

AM62x STARTER KIT EVM

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REV	A1
VER	0.01

REVISION HISTORY

VER #	DATE	DESCRIPTION OF CHANGES	AUTHOR	REVIEWED BY	APPROVED BY
0.01	11 APR 2023	Drafted from PROC114A Schematics. Changed the HDMI external swing resistance to 7.5K. Added Standoff,Screw & Washer for M.2 connector. DNI'd R650 on SoC_USB1_DRVVBUS	Mistral Design Team		

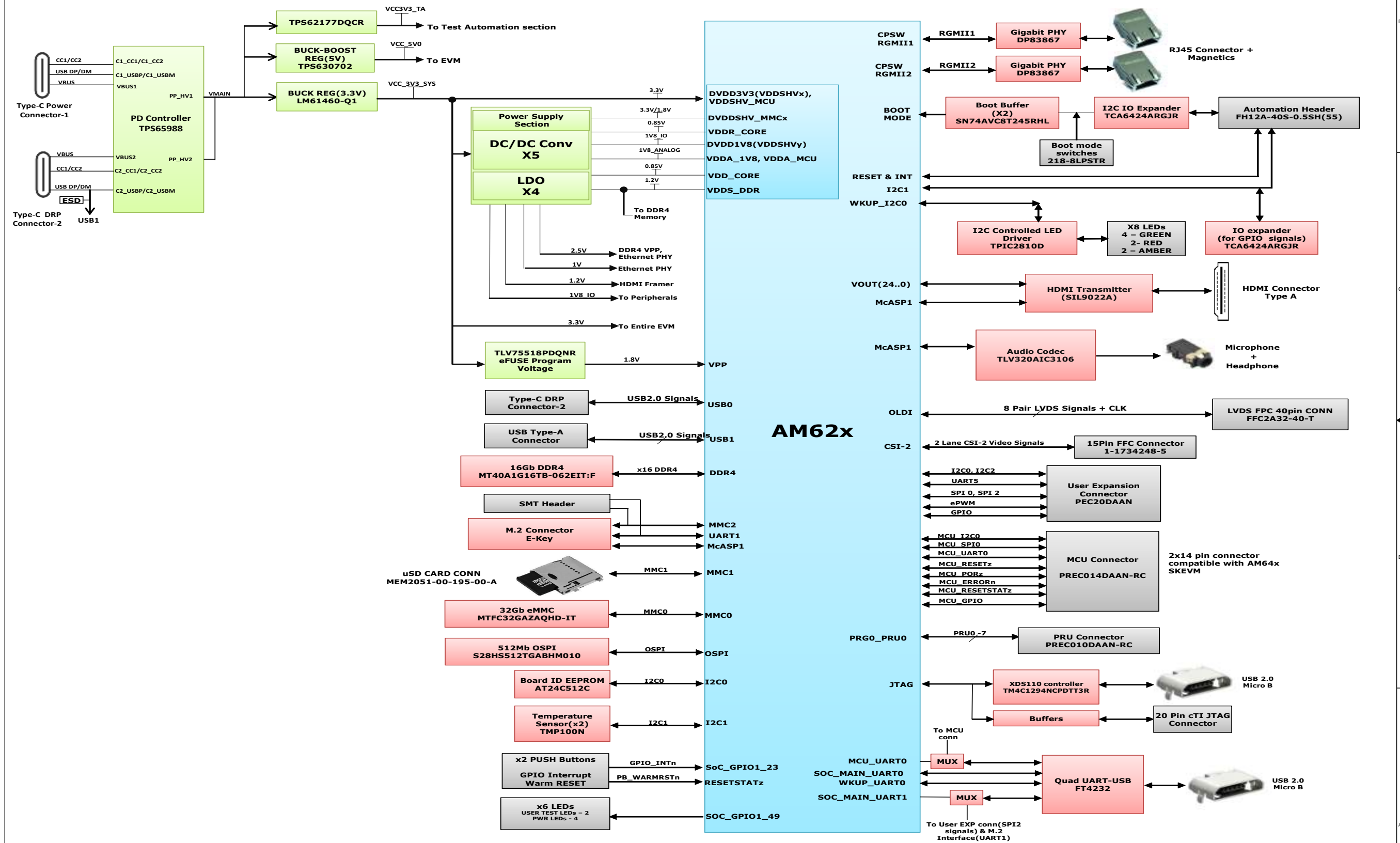
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BLOCK DIAGRAM AM62x SKEVM

Main Block Diagram

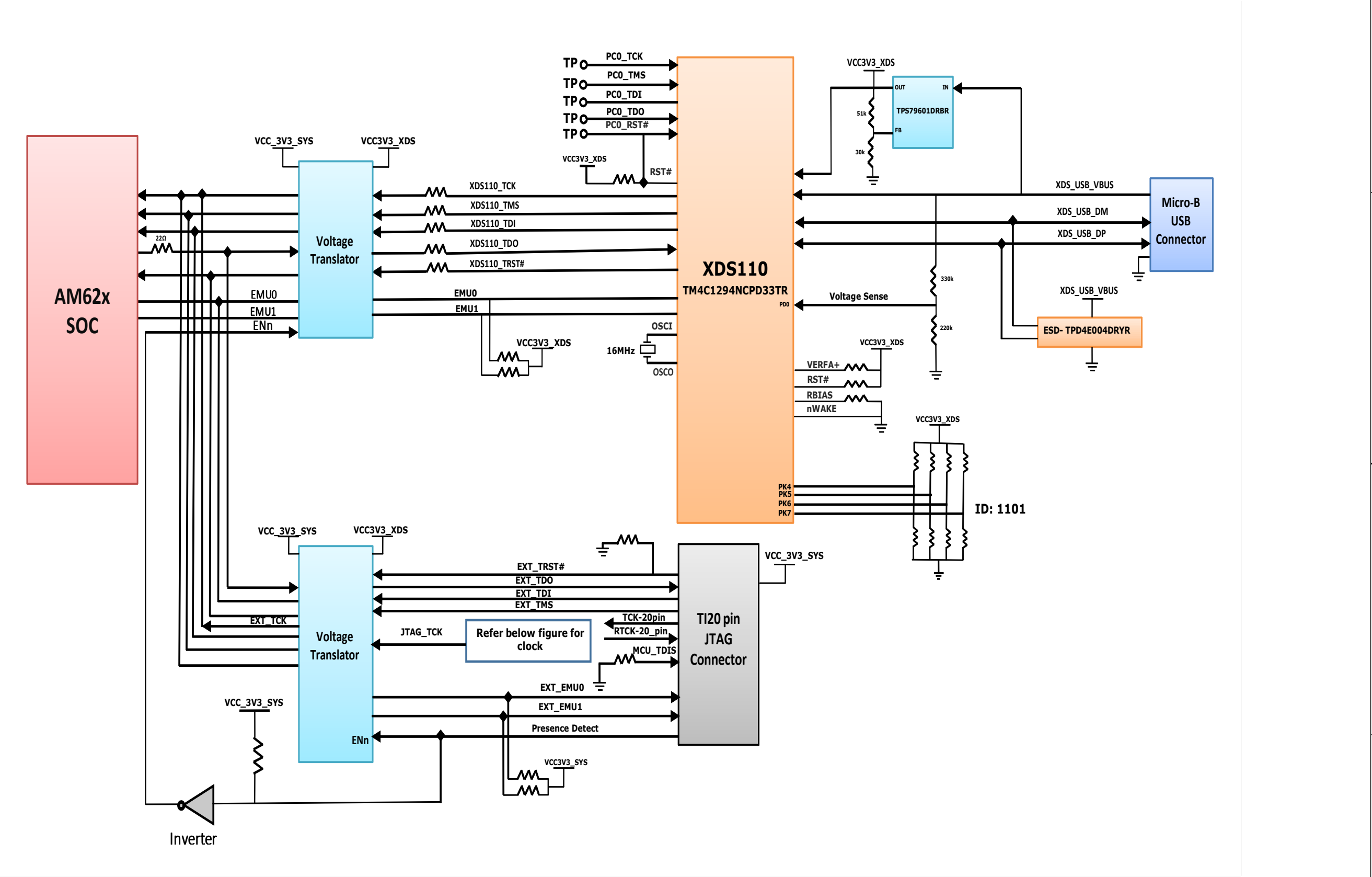


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Title			BLOCK DIAGRAM AM62x SKEVM	
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BLOCK DIAGRAM_XDS110



