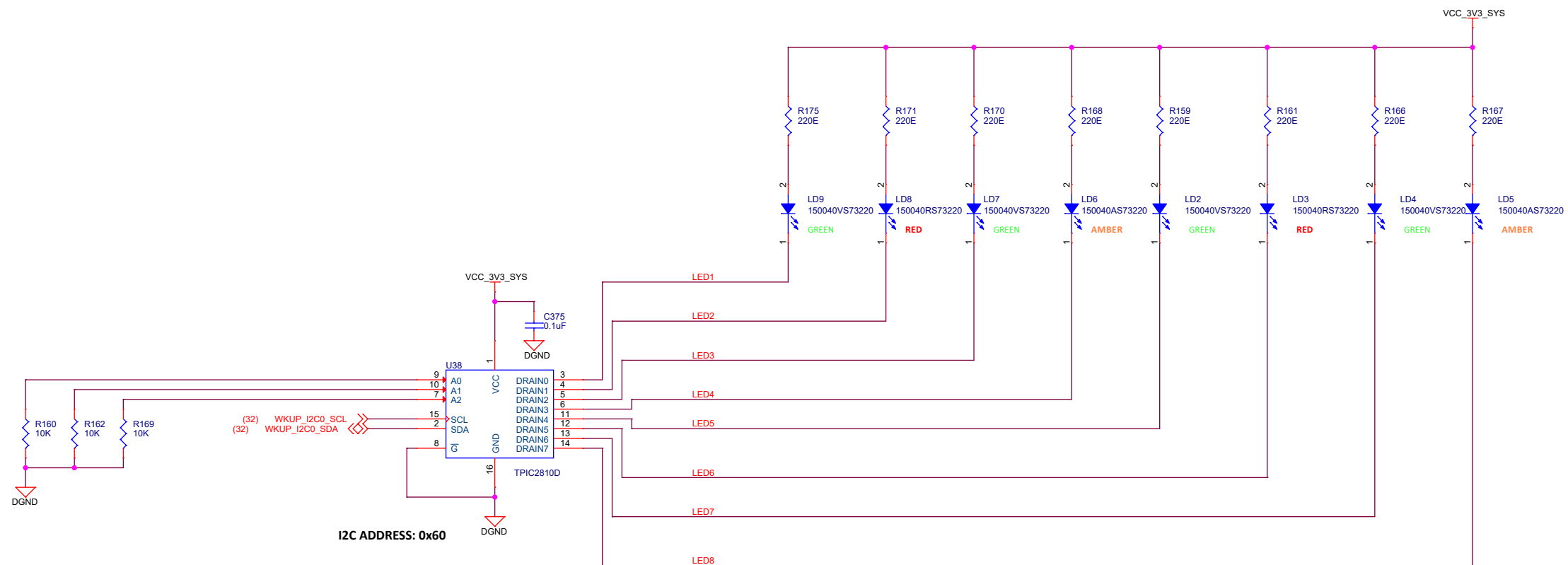
Designed for TI by Mistral Solutions Pvt Ltd



| | | | |
|-------|---------------------------|---------------------------|----------|
| Title | | CPSW RGMII_2 ETHERNET PHY | |
| Size | PROC114E3 | Rev | E3 |
| Date: | Wednesday, April 27, 2022 | Sheet | 23 of 44 |



LED DRIVER



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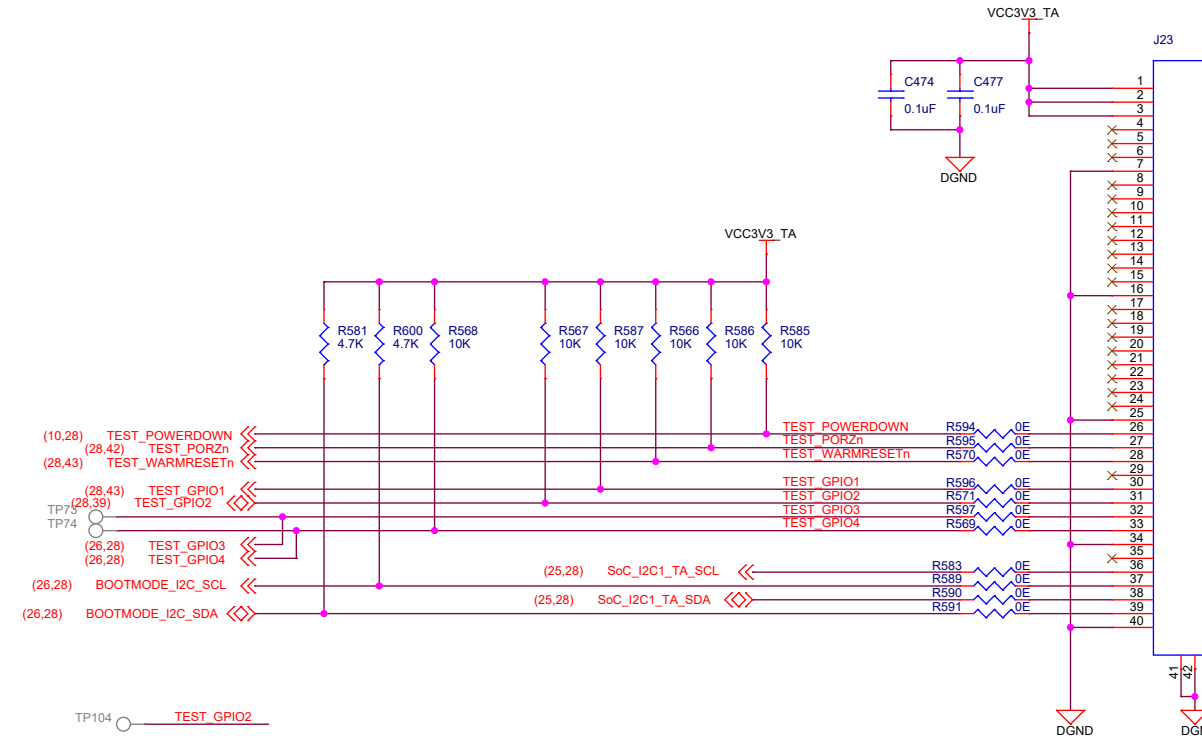
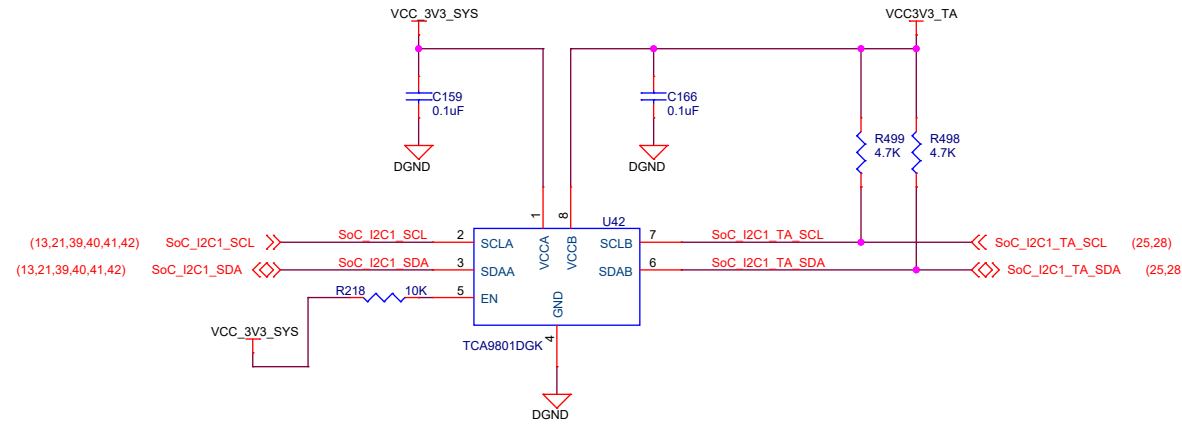


Title ETHERNET PHY CLOCK BUFFER & LED DRIVER

| | | | |
|-------|-------------------------|-------|----------|
| Size | PROC114E3 | Rev | E3 |
| Date: | Wednesday, May 04, 2022 | Sheet | 24 of 44 |

40-PIN TEST AUTOMATION HEADER

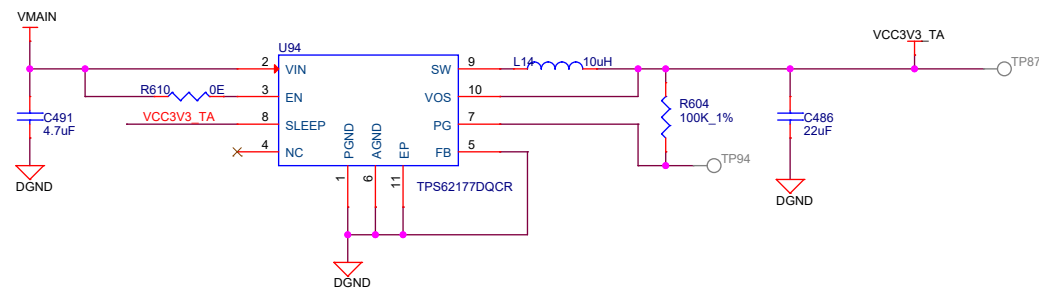
I2C BUS BUFFER



CON_FLEX_40X1_FH12A-40S-0.5SH
Silk: AUTOMATION HDR

TEST AUTOMATION BOARD POWER

VinMin = 4.75V
VinMax = 24V
Vout = 3.3V @ 0.5A



TEST AUTOMATION GPIO MAPPING

| SIGNAL NAME | DESCRIPTION | Direction WRT CTRL | Internal/External PU/PD states |
|-----------------|--|--------------------|--------------------------------|
| TEST_POWERDOWN | Used to Power down the EVM | OUTPUT | External Pullup |
| TEST_PORZn | Used to Reset the SoC PORz | OUTPUT | External Pullup |
| TEST_WARMRESETh | Used to Reset the SoC Warmreset | OUTPUT | External Pullup |
| TEST_GPIO1 | Used to Generate the interrupt on Soc_GPIO1_23 Pin | OUTPUT | External Pullup |
| TEST_GPIO2 | Connected to IO Expander to Communicate with SOC | OUTPUT | External Pullup |
| TEST_GPIO3 | Used to Enable the BOOTMODE Buffer | OUTPUT | External Pullup |
| TEST_GPIO4 | Used to Reset the Bootmode I2C IO Expander | OUTPUT | External Pullup |

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Title TEST AUTOMATION

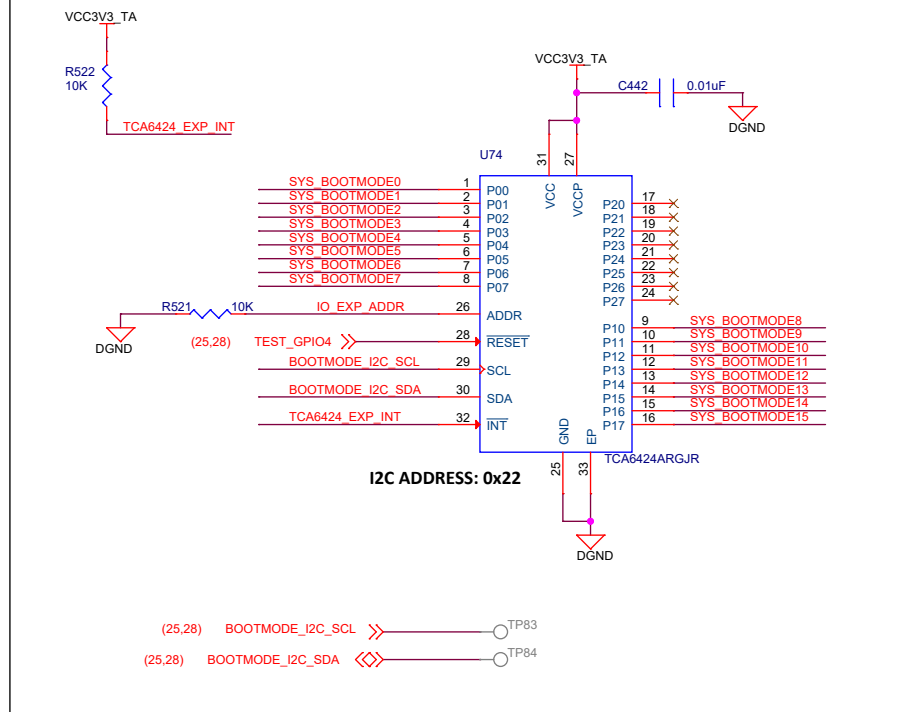
Size PROC114E3

Date: Wednesday, April 27, 2022

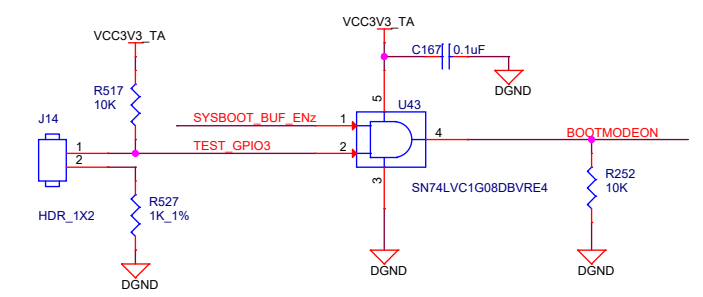
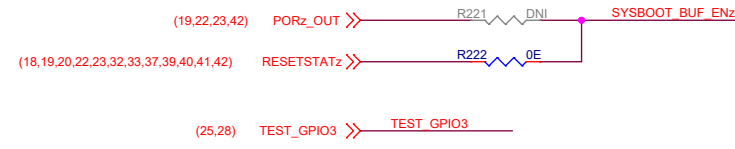
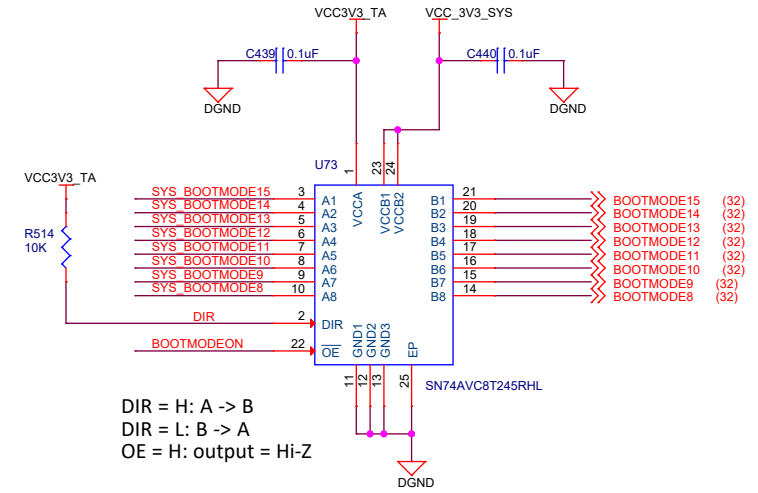
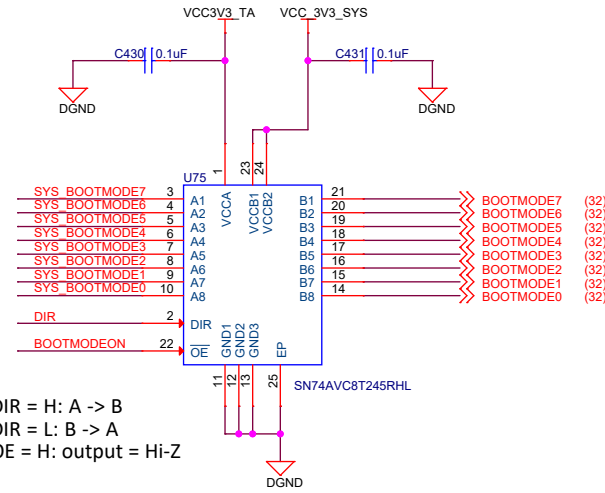
Rev E3