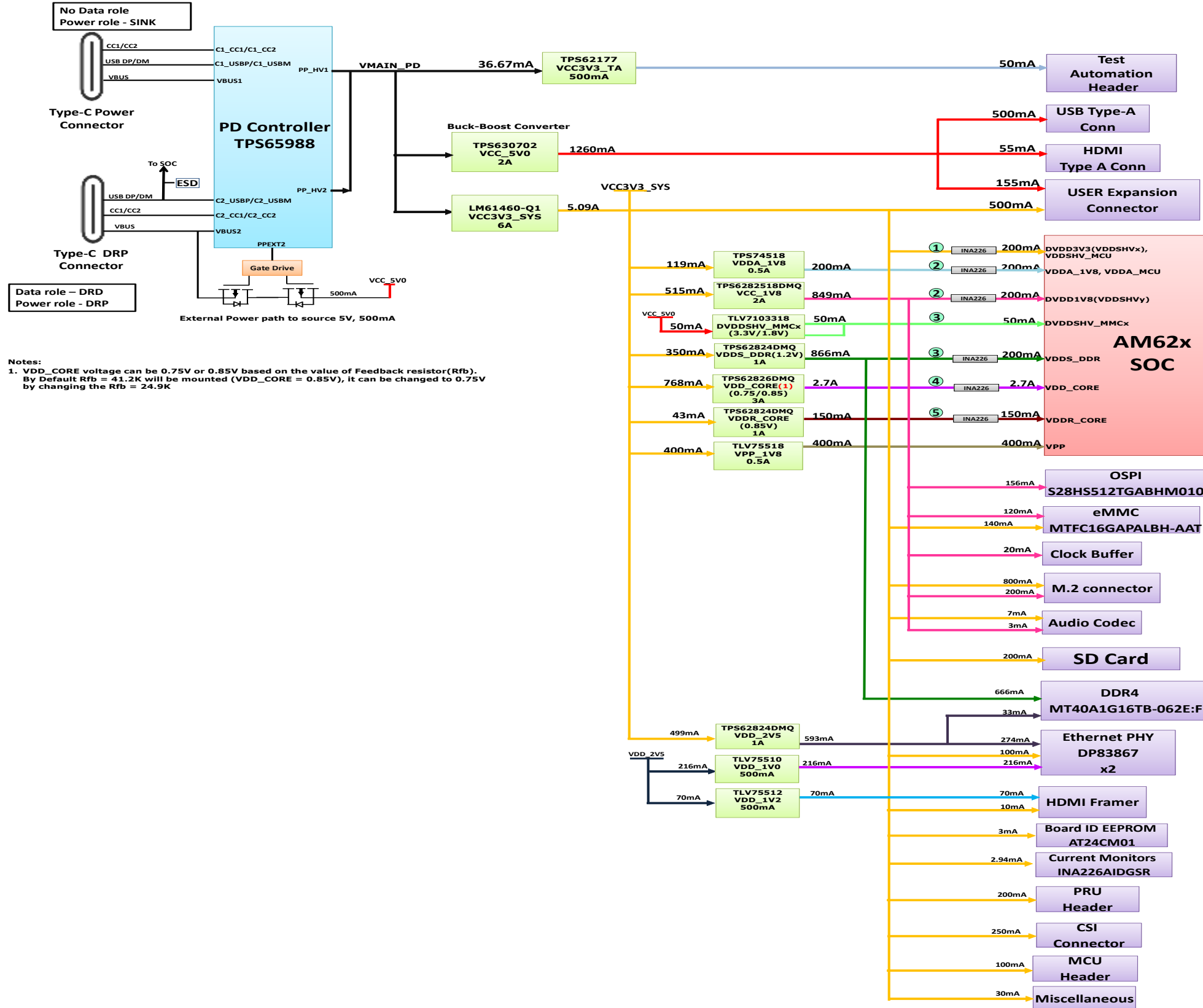
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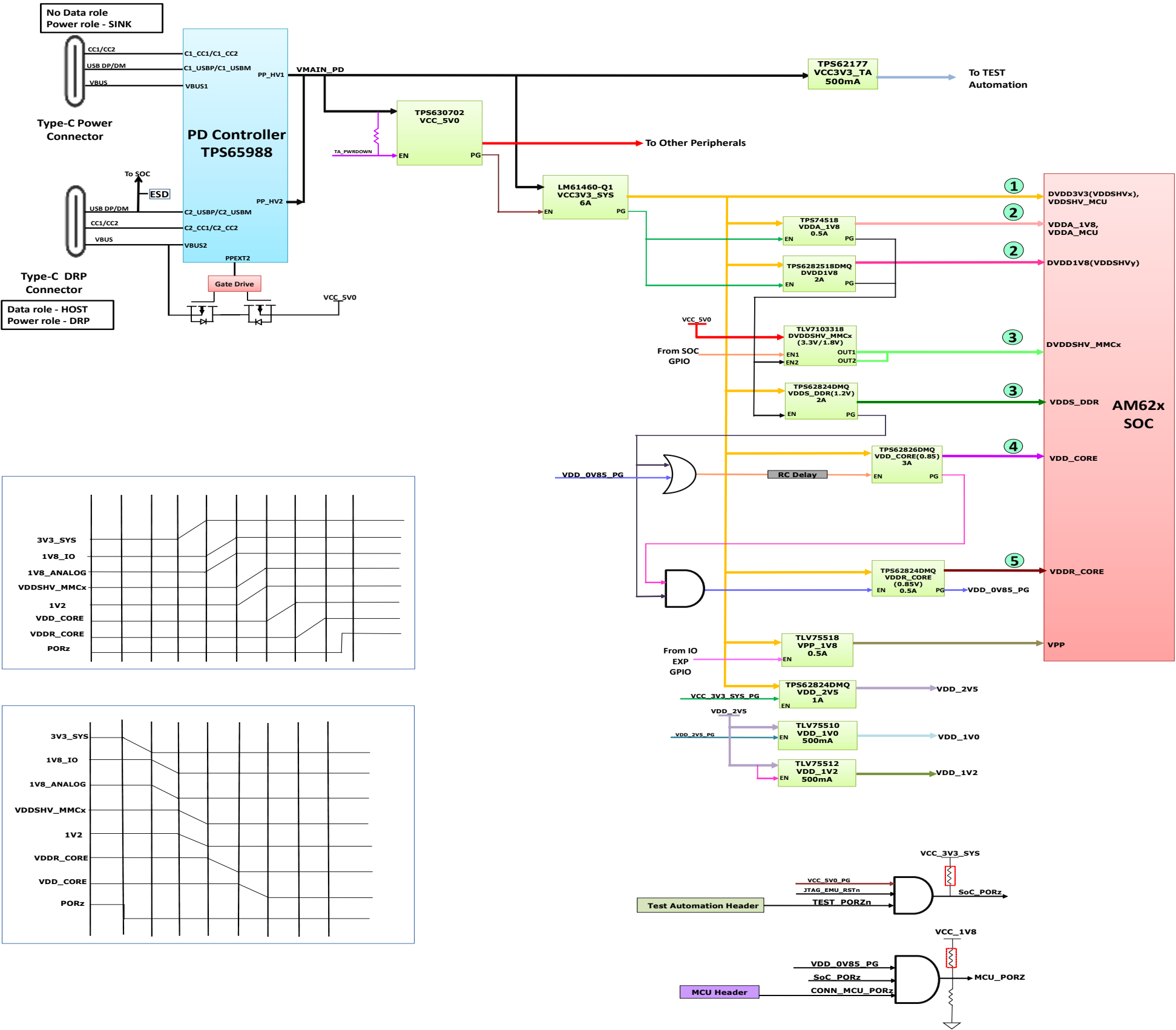
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POWER BLOCK DIAGRAM



POWER SEQUENCE

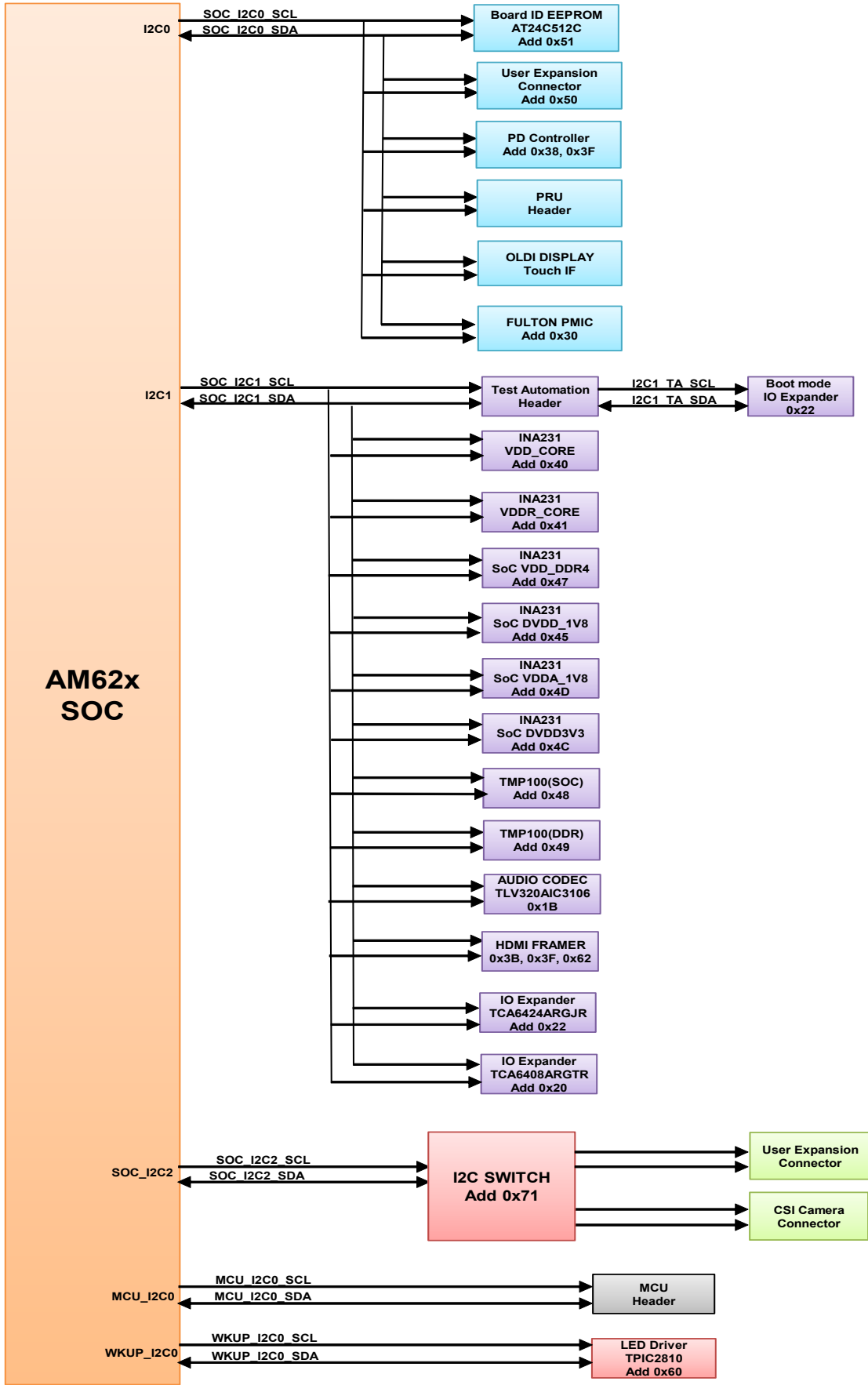


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I2C TREE



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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	SoC_WLAN_EN_1V8	ENABLE	GPIO0_71	MMC2_SDCD	OUTPUT	LOW	HIGH	VDDSHV6	SoC_DVDD1V8
2	WLAN Interrupt	SoC_WLAN_IRQ_1V8	INTERRUPT	GPIO0_72	MMC2_SDWP	INPUT	HIGH	LOW	VDDSHV6	SoC_DVDD1V8
3	Enable for BT Interface	BT_EN_SOC_3V3	ENABLE	MCU_GPIO0_1	MCU_SPIO_CS0	OUTPUT	HIGH	LOW	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									
	PMIC_INTn									
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	MCU_GPIO0_15	INTERRUPT	MCU_GPIO0_15	MCU_MCAN1_TX	INPUT	HIGH	LOW	VDDSHV_CANUART	SoC_DVDD3V3
9	TEST GPIO1 from Test Automation Connector/ User Interrupt Push Button									
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 - P01		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	RPI_HAT_DETECT	DETECTION	IO EXPANDER - P07		INPUT	HIGH	LOW	VDDSHV0	SoC_DVDD3V3
9	M.2 Connector Alert	WLAN_ALERT_3V3	ALERT	IO EXPANDER – P10		OUTPUT	HIGH	LOW	VDDSHV0	SoC_DVDD3V3
10	M.2 Connector WAKEUP	BT_UART_WAKE_SOC_3V3	WAKEUP	IO EXPANDER – P11		OUTPUT	HIGH	LOW	VDDSHV0	SoC_DVDD3V3
11	SOC UART1 Mux Select	UART1_MUX_SEL	SELECT	IO EXPANDER - P12		OUTPUT	LOW	HIGH	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 CSI0 GPIO1	CSI_GPIO1	INPUT/OUTPUT	IO EXPANDER - P15		NA	NA	NA	VDDSHV0	SoC_DVDD3V3
15	Raspberry Pi Camera CSI0 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	TEST GPIO2 from Test Automation Connector	TEST_GPIO2	GPIO for communications with AM62x	IO EXPANDER - P21		INPUT	HIGH	LOW	VDDSHV0	SoC_DVDD3V3
19	MCASP2 Enable and Direction Control	AUD_BUF_EN	ENABLE	IO EXPANDER - P22		OUTPUT	LOW	HIGH	VDDSHV0	SoC_DVDD3V3
20		WL_BUF_EN	ENABLE	IO EXPANDER - P23		OUTPUT	HIGH	LOW	VDDSHV0	SoC_DVDD3V3
21		AUD_BUF_CLK_DIR	DIRECTION CONTROL	IO EXPANDER - P24		OUTPUT	HIGH	LOW	VDDSHV0	SoC_DVDD3V3
22		WL_BUF_CLK_DIR	DIRECTION CONTROL	IO EXPANDER - P25		OUTPUT	HIGH	LOW	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
IO EXPANDER - 02										
1	M.2 Connector SDIO Reset Control GPIO	WLAN_SDIO_RST_3V3	RESET	IO EXPANDER – P0		INPUT	HIGH	LOW	VDDSHV0	SoC_DVDD3V3
2	OLDI Display Reset control	GPIO_TS_RSTn	RESET	IO EXPANDER – P1		INPUT	HIGH	LOW	VDDSHV0	SoC_DVDD3V3
3	Audio Codec Reset Control GPIO	GPIO_AUD_RSTn	DETECTION	IO EXPANDER – P2		INPUT	HIGH	LOW	VDDSHV0	SoC_DVDD3V3
4	eMMC Reset control GPIO	GPIO_eMMC_RSTn	RESET	IO EXPANDER – P3		OUTPUT	HIGH	LOW	VDDSHV0	SoC_DVDD3V3