Sheet 25 of 44

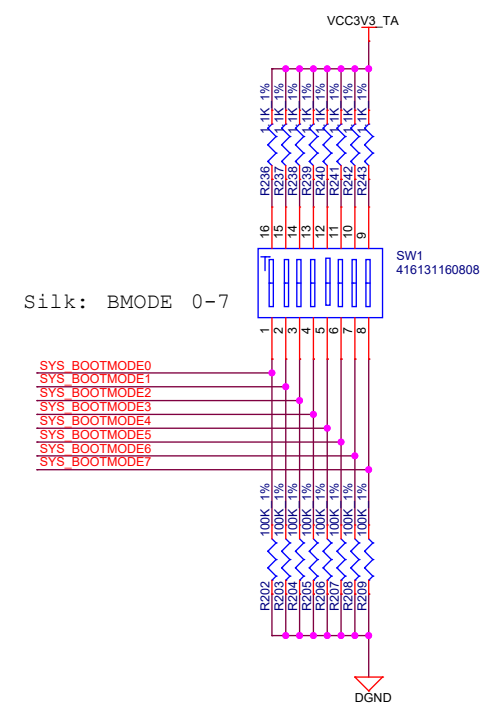
BOOTMODE IO EXPANDER



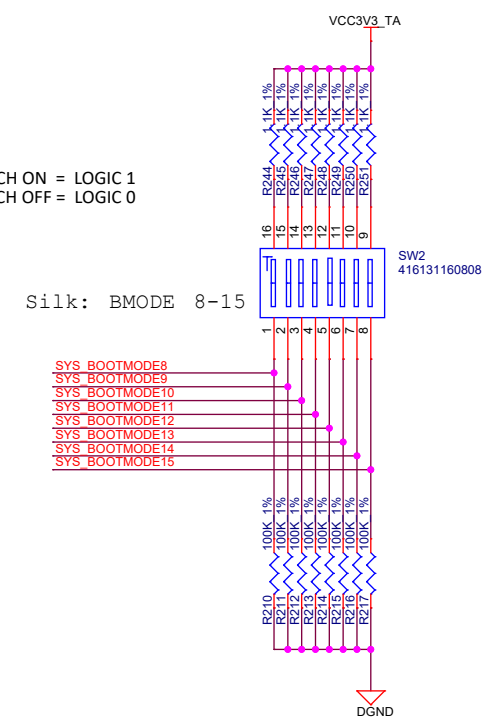
BOOT MODE BUFFERS



BOOT MODE SWITCHES



SWITCH ON = LOGIC 1
SWITCH OFF = LOGIC 0



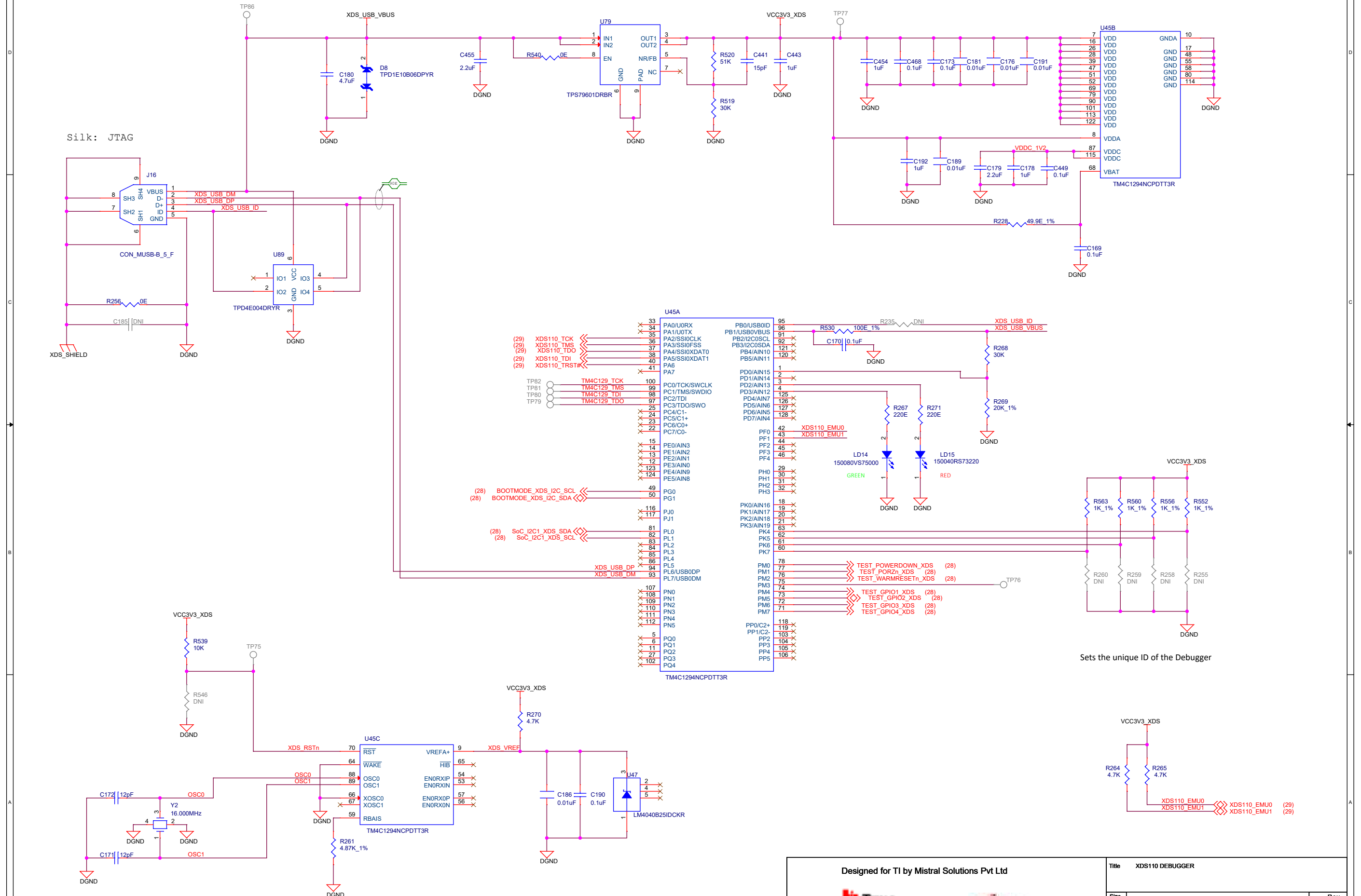
| BOOT MODES SUPPORTED | |
|----------------------|--------------------|
| 1. | OSPI |
| 2. | MMC1 - SD CARD |
| 3. | UART |
| 4. | eMMC |
| 5. | Ethernet |
| 6. | BACKUP BOOT OPTION |

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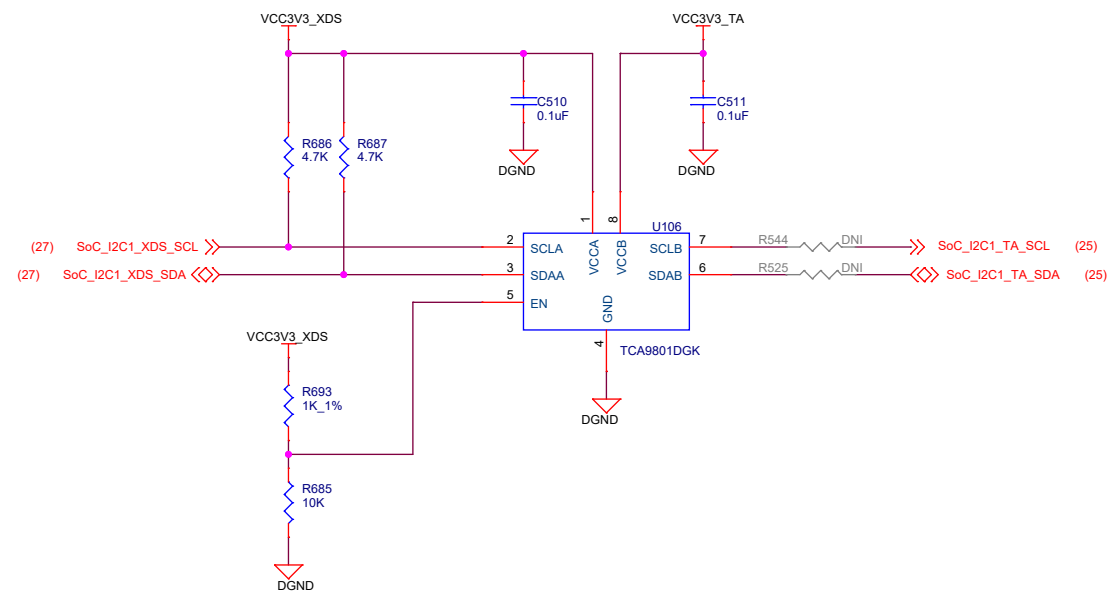


| | | |
|------------------------------------|-----------------|---------|
| Title: BOOT MODE BUFFER & SWITCHES | | |
| Size: C | PROC114E3 | Rev: E3 |
| Date: Wednesday, April 27, 2022 | Sheet: 26 of 44 | |

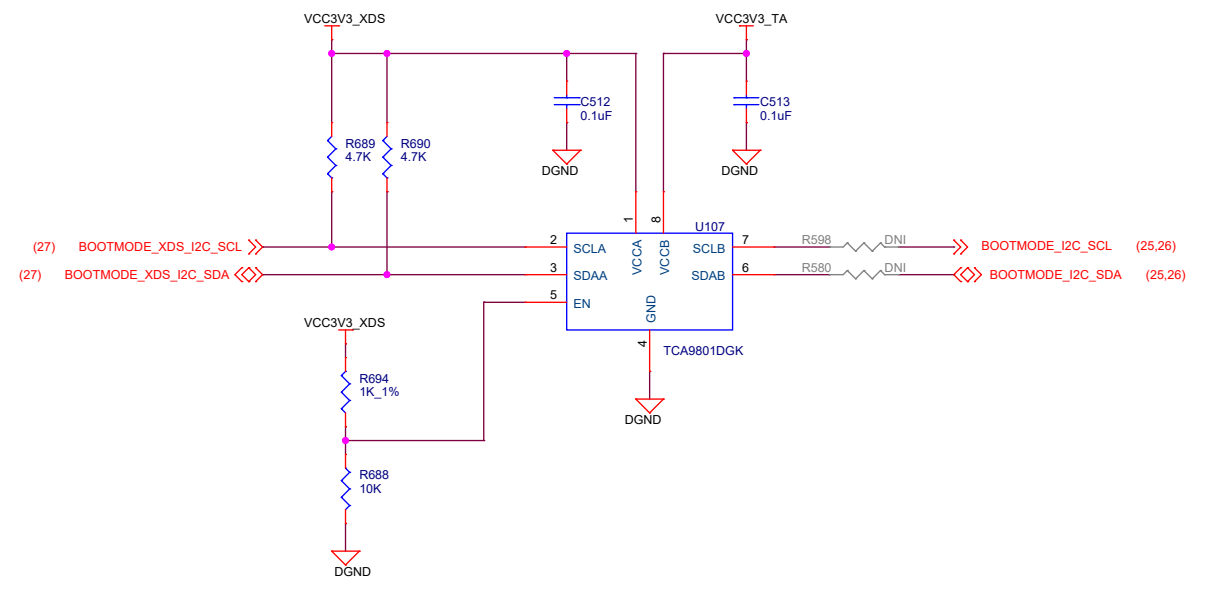
XDS110 DEBUGGER



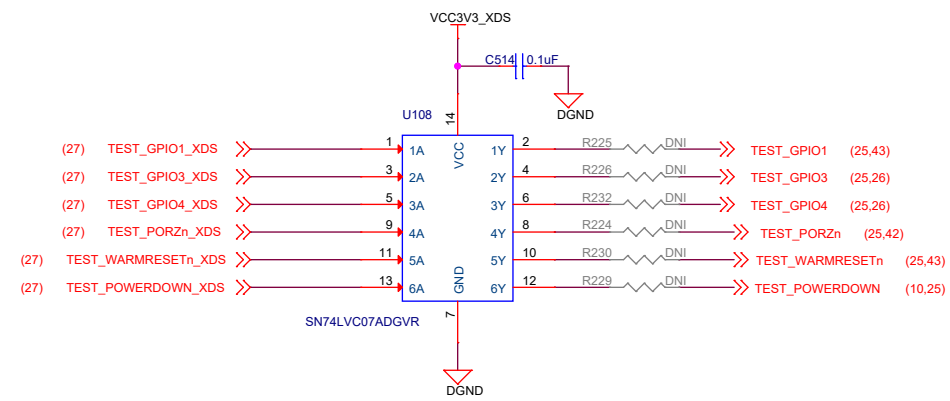
I2C_TA BUS BUFFER



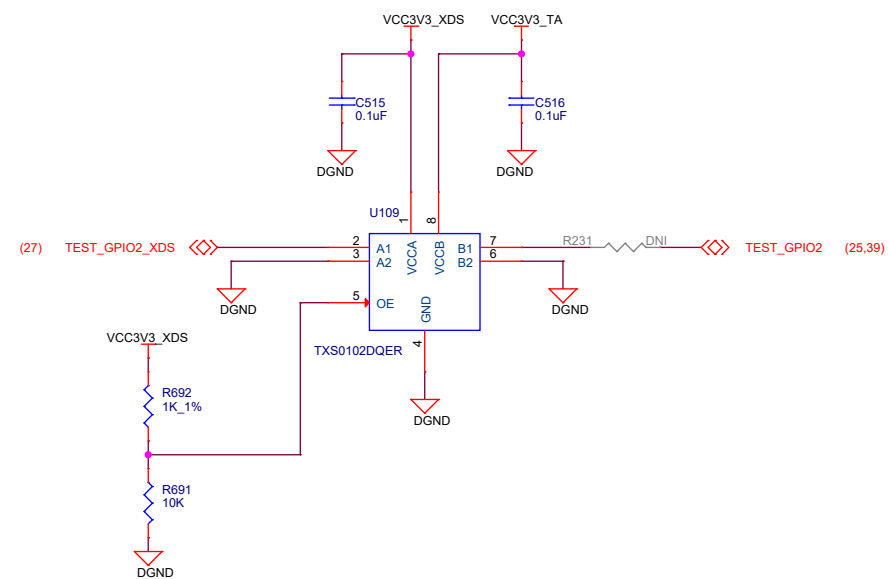
BOOTMODE_I2C_TA BUFFER



ISOLATION BUFFERS FOR TA SIGNALS



Pull ups (R567, R587, R517, R568, R585, R586 & R566) to VCC3V3_TA are present



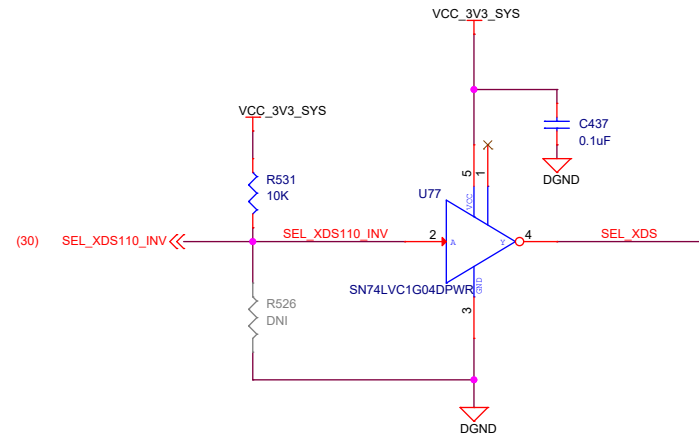
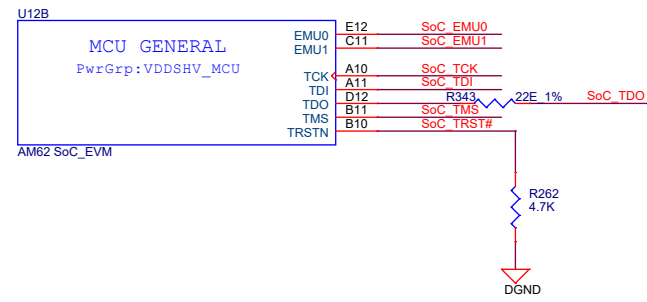
Designed for TI by Mistral Solutions Pvt Ltd



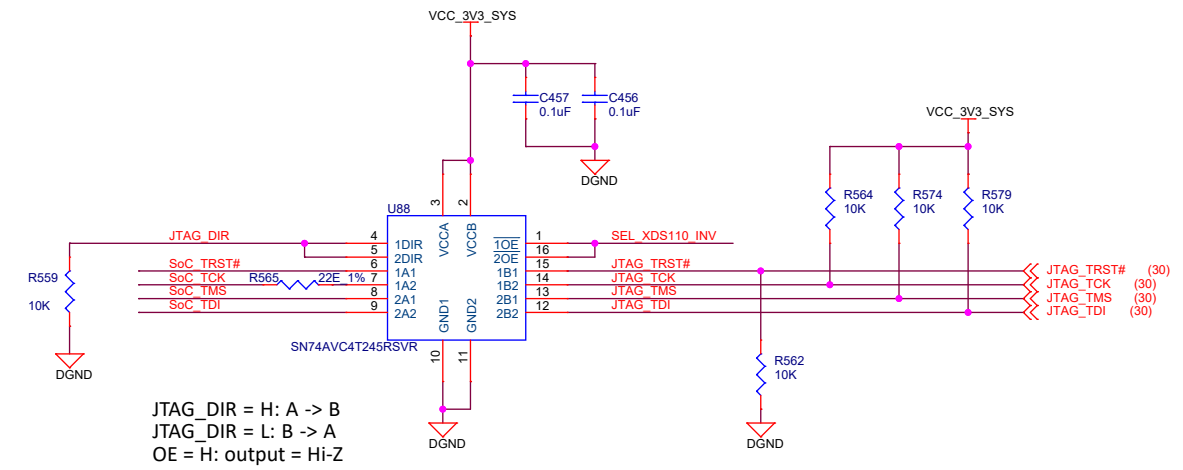
Title AUTOMATION SIGNALS BUFFER

| | | | |
|-------|---------------------------|-------|----------|
| Size | PROC114E3 | Rev | E3 |
| Date: | Wednesday, April 27, 2022 | Sheet | 28 of 44 |

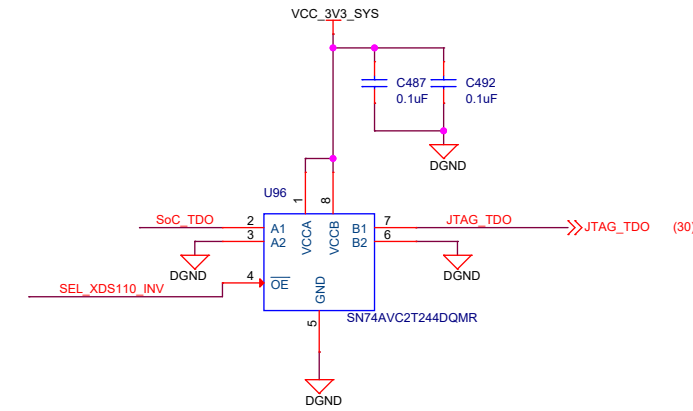
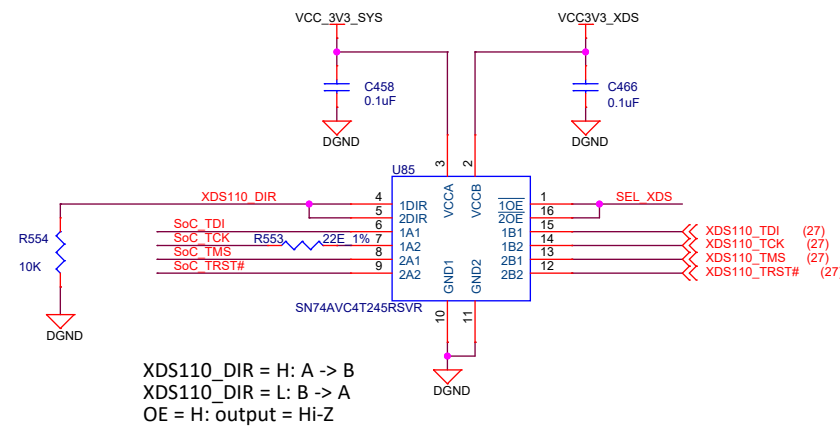
JTAG SOC SECTION



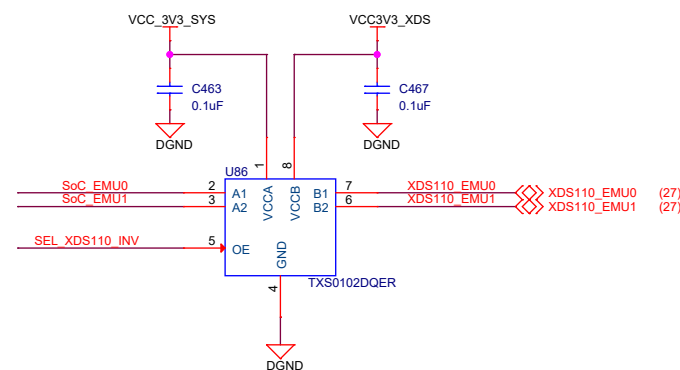
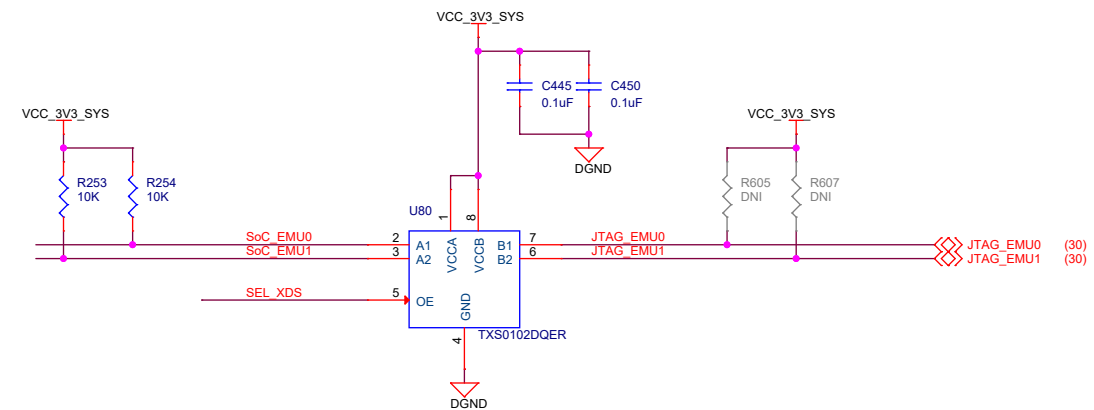
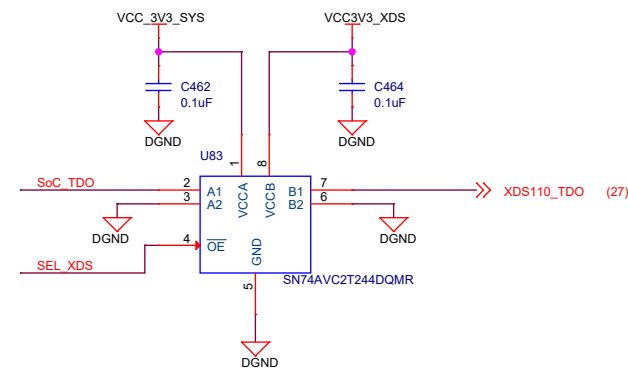
cTI20 JTAG BUFFERS



BUFFER XDS110



CAD NOTE: Buffers U88 and U96 need to be placed closer to the cTI-20pin connector J17 to reduce Stub length of the JTAG signals.



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Title JTAG BUFFER

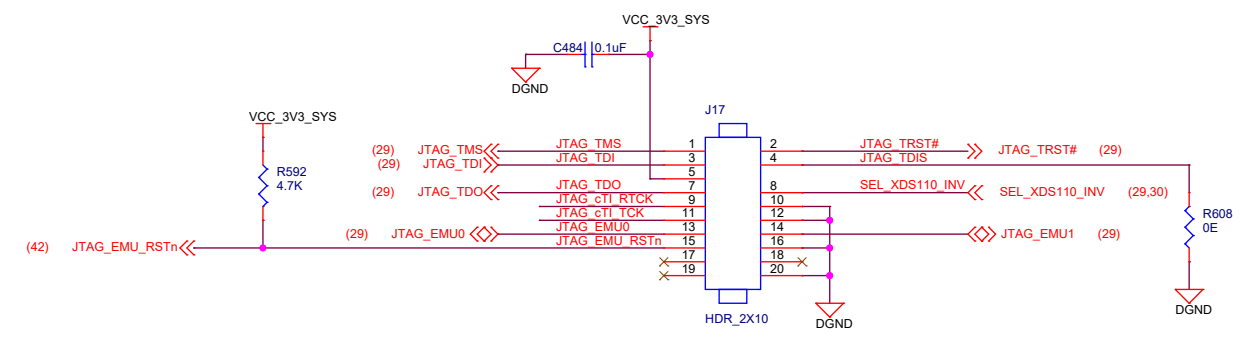
Size PROC114E3

Date: Wednesday, April 27, 2022

Rev E3

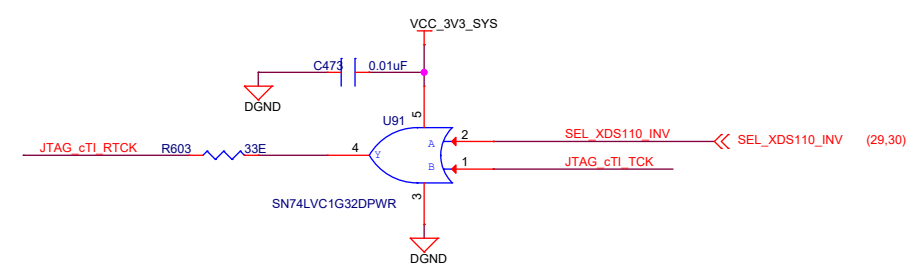
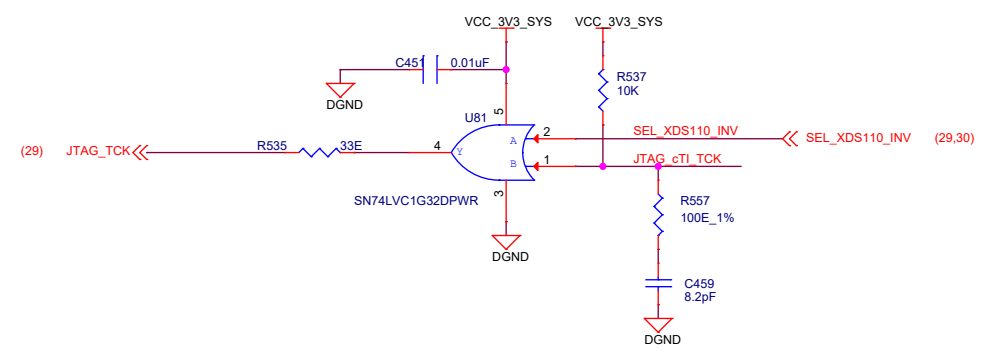
Sheet 29 of 44

JTAG 20 PIN cTI CONNECTOR



Silk: cTI

JTAG CLOCK BUFFER

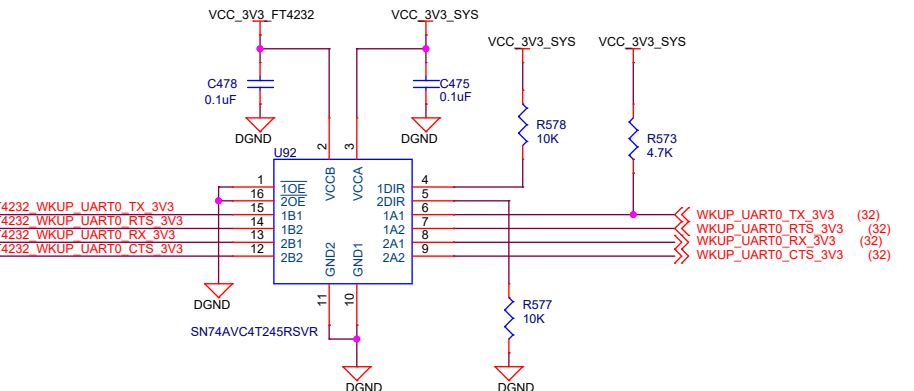
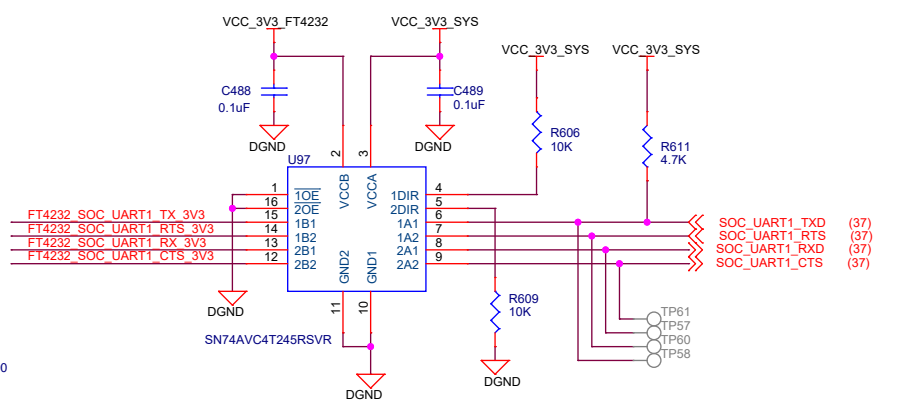
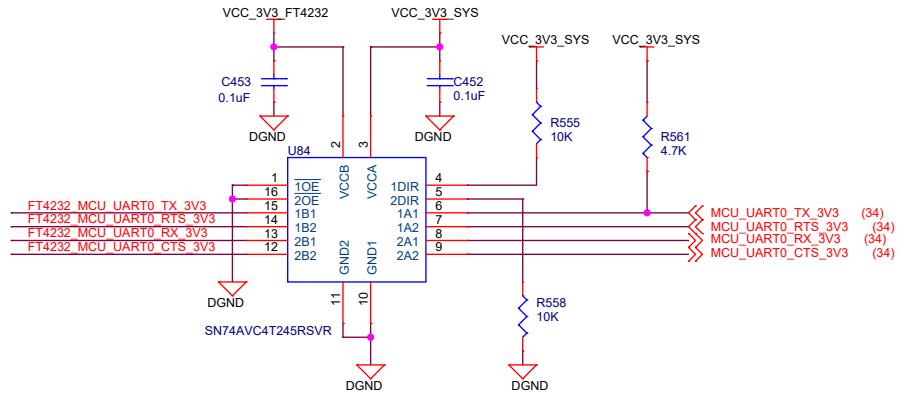
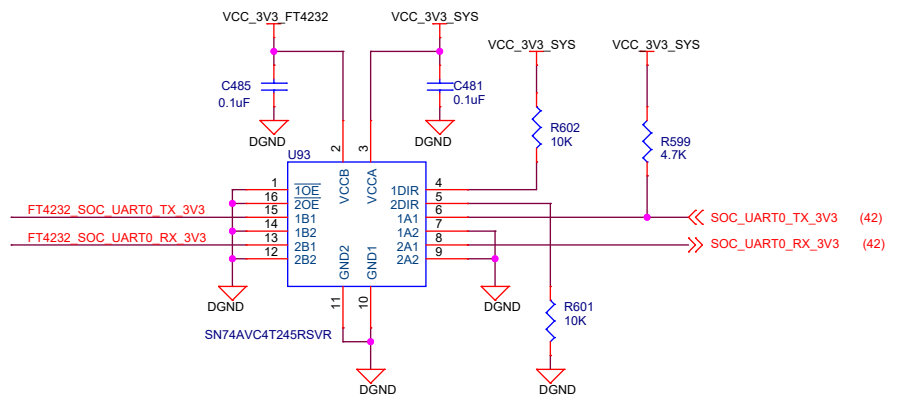
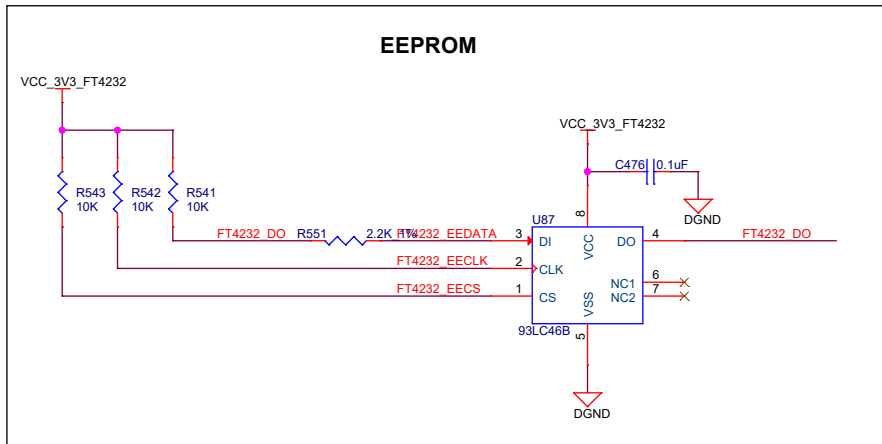
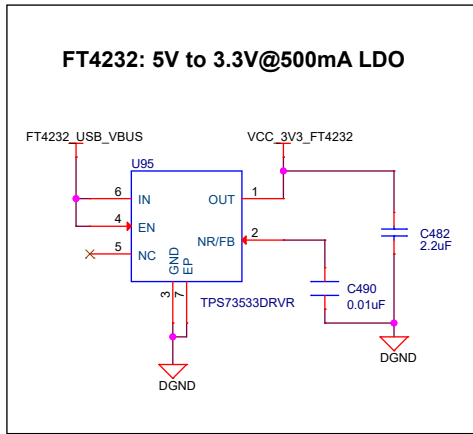
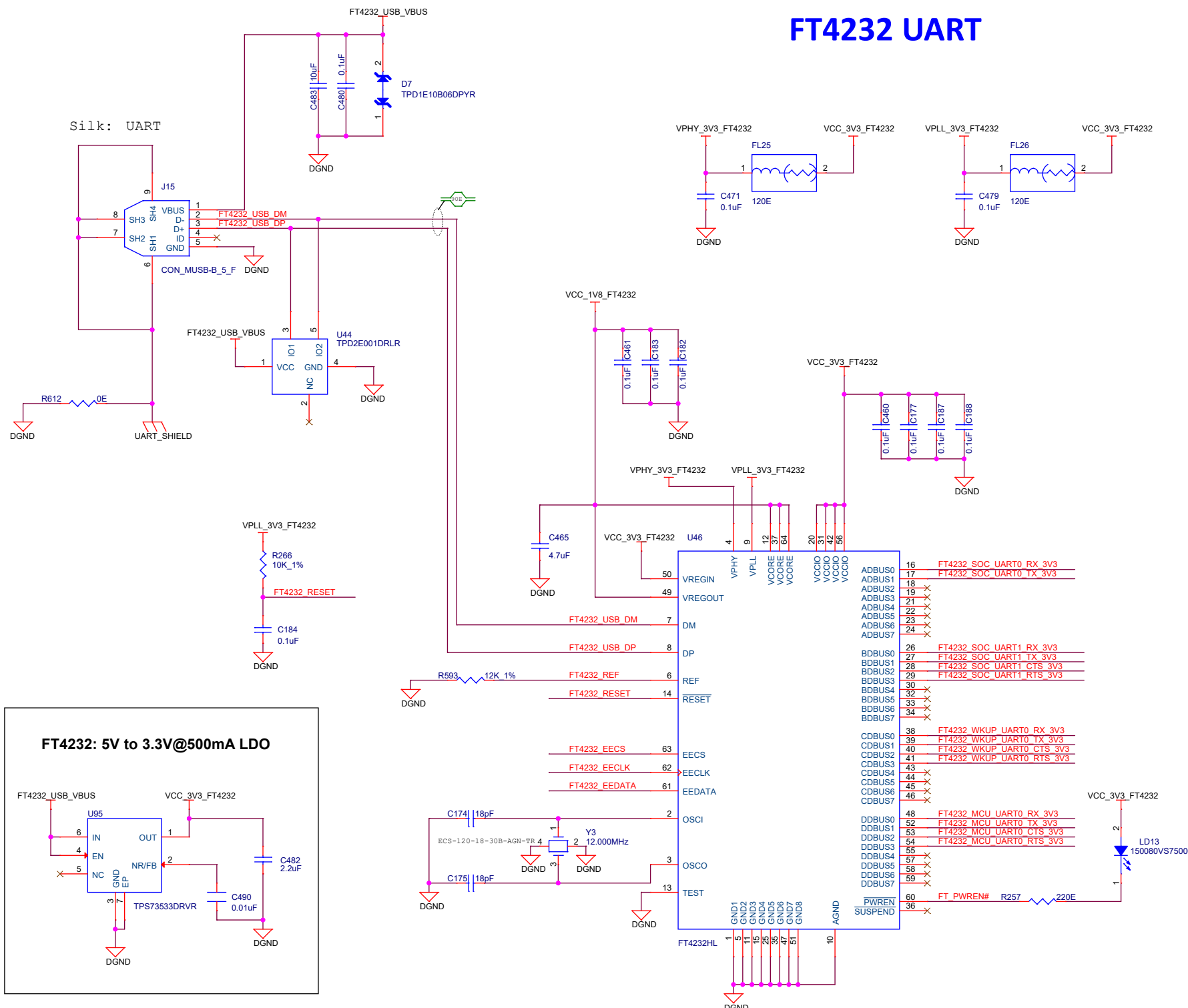