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Title GPIO MAPPING TABLE

Size

PROC114A1(001)

Rev

A1

Date:

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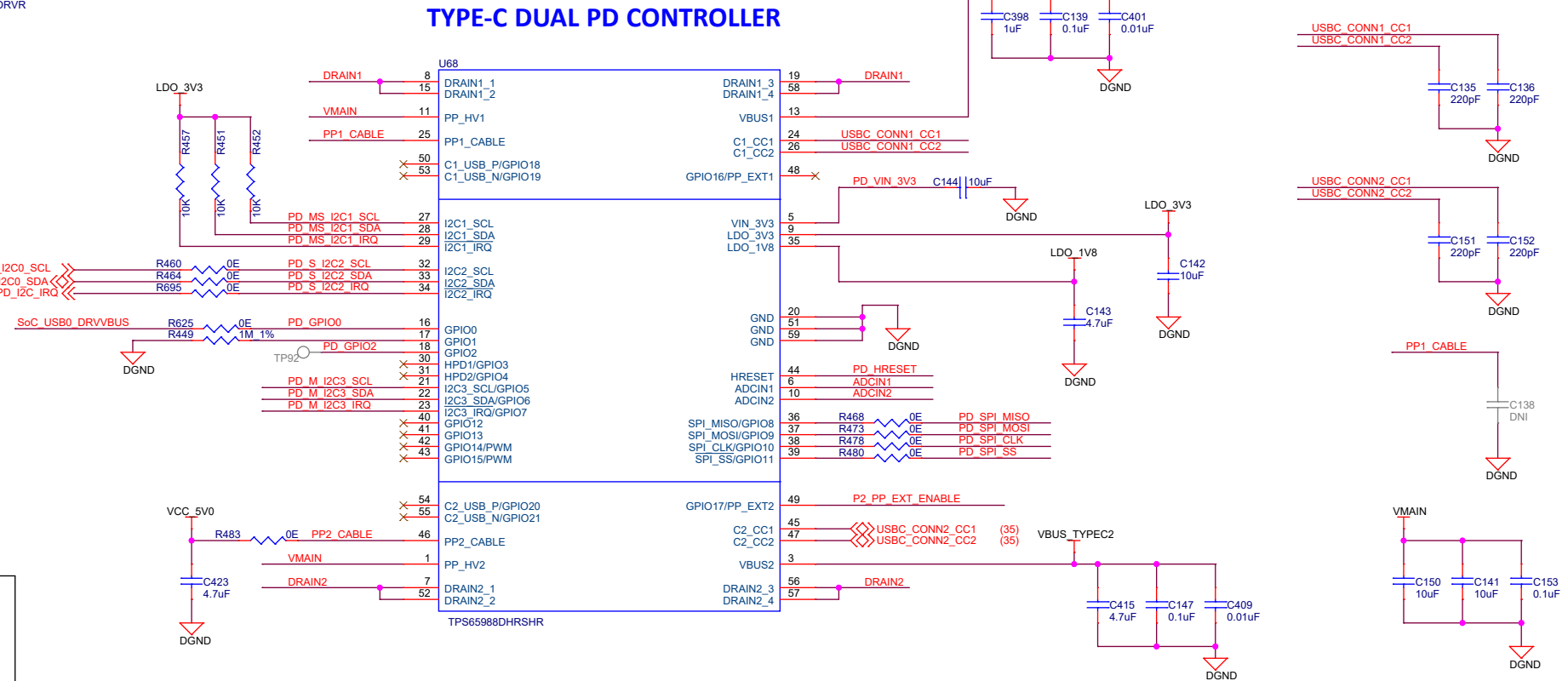
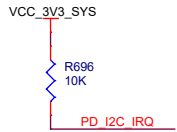
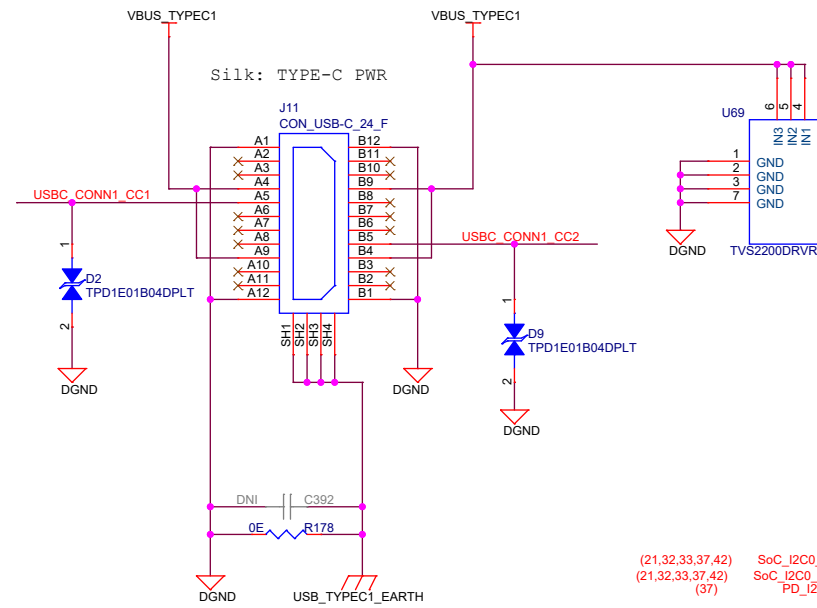
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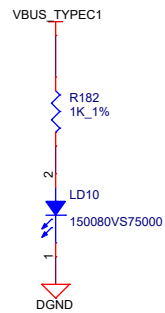
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USB TYPE-C POWER

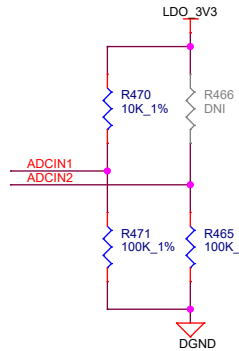


POWER INDICATION LED: VBUS_TYPEC1

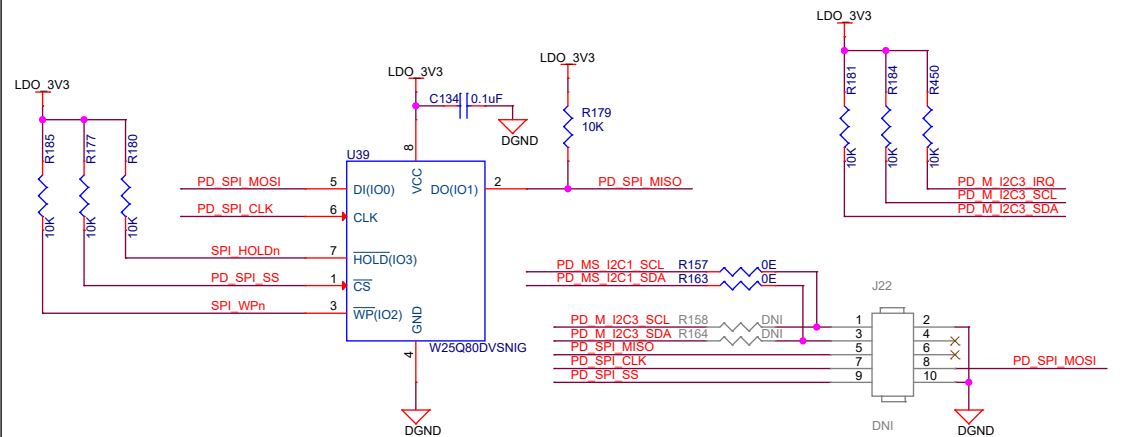


I2C Slave Address	Port1	Port2
I2C2(Default)	0x38	0x3F
I2C1	0x20	0x24

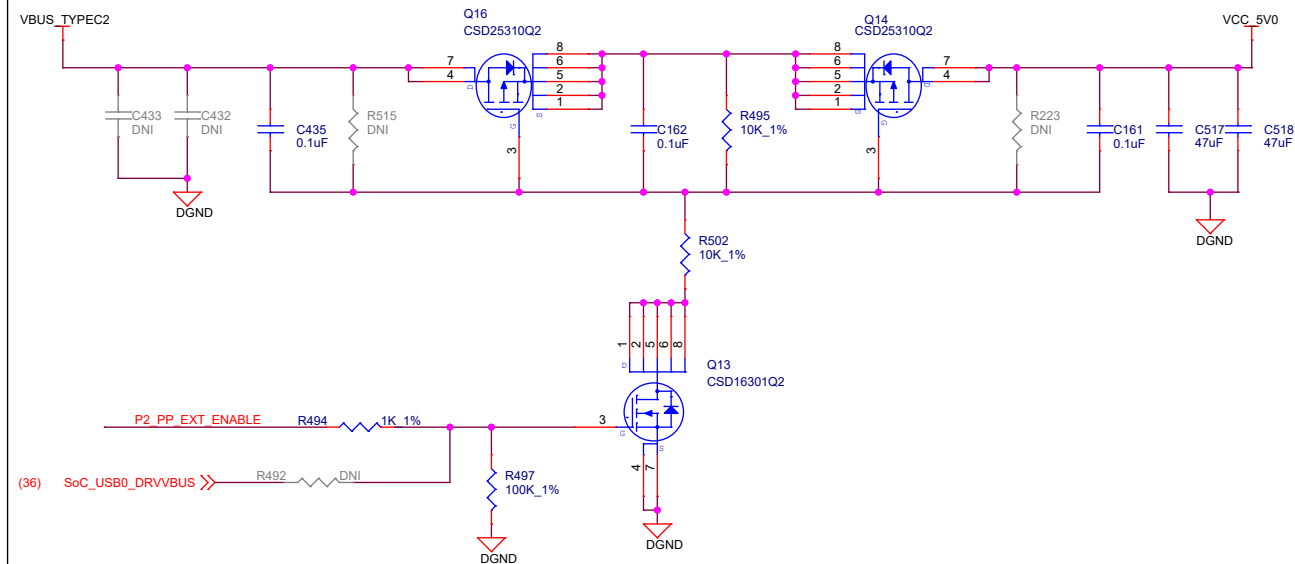
BP_NoWait
Safe Configuration



SPI EEPROM & PROGRAMMING HEADER



EXTERNAL POWER PATH FOR SOURCING, 5V/0.5A



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Title	USB TYPE-C POWER
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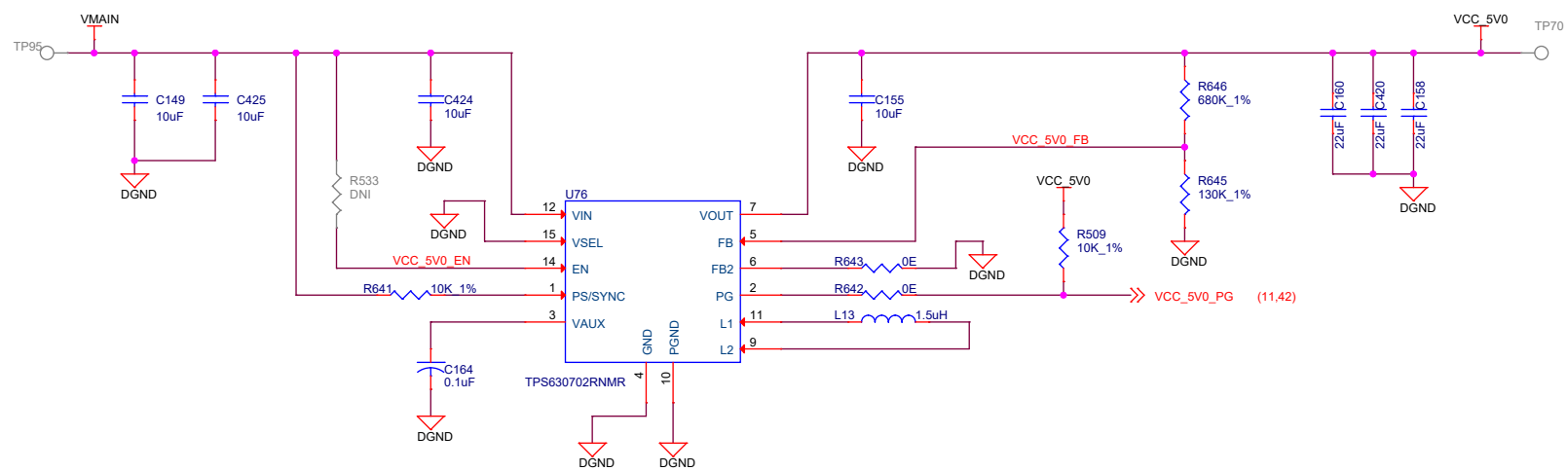
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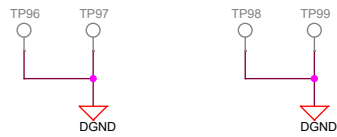
PERIPHERAL POWER SUPPLY-1



Power Cycle control from Test Automation



GROUND TEST POINTS



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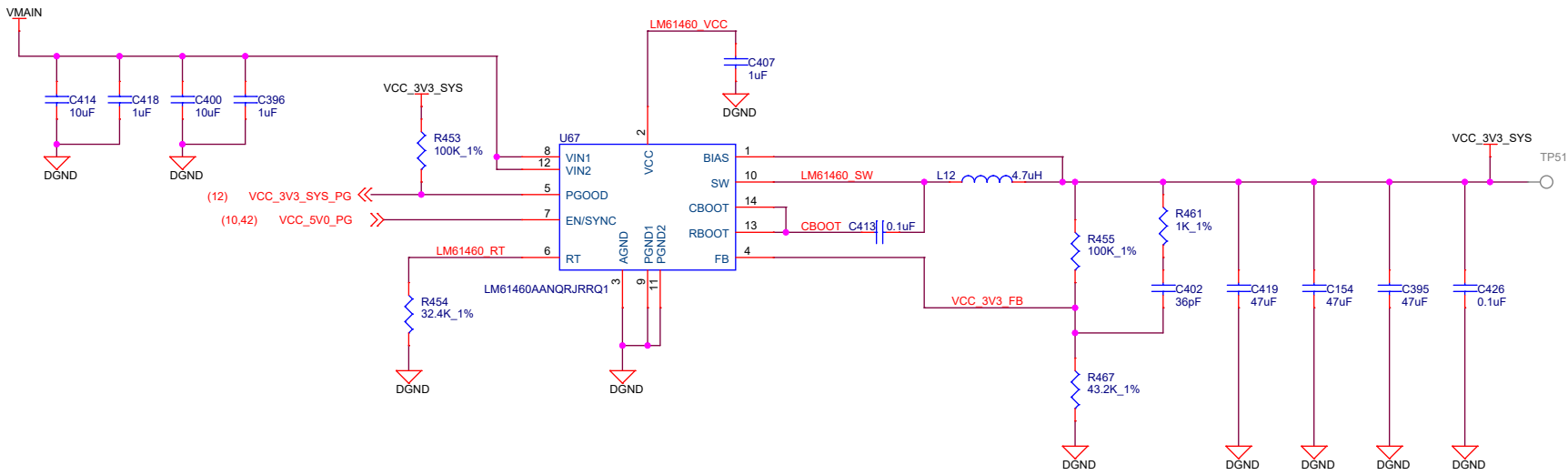


Title PERIPHERAL POWER SUPPLY -1		
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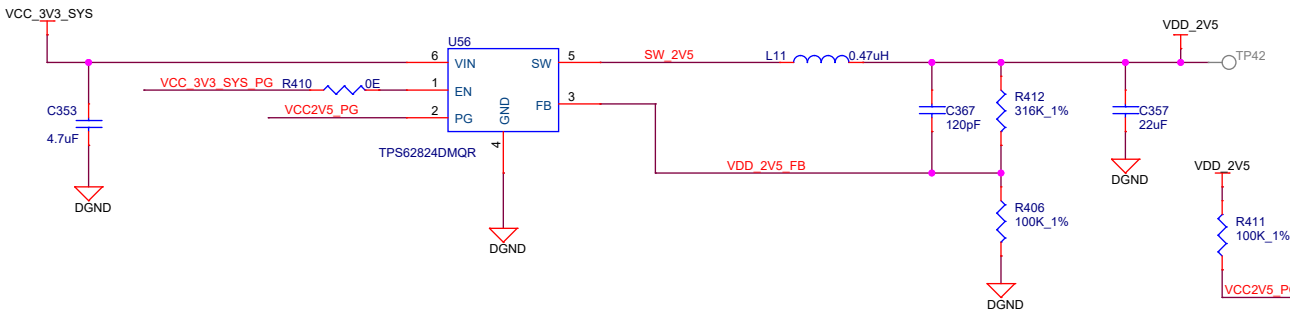
PERIPHERAL POWER SUPPLY-2

VinMin = 4.5V
VinMax = 24V
Vout = 3.3V @ 6A

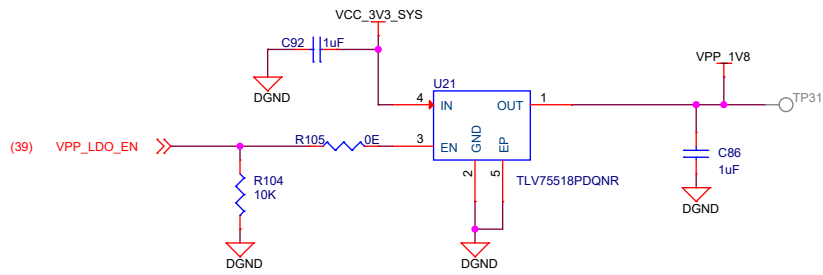
3.3V, 6.0AMPS SUPPLY



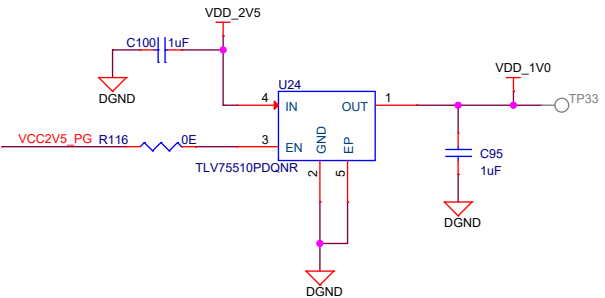
2.5V, 1.0AMPS SUPPLY



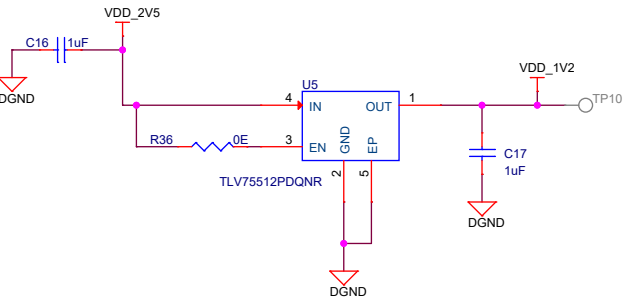
1.8V VPP, 0.5AMPS SUPPLY



1.0V, 0.5AMPS SUPPLY



1.2V, 0.5AMPS SUPPLY



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Title PERIPHERAL POWER SUPPLY-2

Size PROC114A1(001)

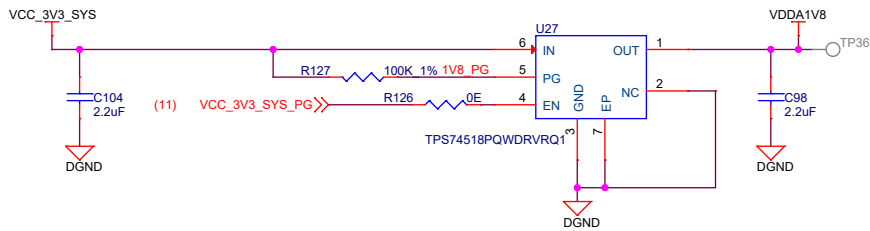
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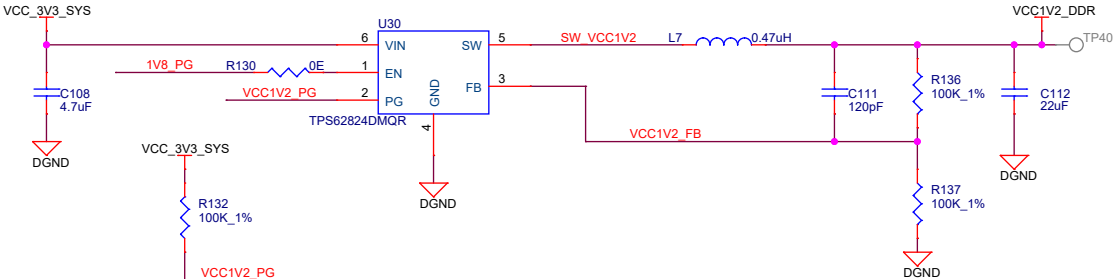
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SOC POWER SUPPLY