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| | | | |
|-------|---------------------------|---------------------------|----------|
| Title | | JTAG 20 PIN cTI CONNECTOR | |
| Size | PROC114E3 | Rev | E3 |
| Date: | Wednesday, April 27, 2022 | Sheet | 30 of 44 |

FT4232 UART

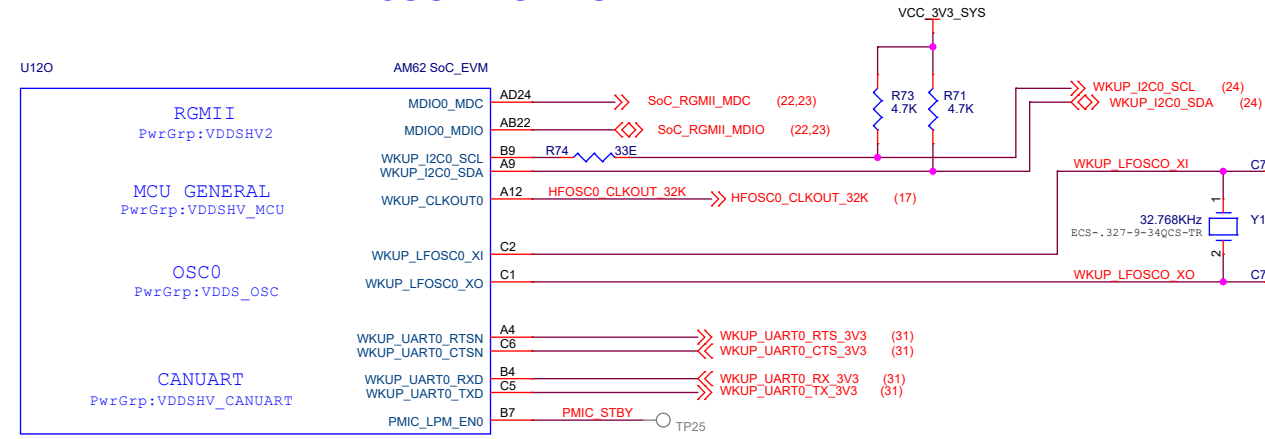


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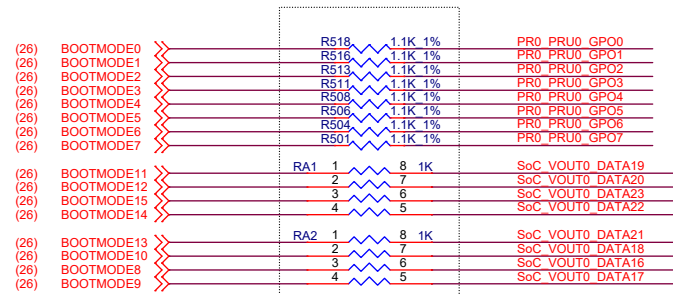


| | | |
|----------------------------------|-----------------|---------|
| Title: FT4232 UART TO USB BRIDGE | | |
| Size: C | PROC114E3 | Rev: E3 |
| Date: Wednesday, April 27, 2022 | Sheet: 31 of 44 | |

SOC WKUP DOMAIN

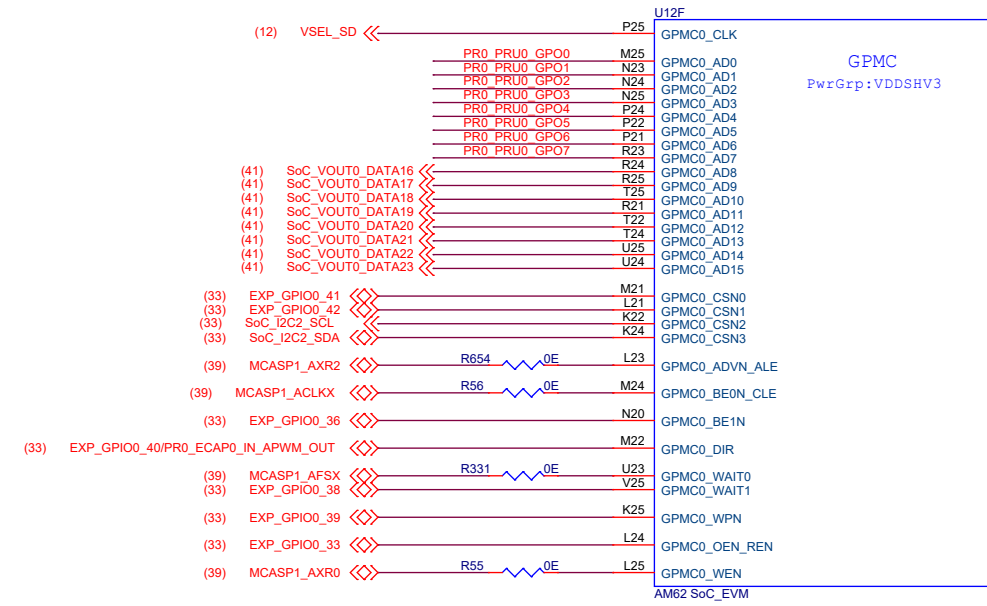


BOOTMODE PINS

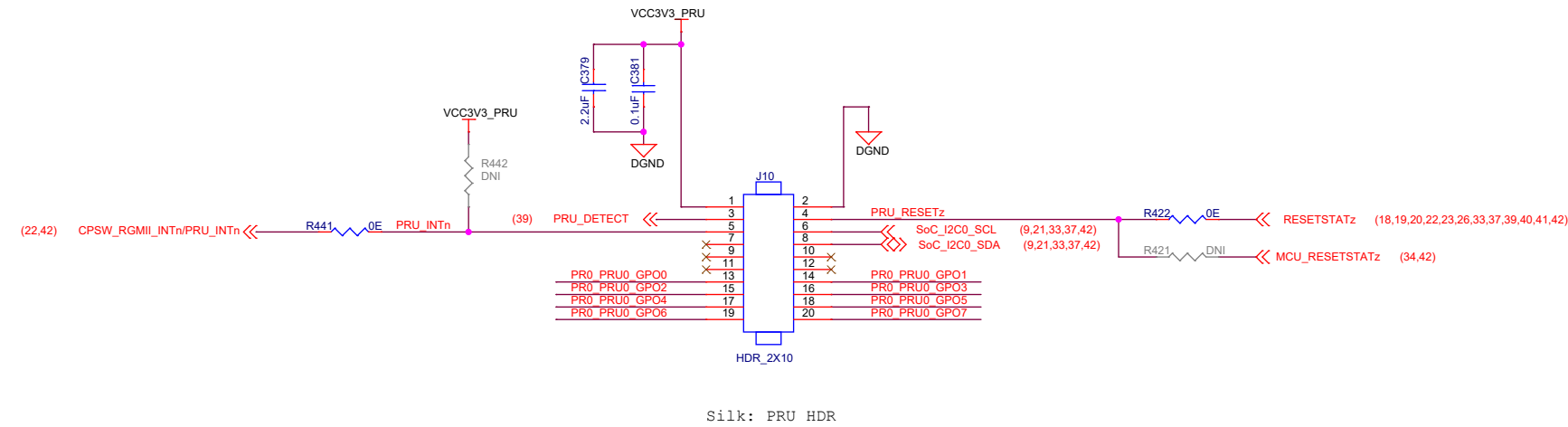


NOTE: Resistors are used to isolate the BOOTMODE control logic after the value is latched

SOC GPMC

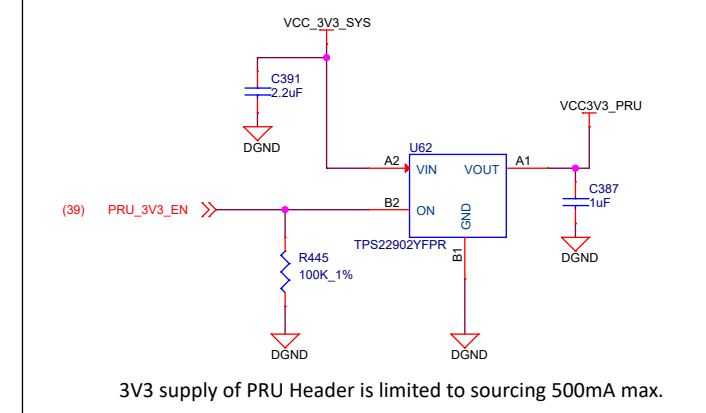


PRU HEADER



NOTE: PRU Header I/O are not fail-safe and shall not be driven when AM62x Starter Kit is not powered.

POWER SWITCH FOR PRU HEADER



3V3 supply of PRU Header is limited to sourcing 500mA max.

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Title PRU HEADER

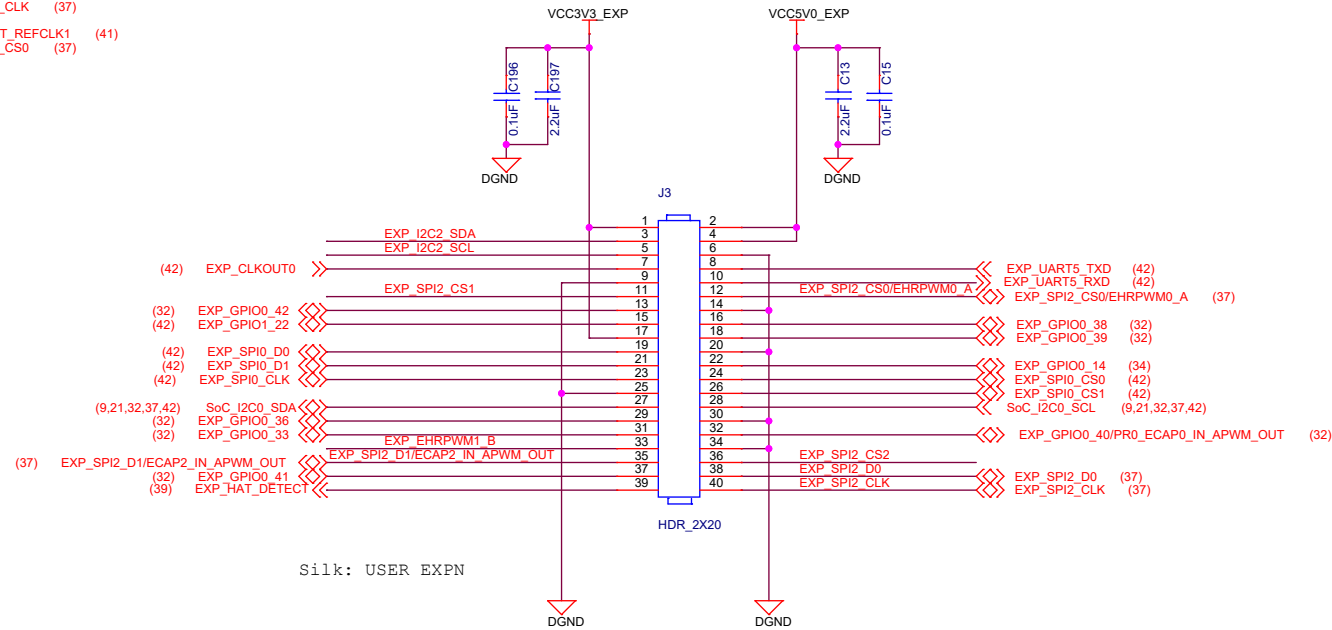
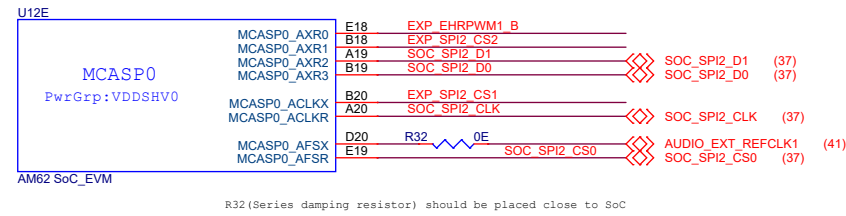
Size PROC114E3

Date: Wednesday, April 27, 2022

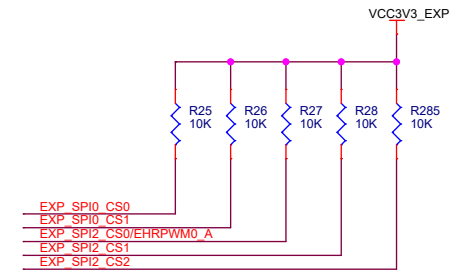
Rev E3

Sheet 32 of 44

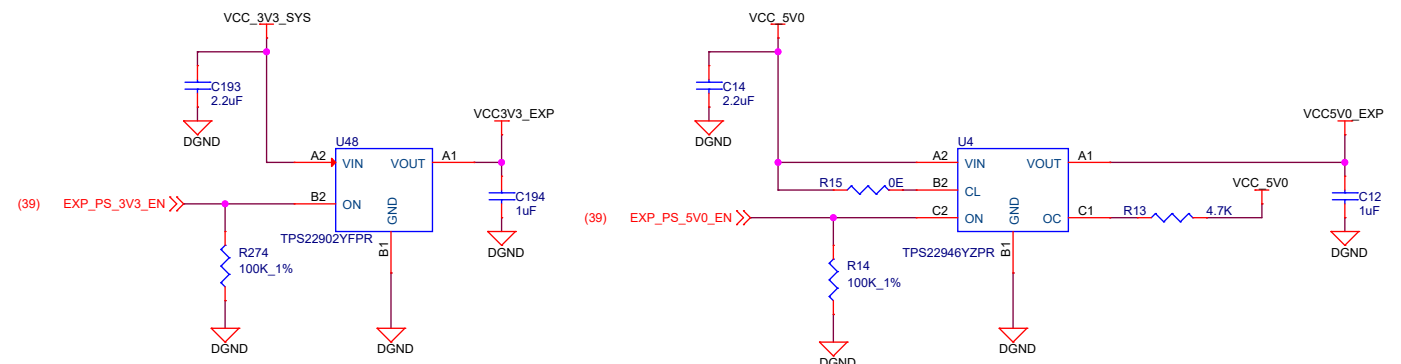
USER EXPANSION CONNECTOR



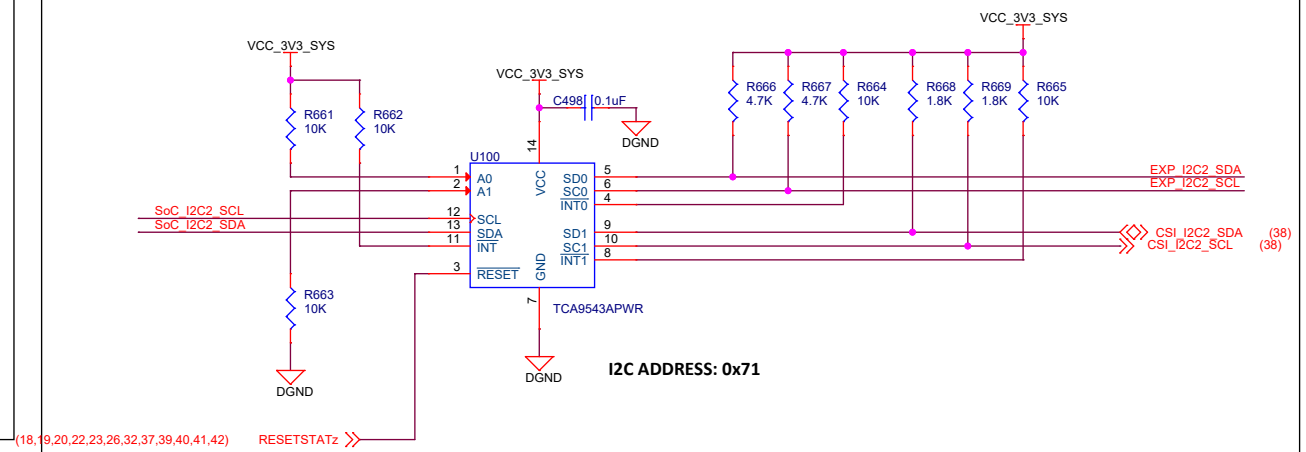
Note: Expansion boards should take care of the null modem connectivity for the UART signals (cross-over of Rx and Tx)



POWER SWITCHES FOR USER EXPANSION CONNECTOR



I2C SWITCH FOR SoC_I2C2



NOTE:

AM62x Starter Kit shall not be powered through the 5V0 or 3V3 pins on the 40-pin User Expansion Connector.