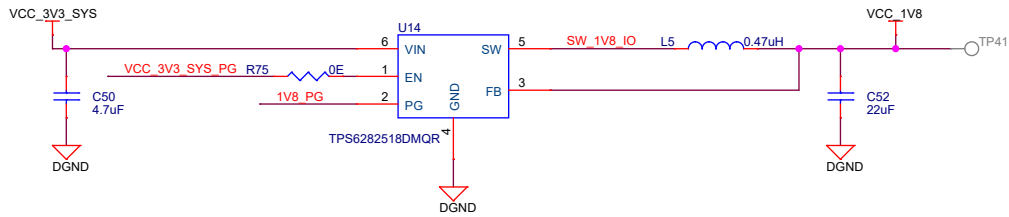
1.8V ANALOG, 0.5 AMPS SUPPLY



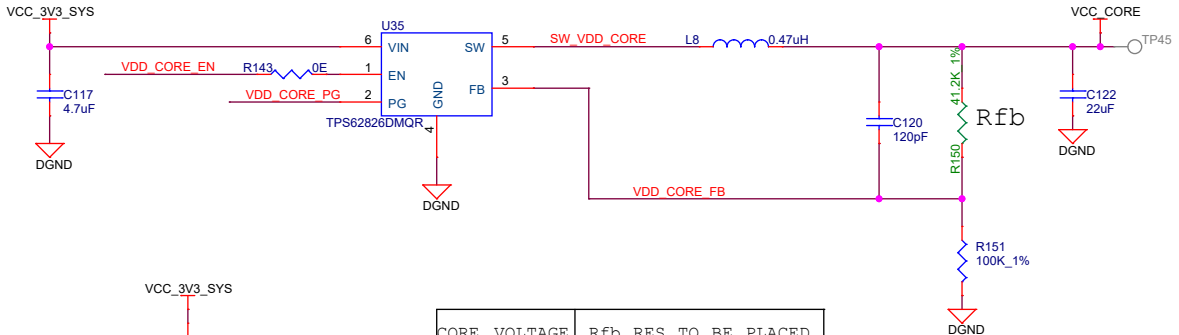
1.2V , 1.0 AMPS SUPPLY



1.8V IO, 2.0 AMPS SUPPLY

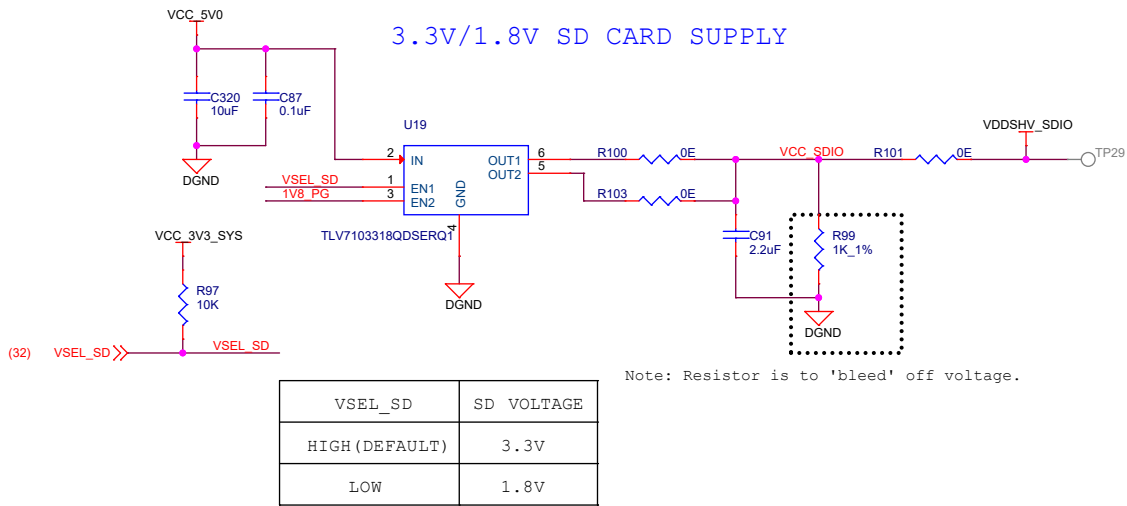


0.75V/0.85V , 3.0 AMPS SUPPLY



CORE VOLTAGE	Rfb RES TO BE PLACED
0.85V	Rfb = 41.2K
0.75V	Rfb = 24.9K

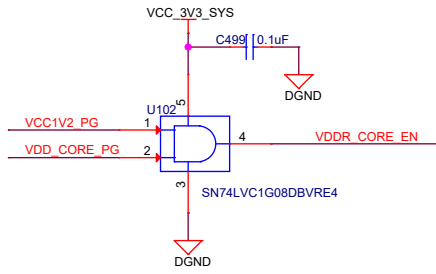
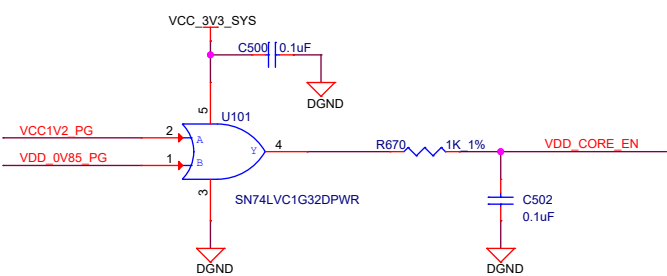
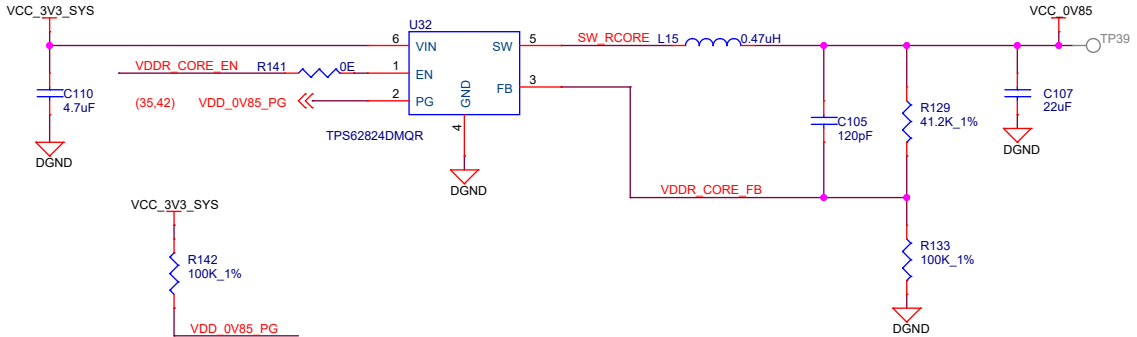
3.3V/1.8V SD CARD SUPPLY



Note: Resistor is to 'bleed' off voltage.

VSEL_SD	SD VOLTAGE
HIGH (DEFAULT)	3.3V
LOW	1.8V

0.85V, 0.5 AMPS SUPPLY



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Title SOC POWER SUPPLY

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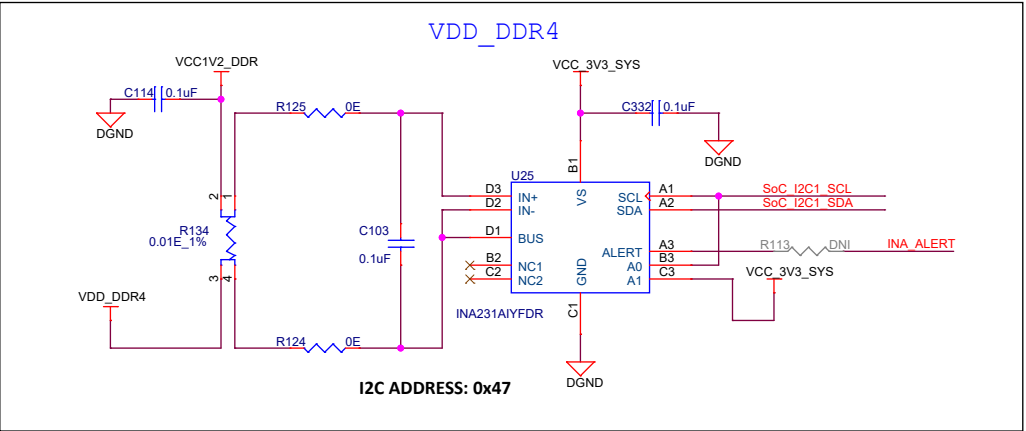
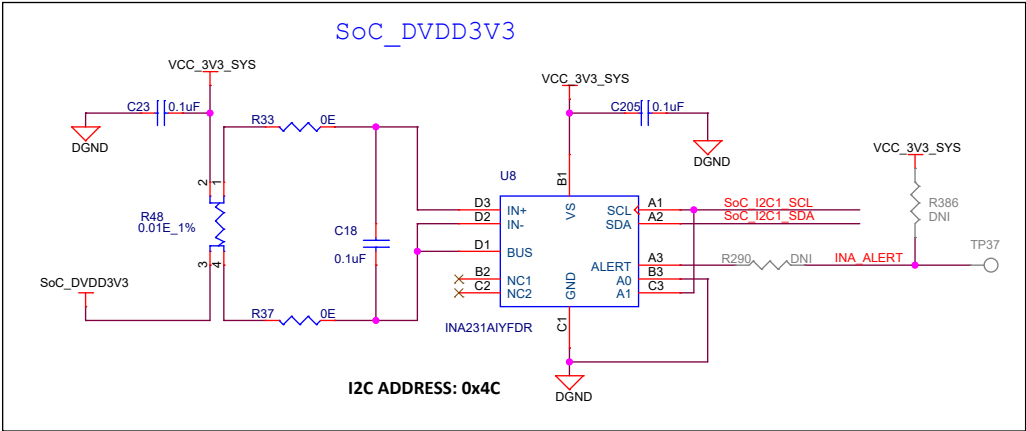
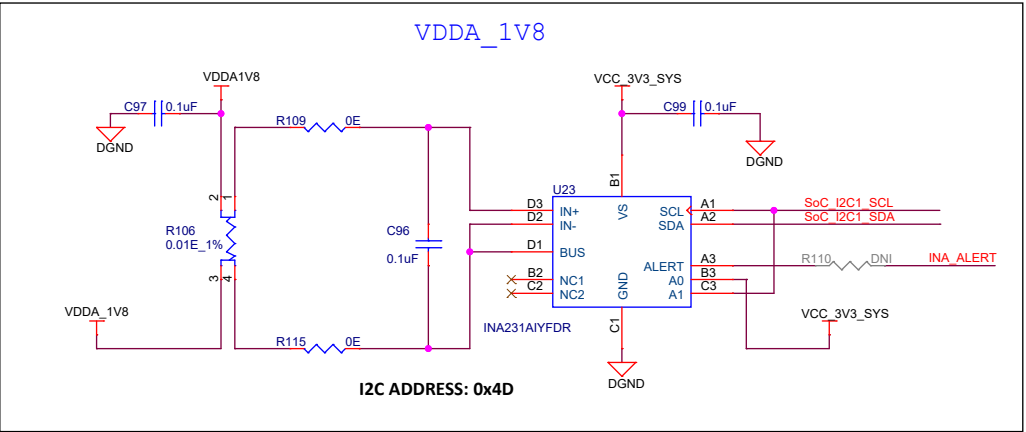
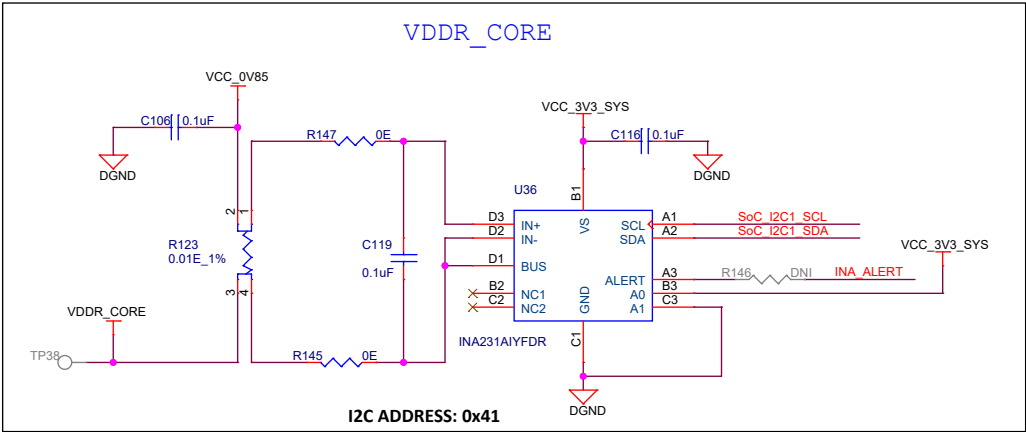
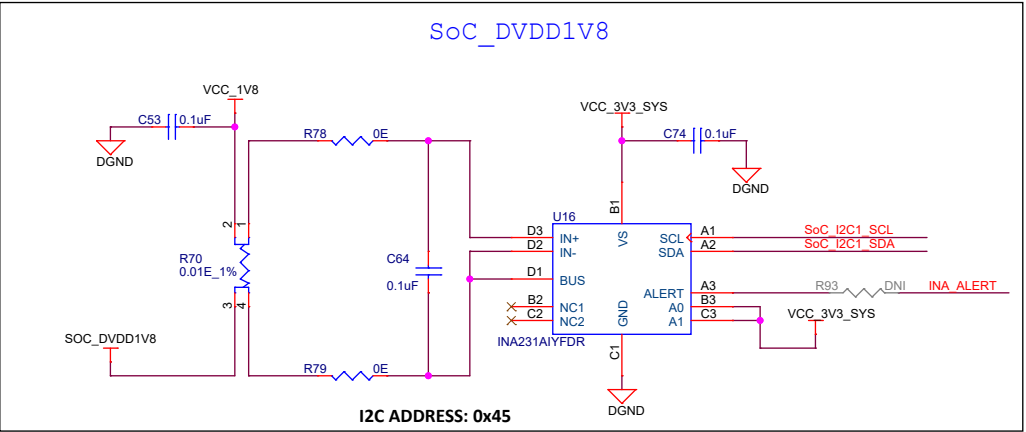
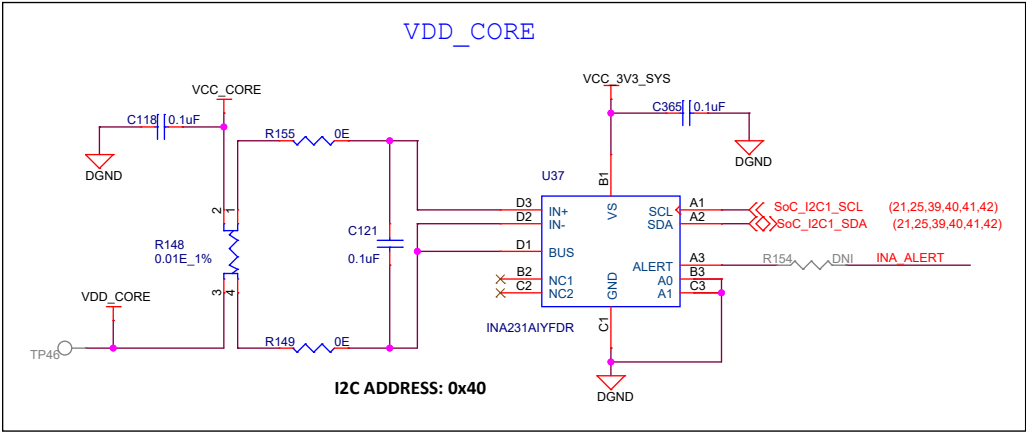
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CURRENT MONITORING DEVICES