User Expansion Connector I/O are not fail-safe and shall not be driven when AM62x Starter Kit is not powered.

5V supply of User Expansion Connector is limited to sourcing 155mA max.

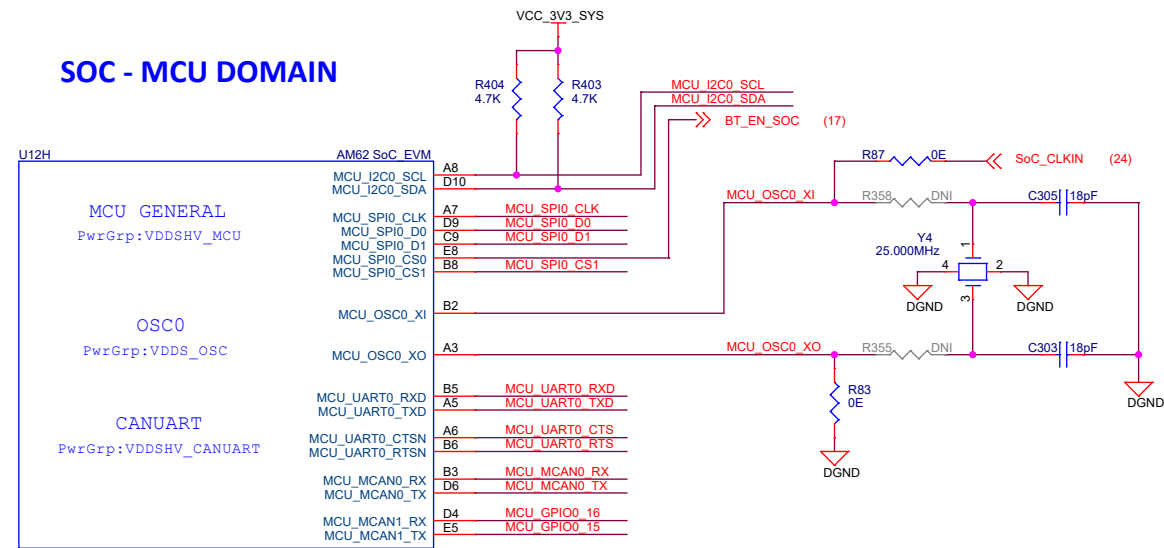
3V3 supply of User Expansion Connector is limited to sourcing 500mA max.

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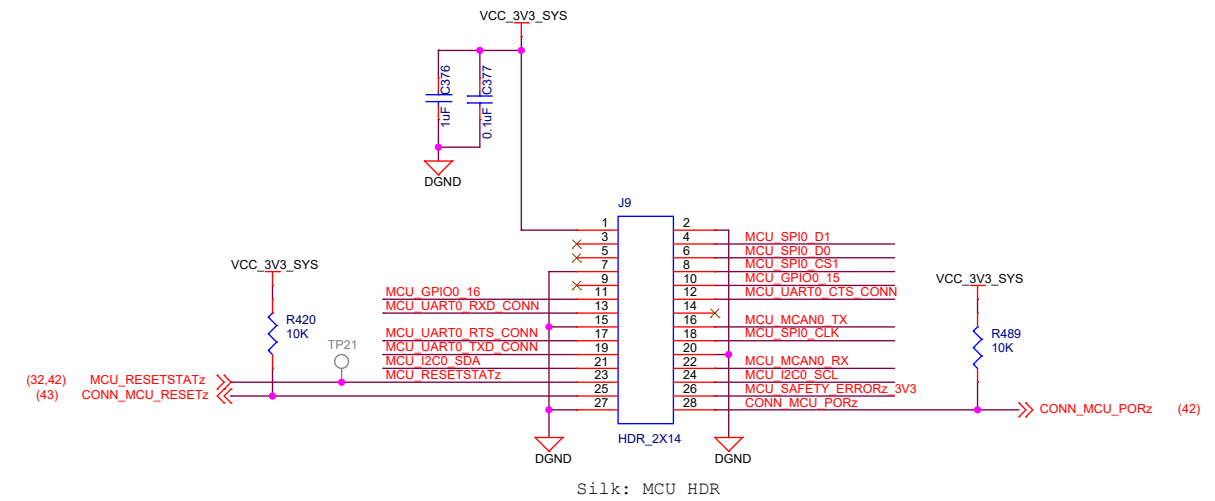


| | | |
|--------------------------------|---------------------------|----------------|
| Title USER EXPANSION CONNECTOR | | |
| Size | PROC114E3 | Rev |
| C | | E3 |
| Date: | Wednesday, April 27, 2022 | Sheet 33 of 44 |

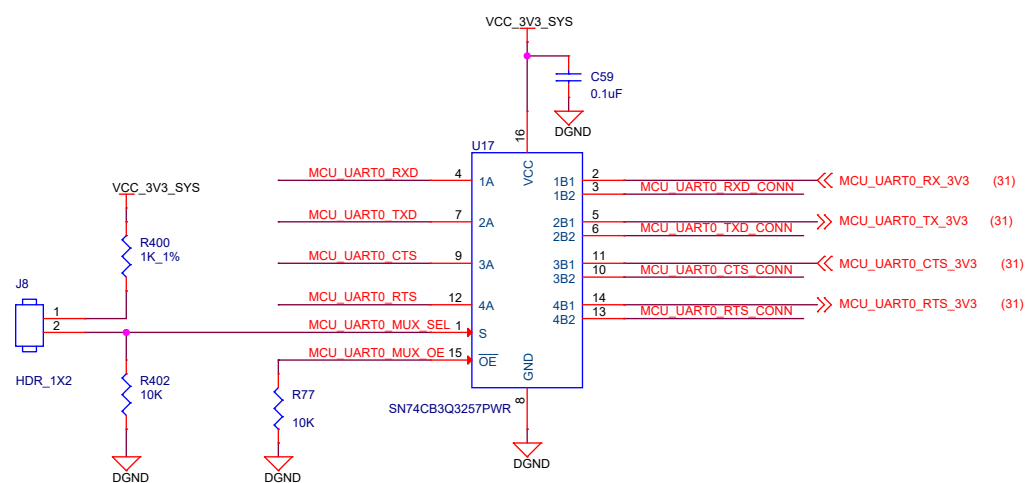
SOC - MCU DOMAIN



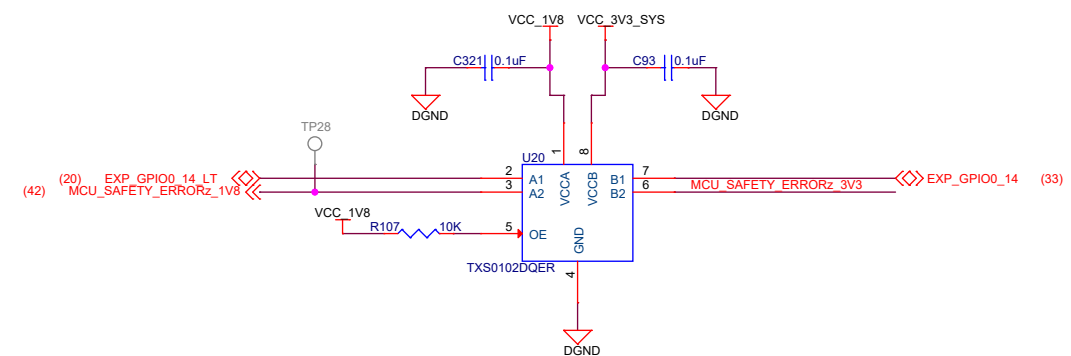
MCU HEADER



MCU_UART0 MUX



| OEn | SEL | INPUT/OUTPUT An | |
|-----|-------------|--------------------|------------------|
| L | L (DEFAULT) | An=nB1 | SOC - FT4232 |
| L | H | An=nB2 | SOC - MCU HEADER |



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Title: MCU HEADER

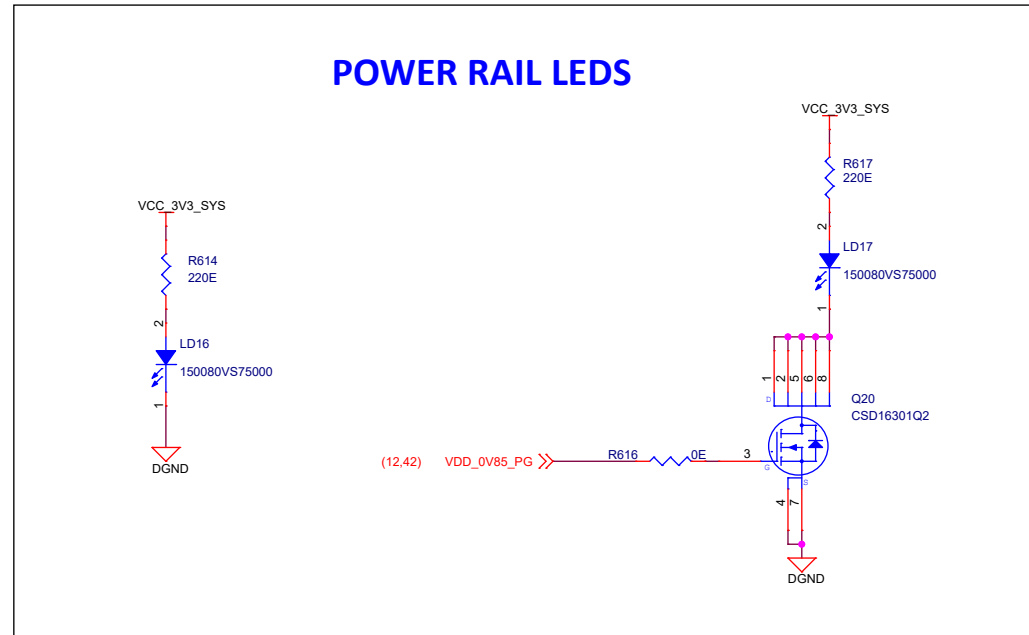
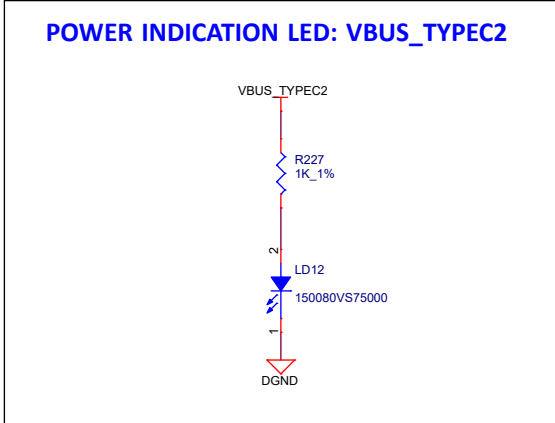
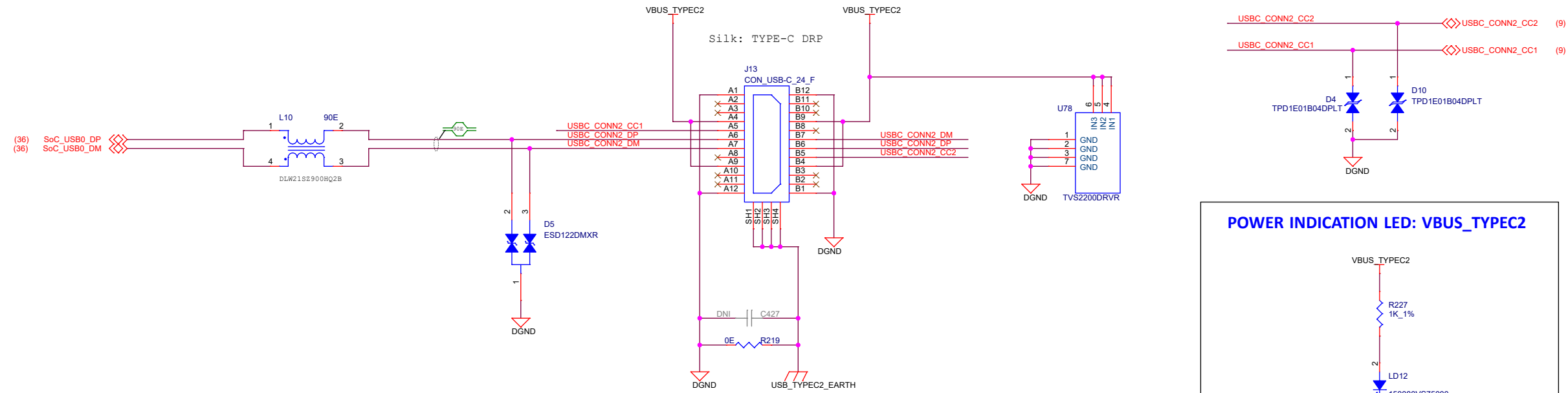
Size: PROC114E3

Date: Wednesday, April 27, 2022

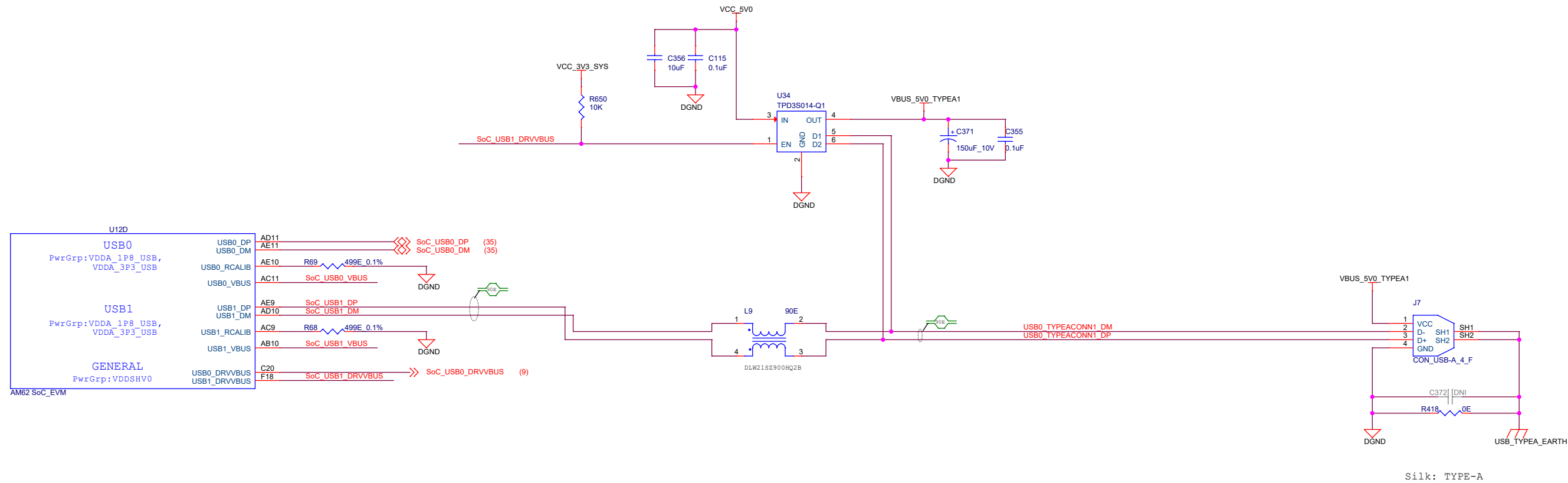
Rev: E3

Sheet 34 of 44

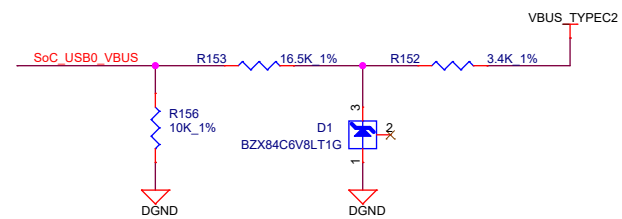
USB0 TYPE-C DRP



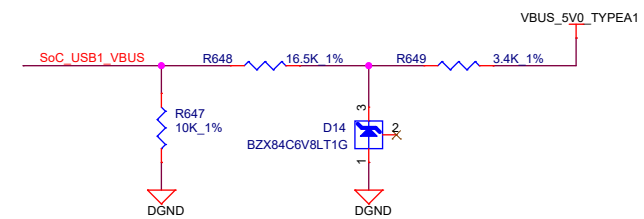
USB1 TYPE-A



Note: Recommended VBUS circuit for USB connector. Supports 5V-30V VBUS



Note: Recommended VBUS circuit for SoC_USB1_VBUS



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Title USB1 TYPE-A

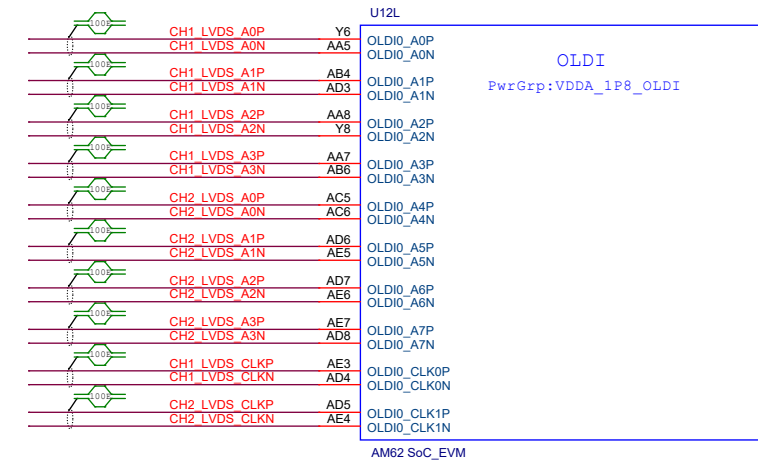
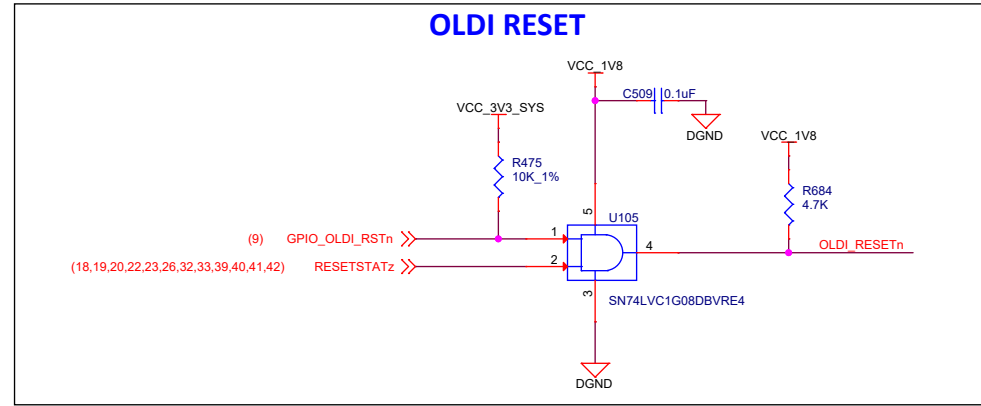
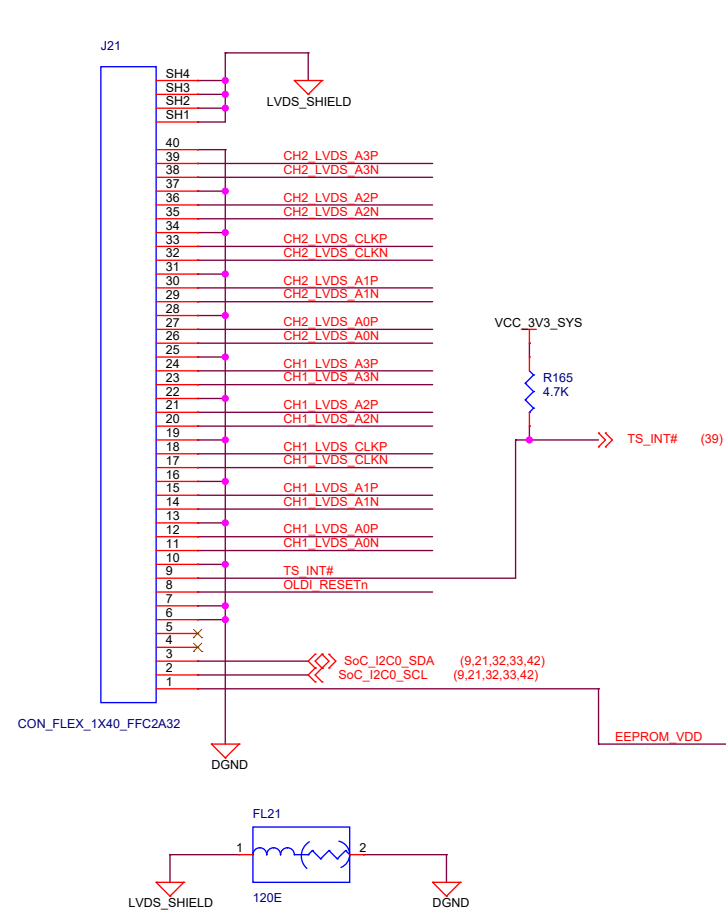
Size PROC114E3

Date: Wednesday, April 27, 2022

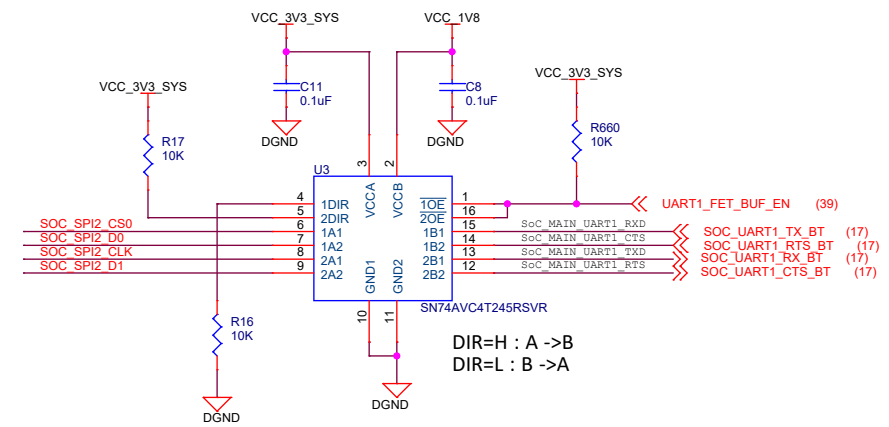
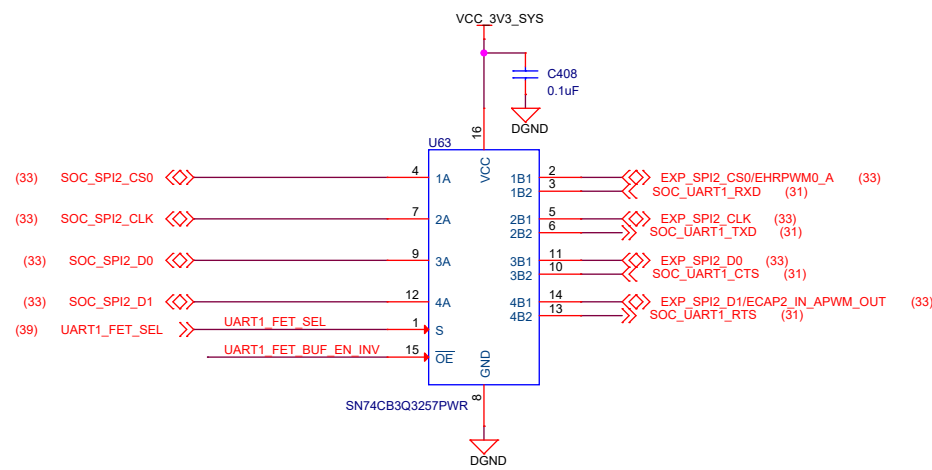
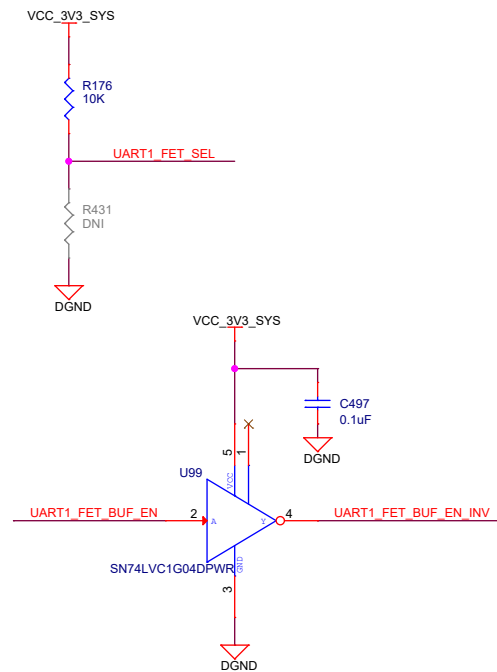
Rev E3

Sheet 36 of 44

OLDI DISPLAY INTERFACE



SoC UART1 FET SWITCH & BUFFER



| OEn | SEL | INPUT/OUTPUT | |
|-----|-------------|--------------|----------|
| | | An=nB2 | An=nB1 |
| L | H (DEFAULT) | FT4232 | |
| L | L | | EXP CONN |

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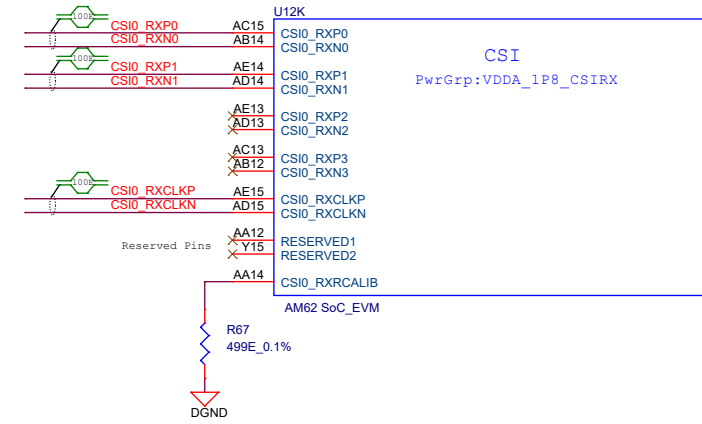
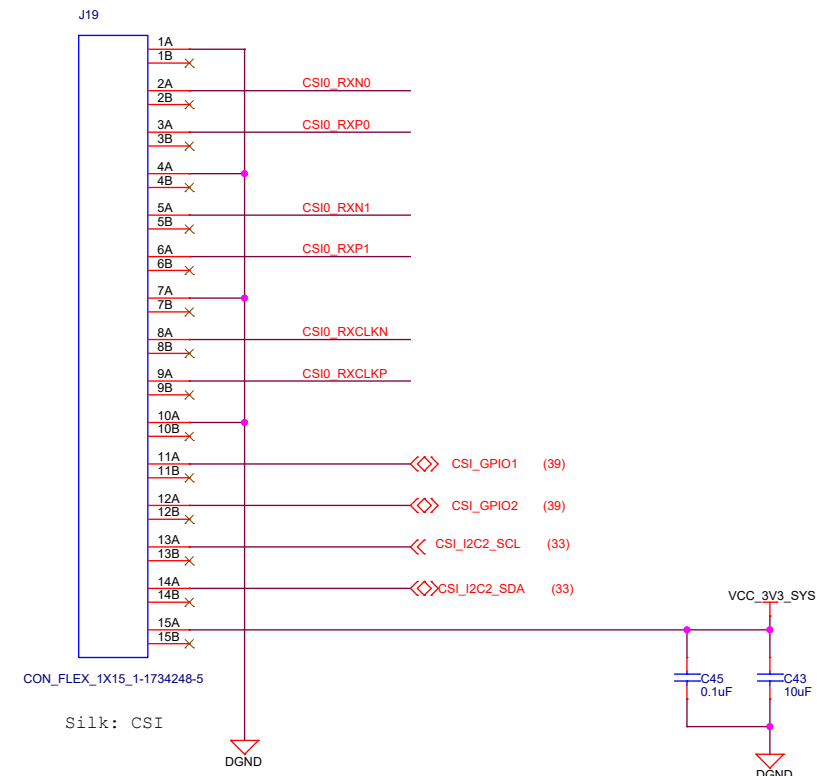


Title: OLDI DISPLAY INTERFACE

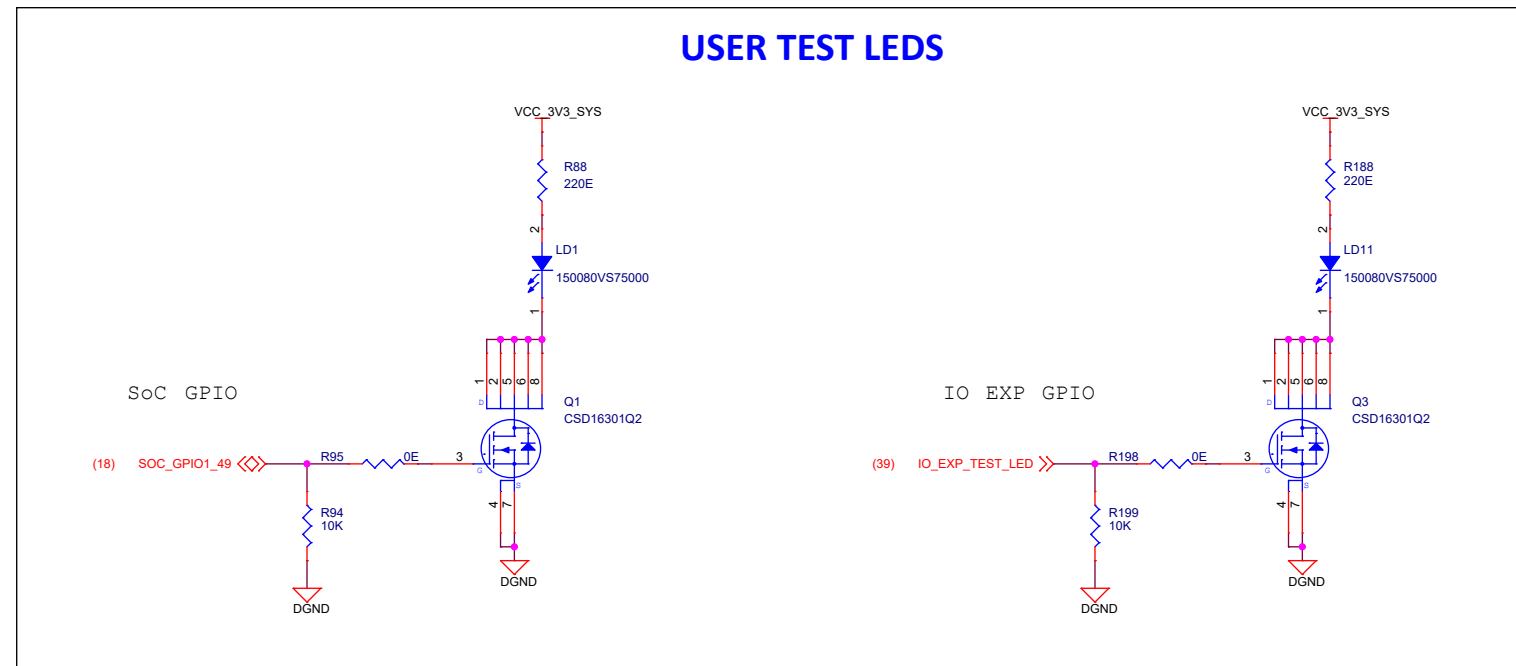
| | | | |
|-------|---------------------------|-------|----------|
| Size | PROC114E3 | Rev | E3 |
| Date: | Wednesday, April 27, 2022 | Sheet | 37 of 44 |

CSI INTERFACE

CSI CAMERA HEADER



USER TEST LEDS



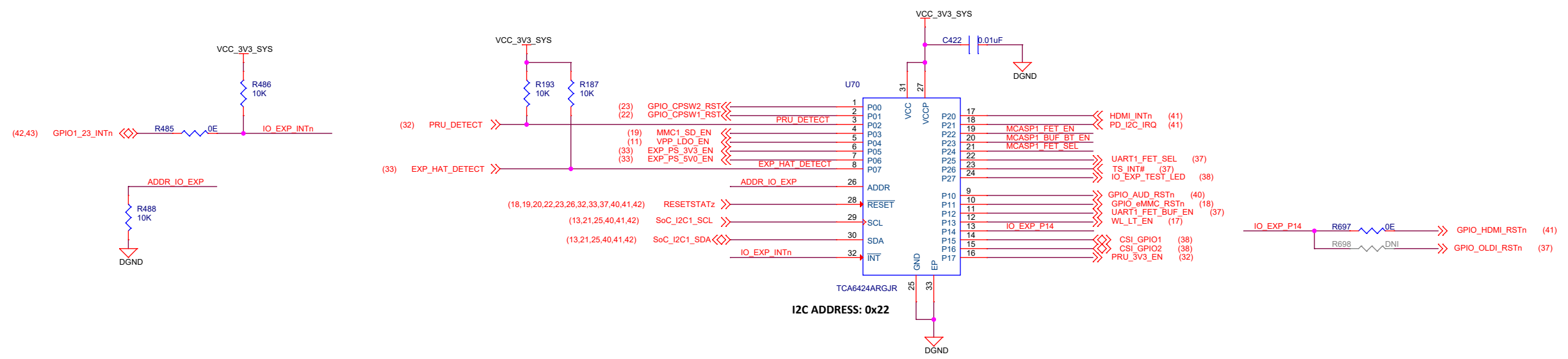
Designed for TI by Mistral Solutions Pvt Ltd