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

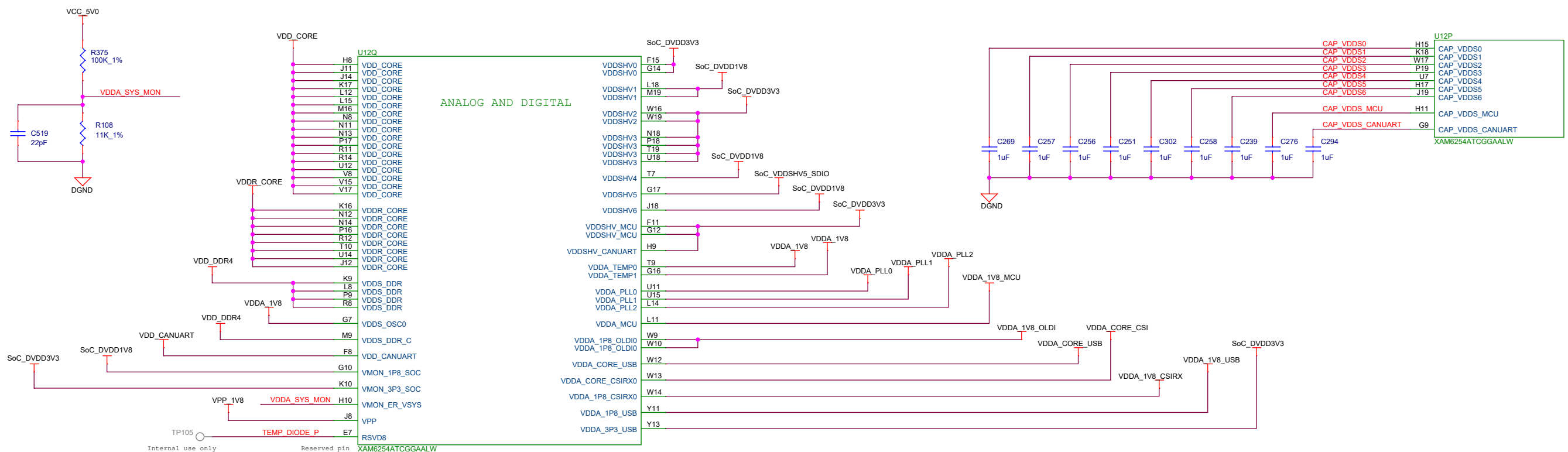
Size PROC114A1(001)

Rev

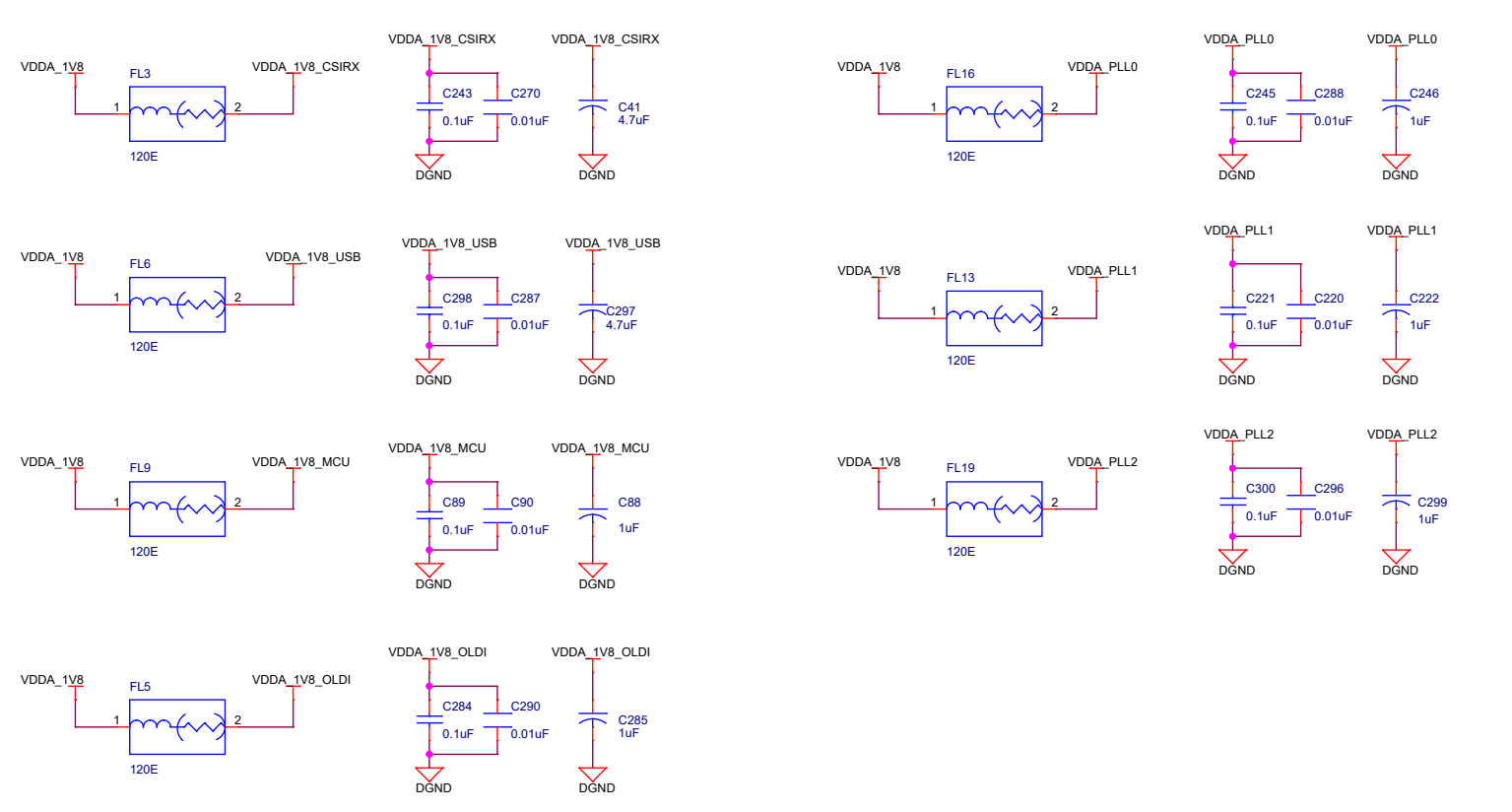
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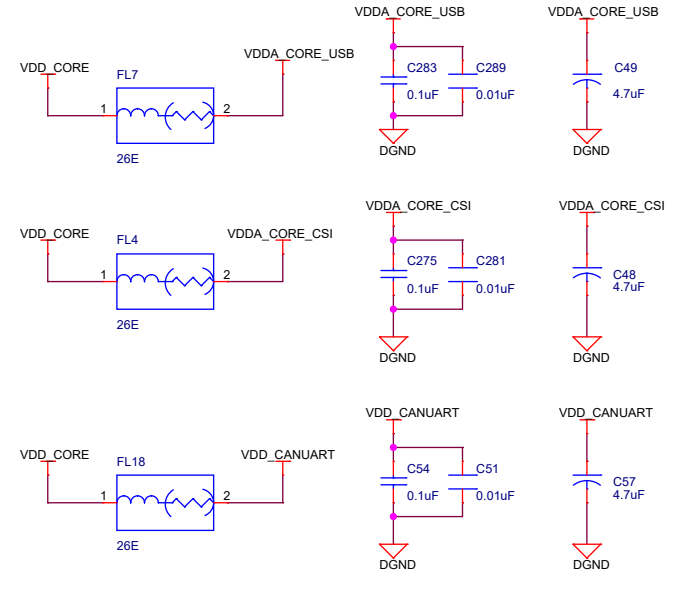
SOC POWER



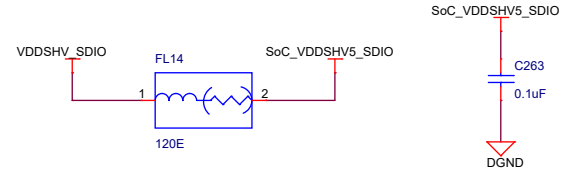
1.8V Analog SUPPLY



CORE SUPPLY



3.3V/1.8V MMC1 SUPPLY

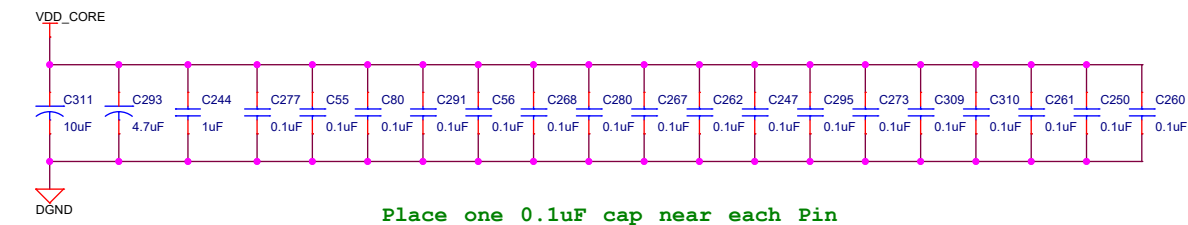


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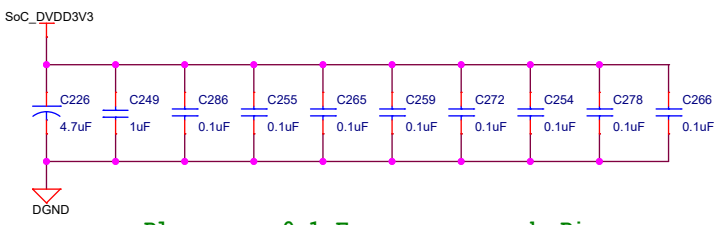


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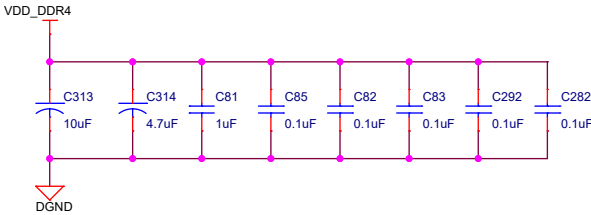
SOC POWER DECAPS



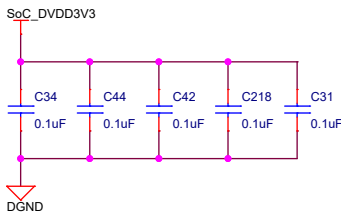
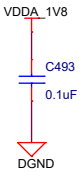
Place one 0.1uF cap near each Pin



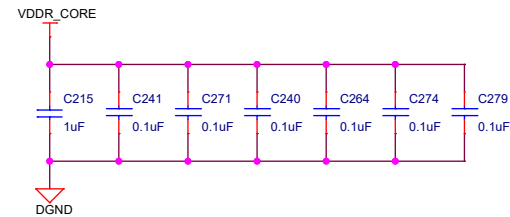
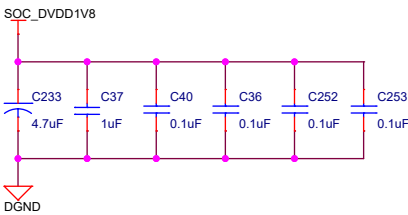
Place one 0.1uF cap near each Pin



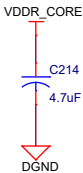
Place one 0.1uF cap near each Pin



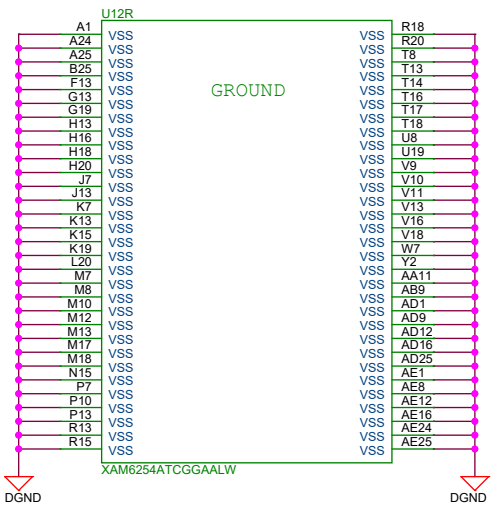
Place one 0.1uF cap near each Pin



Place one 0.1uF cap near each Pin



SOC VSS



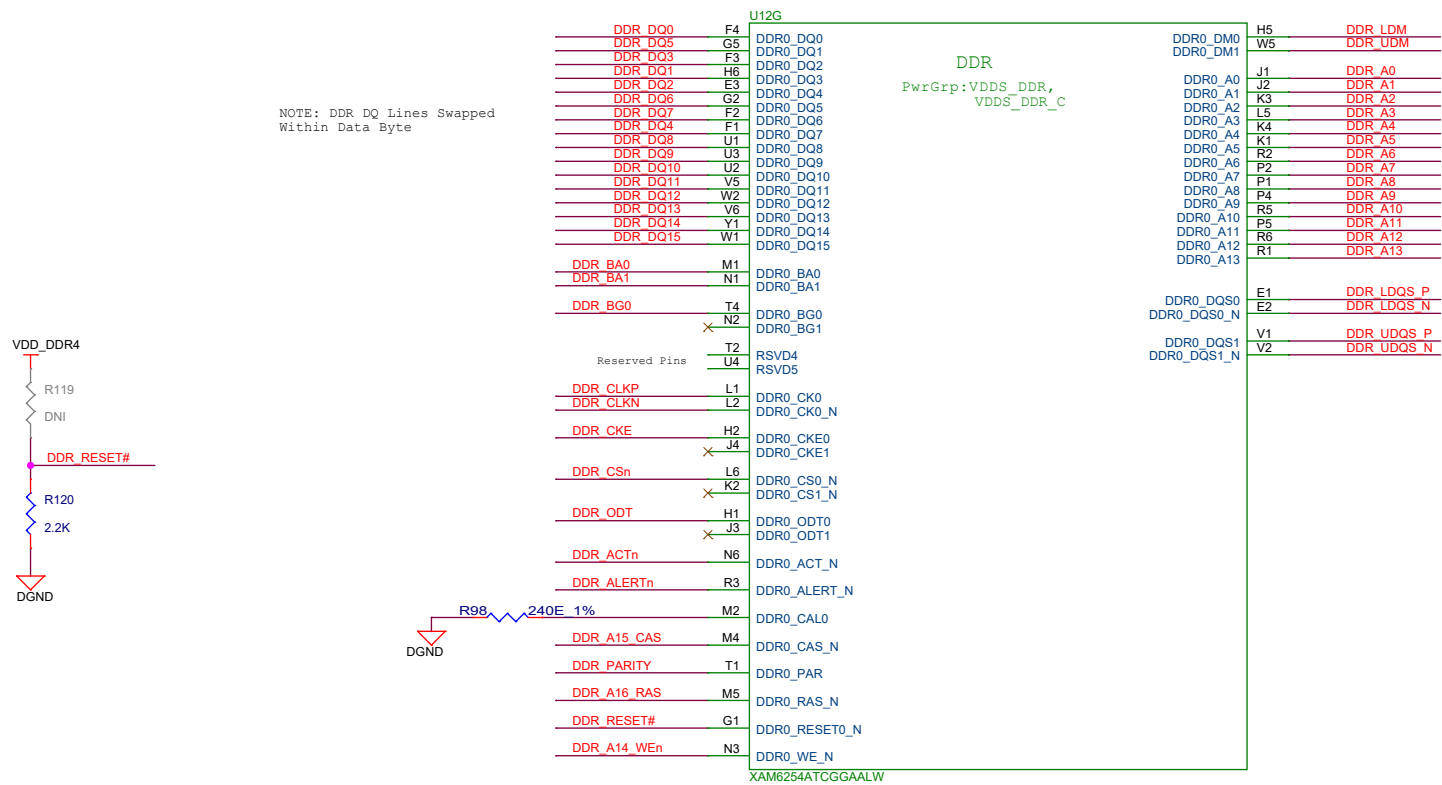
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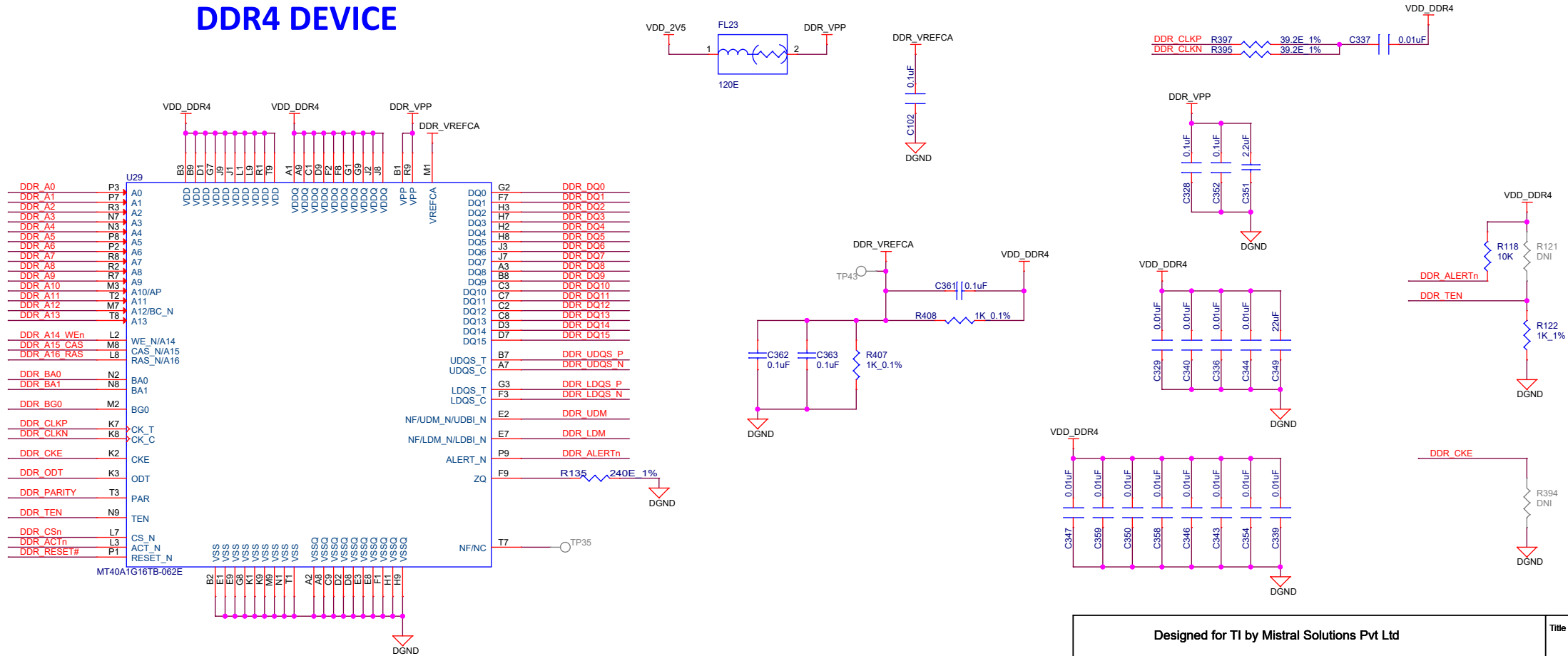
Title SOC POWER CAPS & SOC VSS