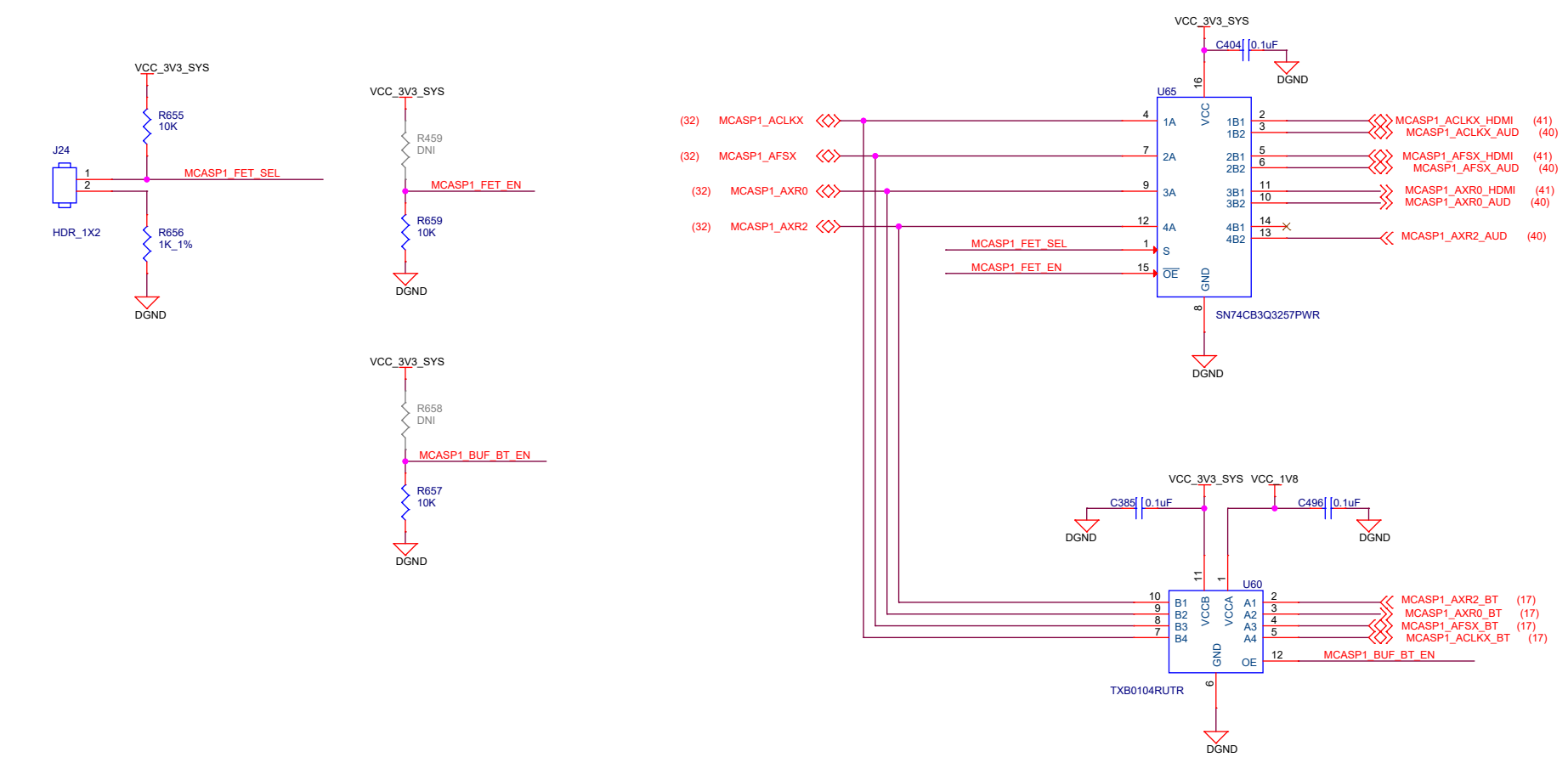
Title: CSI INTERFACE & USER TEST LEDS

| | | | |
|-------|---------------------------|-------|----------|
| Size | PROC114E3 | Rev | E3 |
| Date: | Wednesday, April 27, 2022 | Sheet | 38 of 44 |

IO EXPANDER

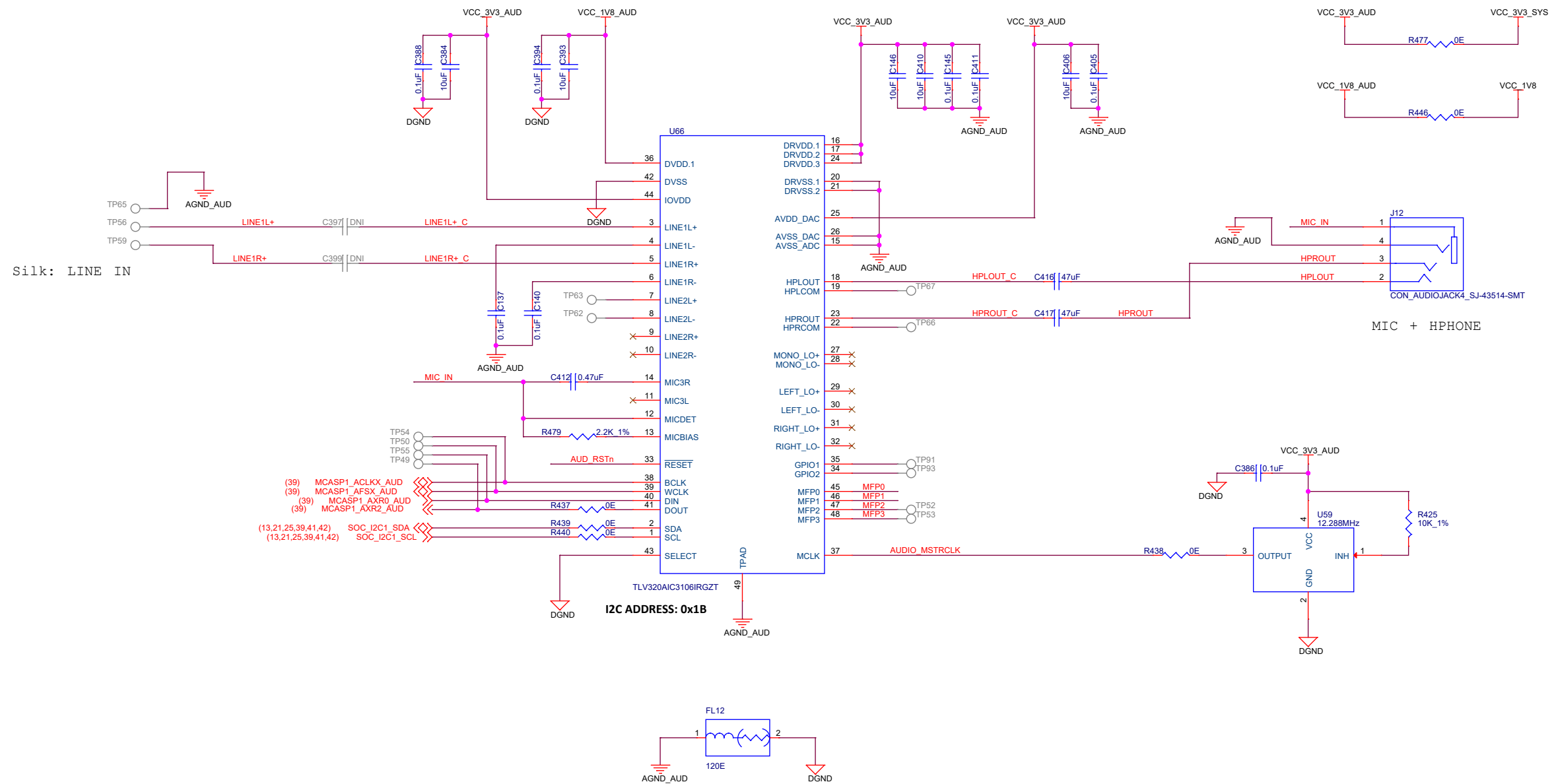


MCASP1 FET SWITCH & BUFFER

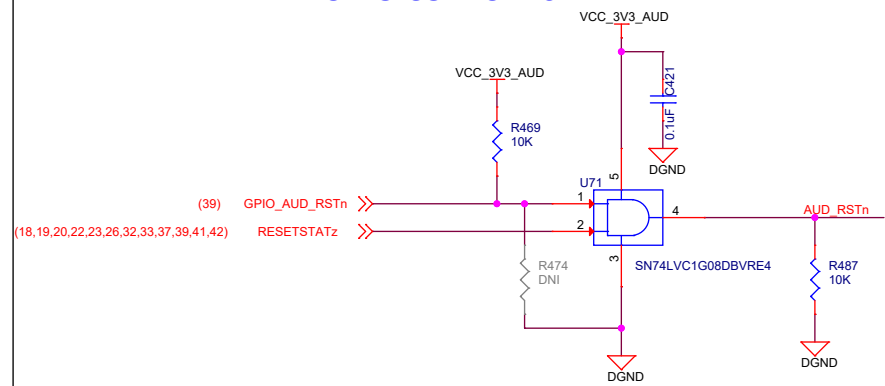


| OEn | SEL | INPUT/OUTPUT | |
|-----|-------------|----------------|----------------|
| | | An=nB2 | An |
| L | H (DEFAULT) | MCASP1 - CODEC | MCASP1 - CODEC |
| L | L | MCASP1 - HDMI | MCASP1 - HDMI |

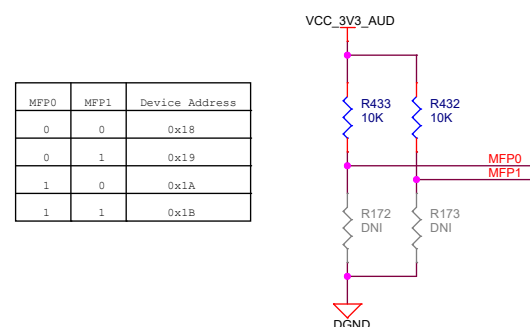
AUDIO CODEC



AUDIO CODEC RESET



CODEC I2C ADDRESS SELECTION



| MFP0 | MFP1 | Device Address |
|------|------|----------------|
| 0 | 0 | 0x18 |
| 0 | 1 | 0x19 |
| 1 | 0 | 0x1A |
| 1 | 1 | 0x1B |

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Title: AUDIO CODEC

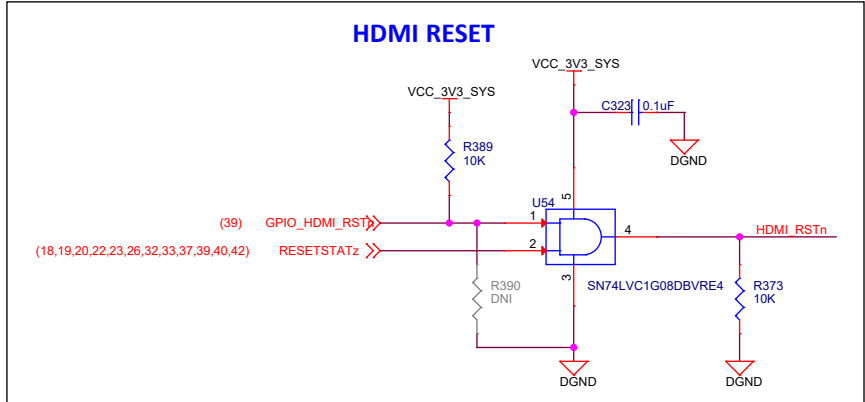
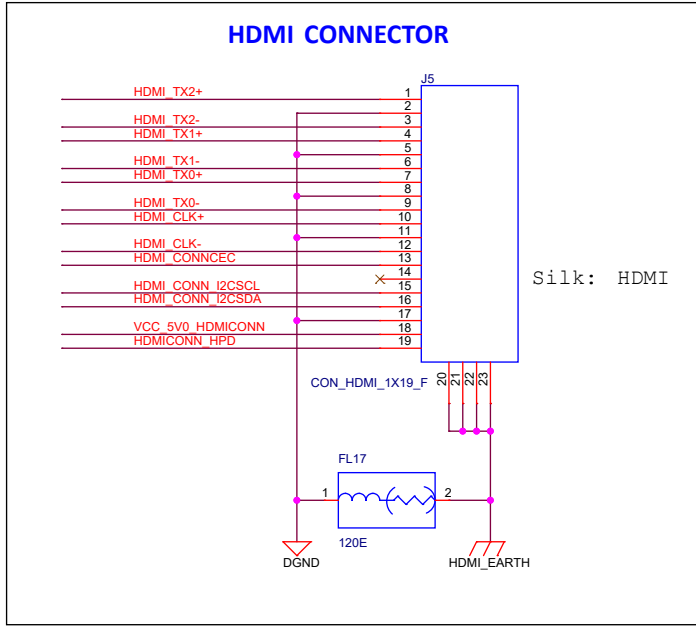
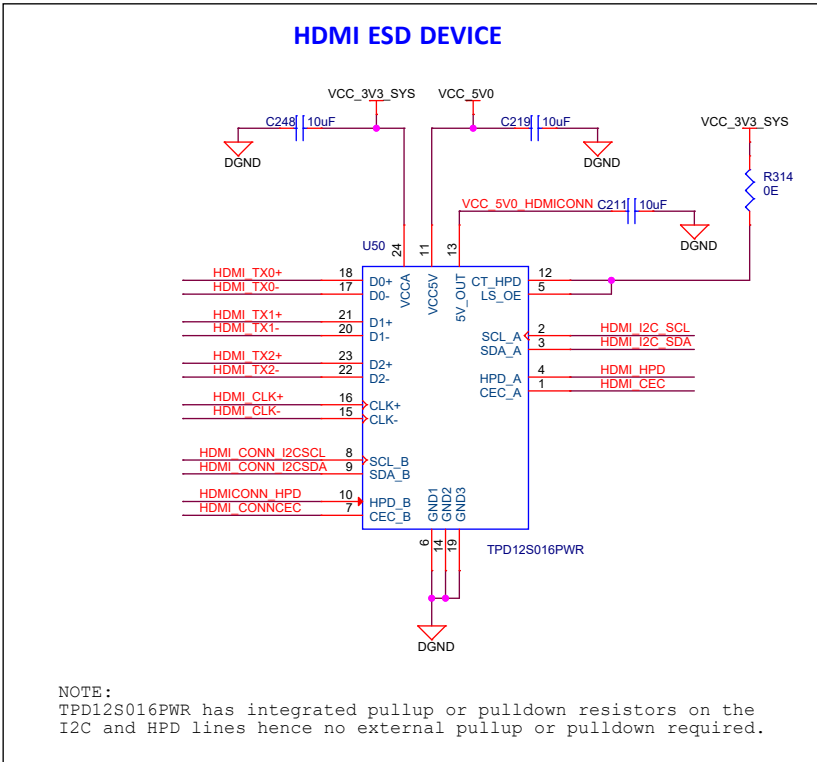
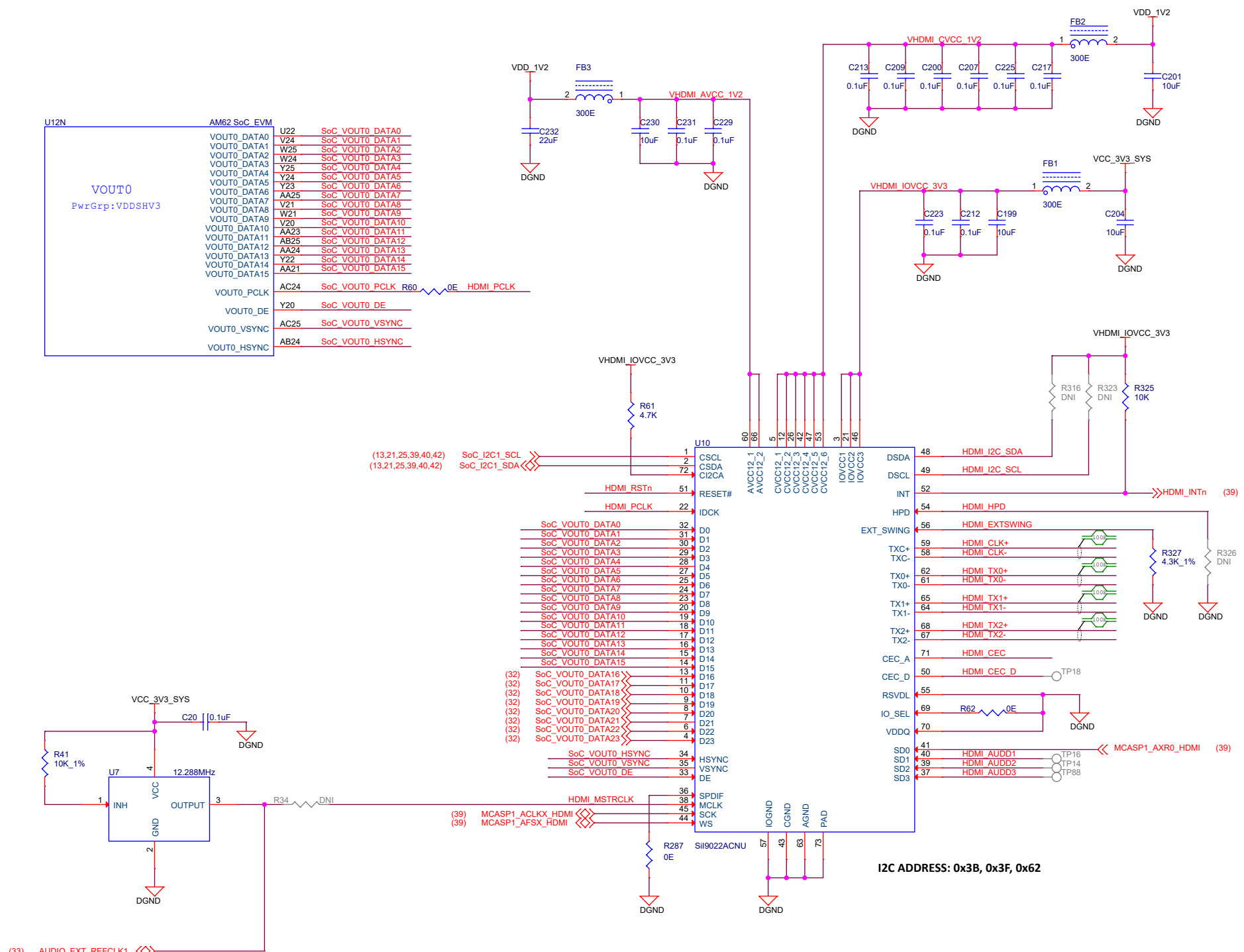
Size: PROC114E3

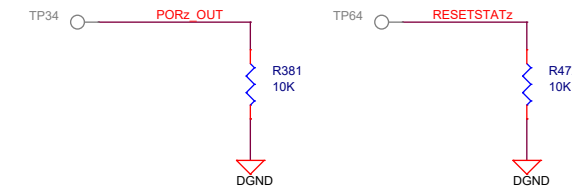
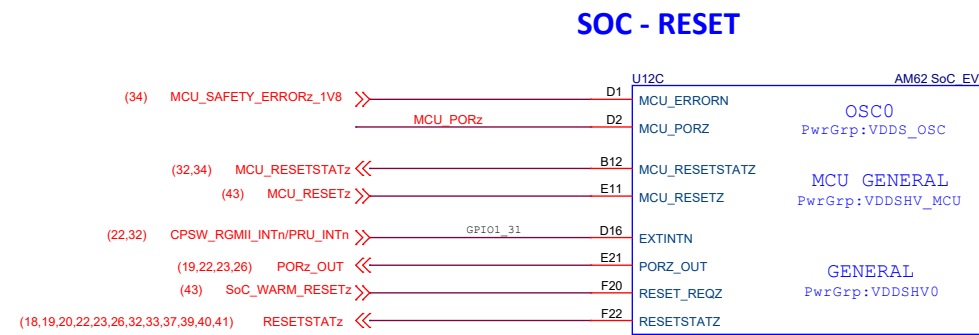
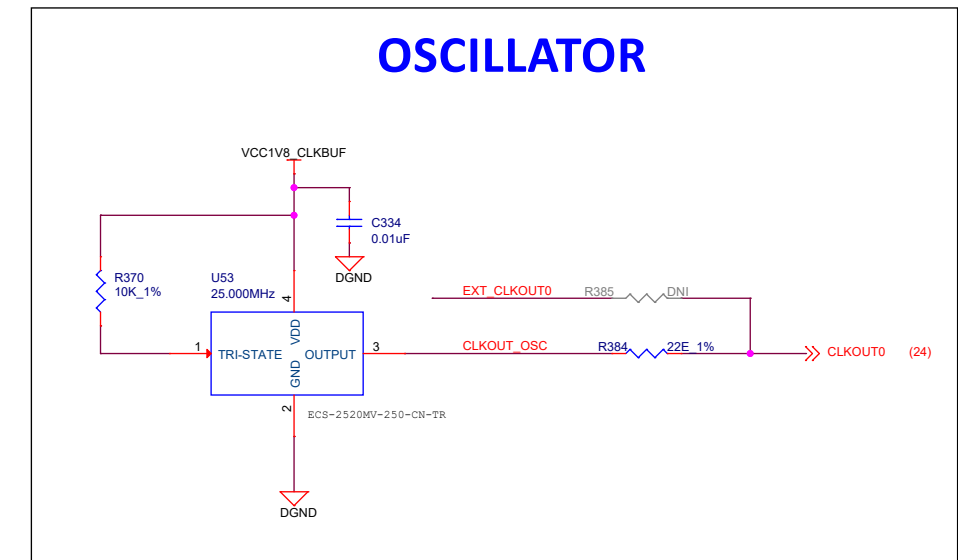
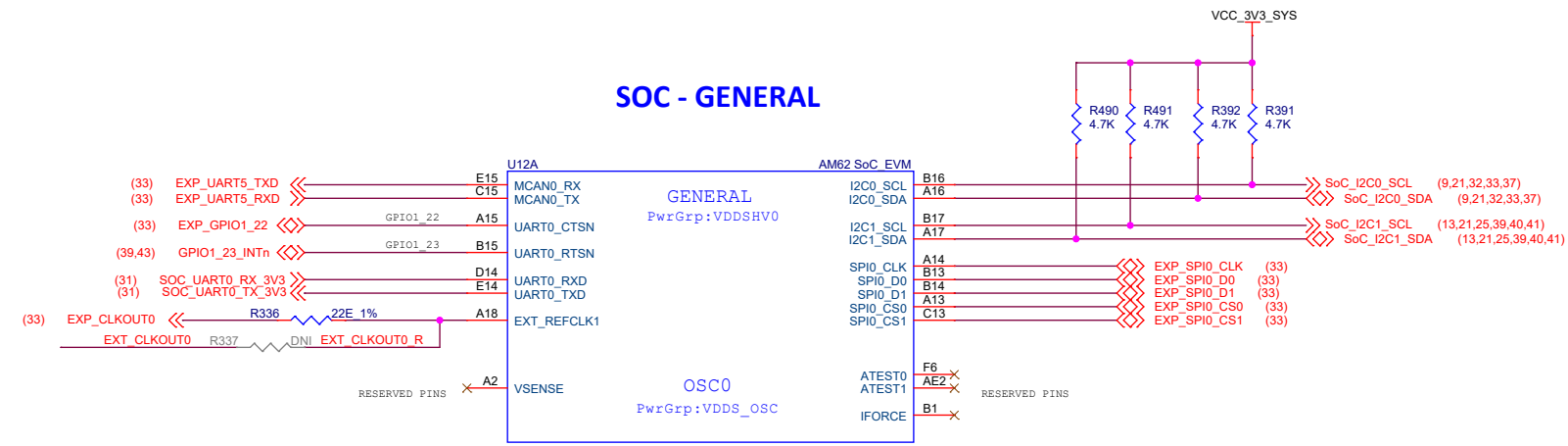
Date: Wednesday, April 27, 2022

Rev: E3

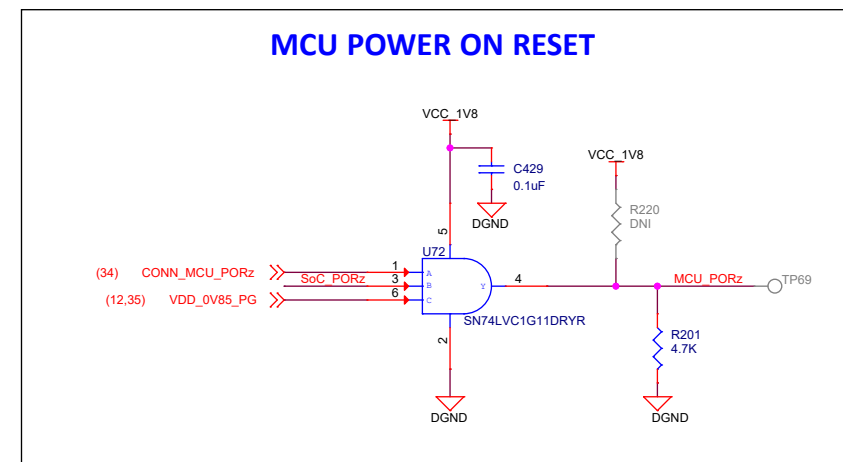
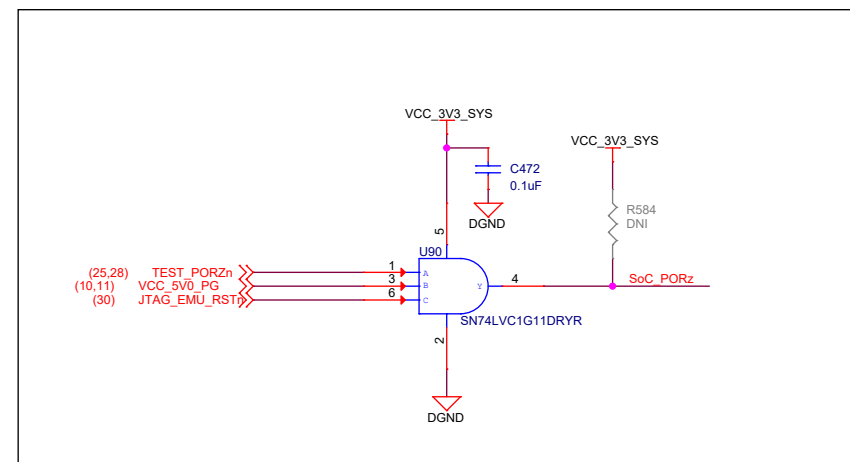
Sheet 40 of 44

HDMI INTERFACE





Pull-down resistor on PORz_OUT is provided to keep the signal low until the processor is released from reset during the power-up sequence



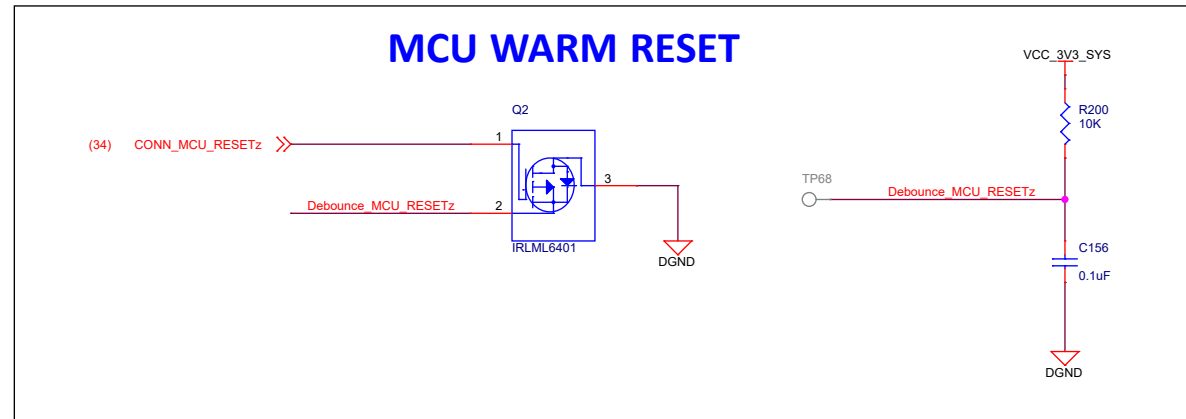
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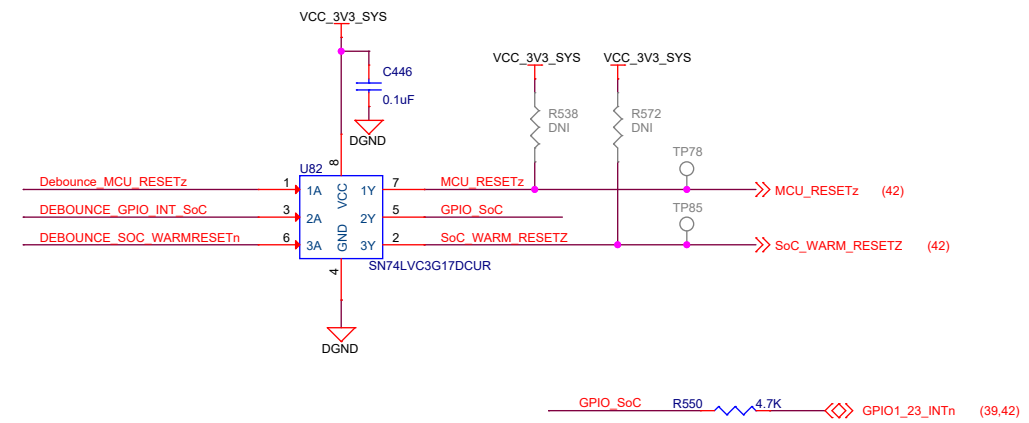
| | | | |
|-------|---------------------------|------------|----------|
| Title | | OSCILLATOR | |
| Size | PROC114E3 | Rev | E3 |
| Date: | Wednesday, April 27, 2022 | Sheet | 42 of 44 |

RESET

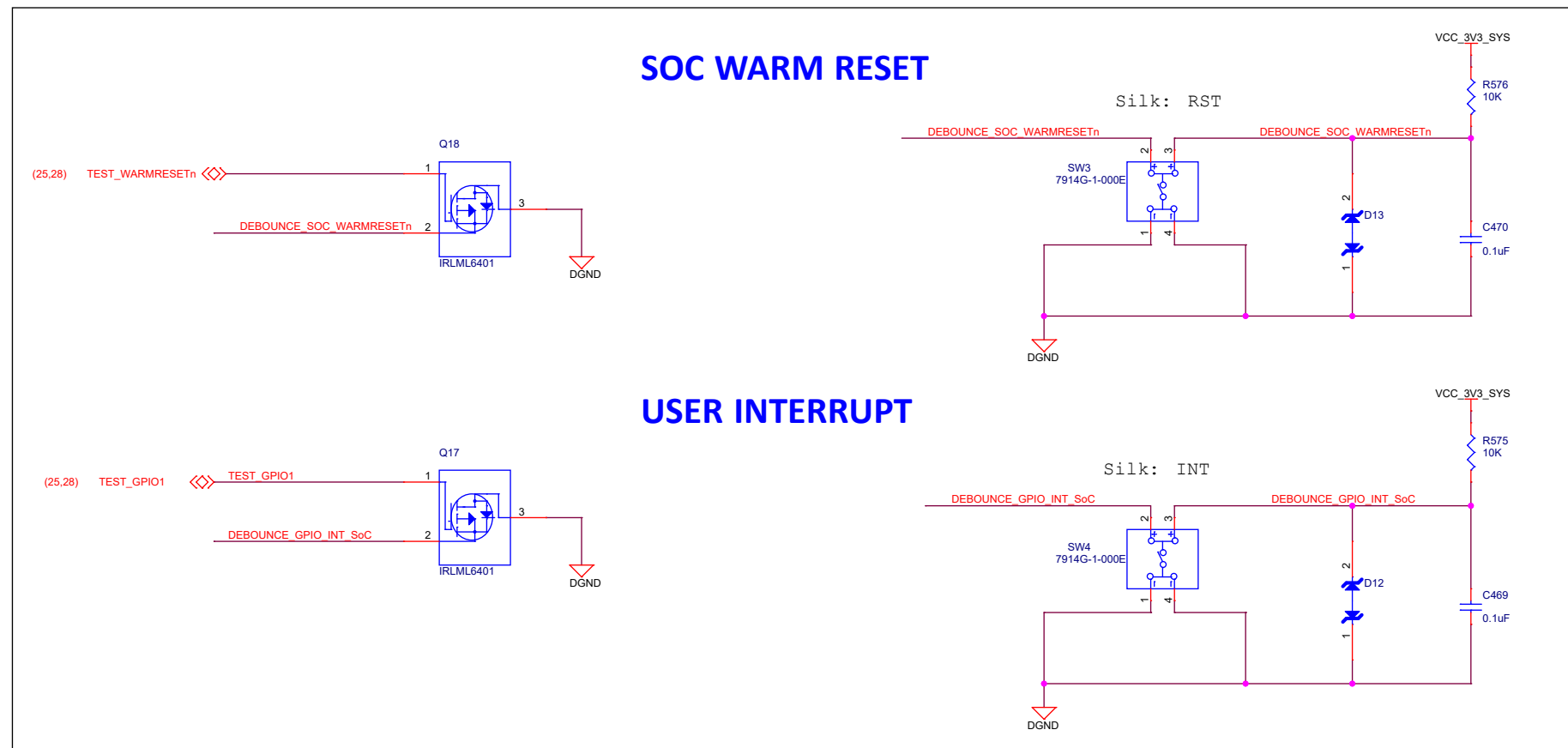
MCU WARM RESET



DEBOUNCE CIRCUIT



SOC WARM RESET



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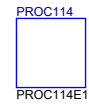
| | | | |
|-------|---------------------------|-------|----------|
| Title | | | RESET |
| Size | PROC114E3 | Rev | |
| C | | E3 | |
| Date: | Wednesday, April 27, 2022 | Sheet | 43 of 44 |

HARDWARE SCHEMATICS

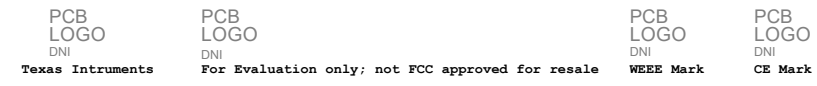
ASSEMBLY NOTES

1. All MSL components should be baked as per JEDEC standard.
2. PCB should be baked at 120 degree for 8 hours.
3. Board assembly must comply with workmanship standards. IPC-A-610 Class 2, unless otherwise specified.
4. These assemblies are ESD sensitive, ESD precautions shall be observed.
5. These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.
6. Provide serial numbers to the assembled boards for identification.
7. The assembled board are wrapped in ESD Covers(individual) and packed securely before shipment.

BARE PCB



LOGOs



LABELS

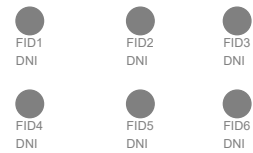
Board Serial No.



Assembly Revision



FIDUCIALS



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Title: HARDWARE SCHEMATICS

| | | |
|-------|---------------------------|----------------|
| Size | PROC114E3 | Rev |
| C | | E3 |
| Date: | Wednesday, April 27, 2022 | Sheet 44 of 44 |