Size	Rev	
C	Variant Name = PROC114A1(001)	
Date:	Friday, March 31, 2023	Sheet 15 of 44

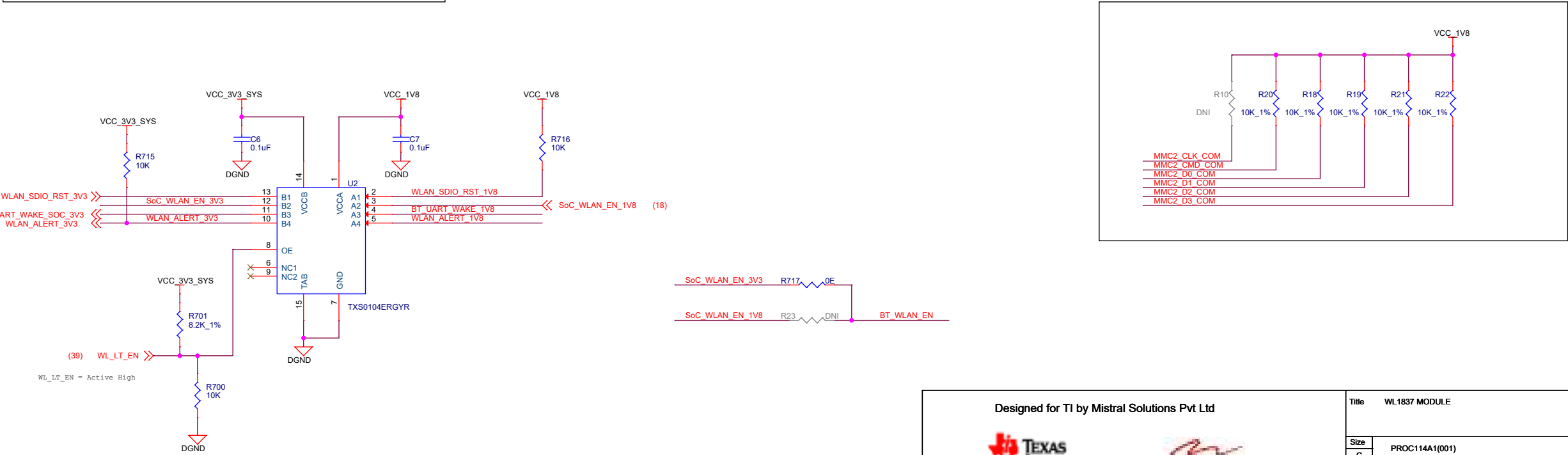
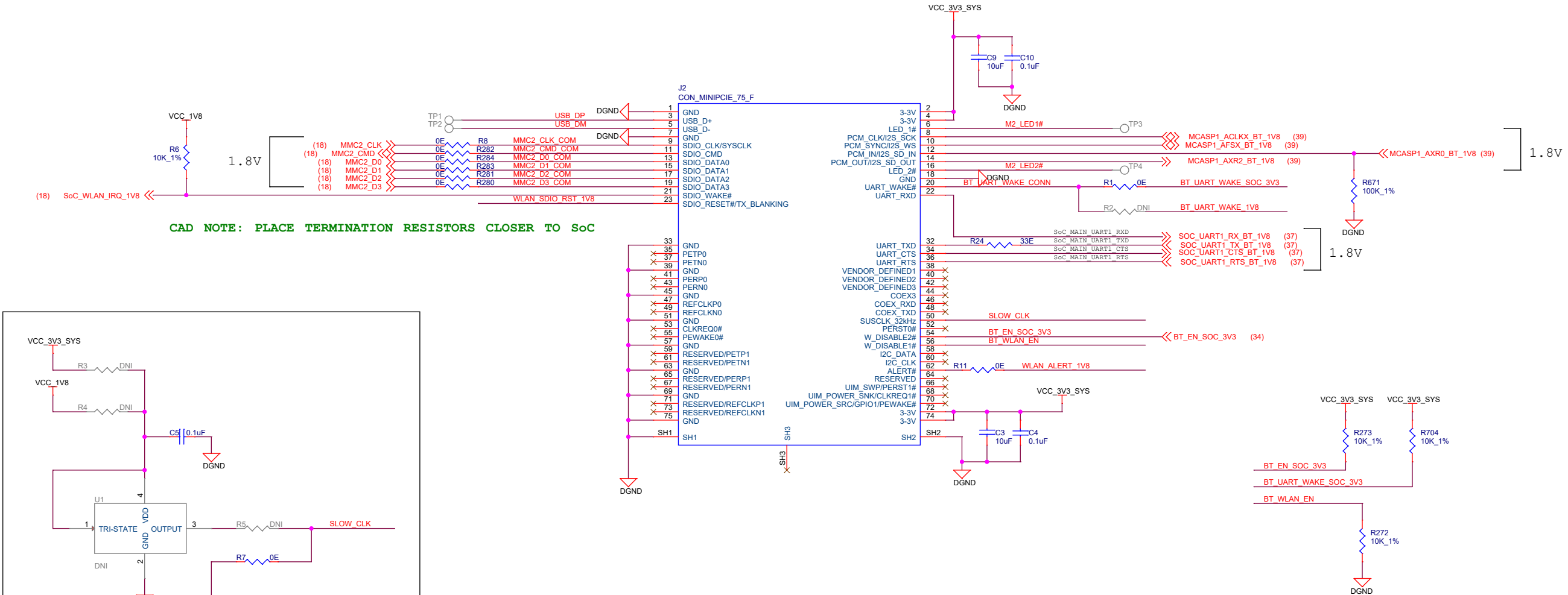
SOC DDR INTERFACE



DDR4 DEVICE



M.2 INTERFACE

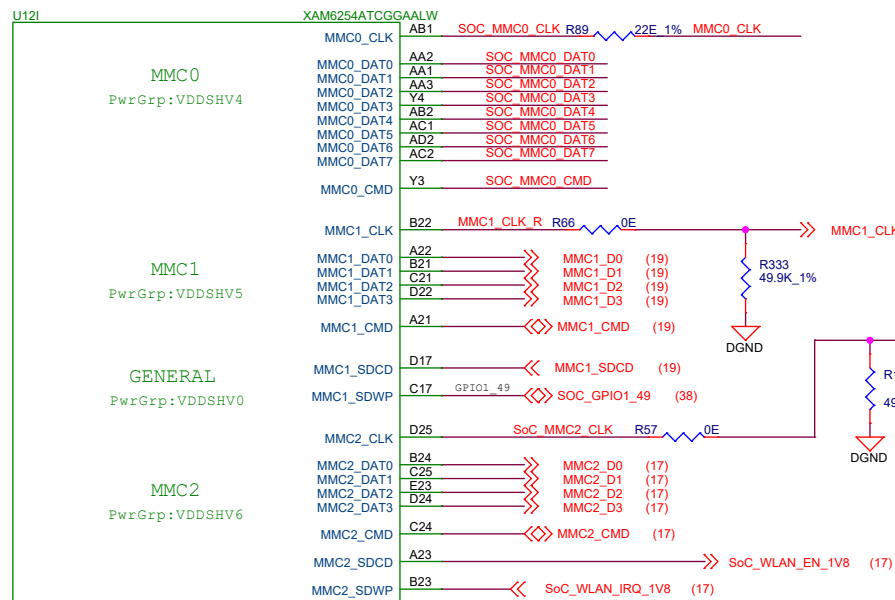


Designed for T1 by Mistral Solutions Pvt Ltd

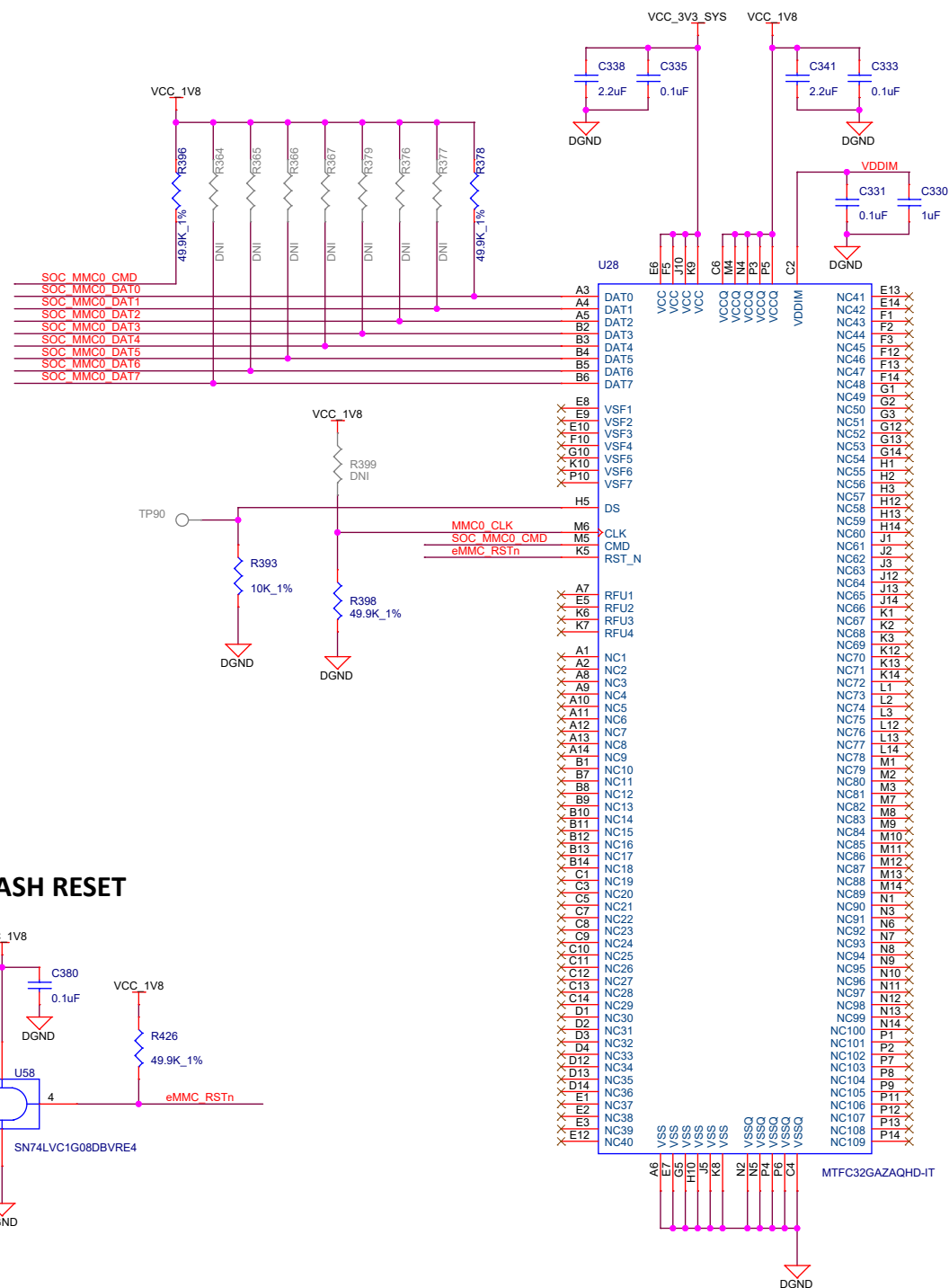


Title			WL1837 MODULE	
Size	PROC114A1(001)		Rev	
C			A1	
Date:	Friday, March 31, 2023	Sheet	17	of 44

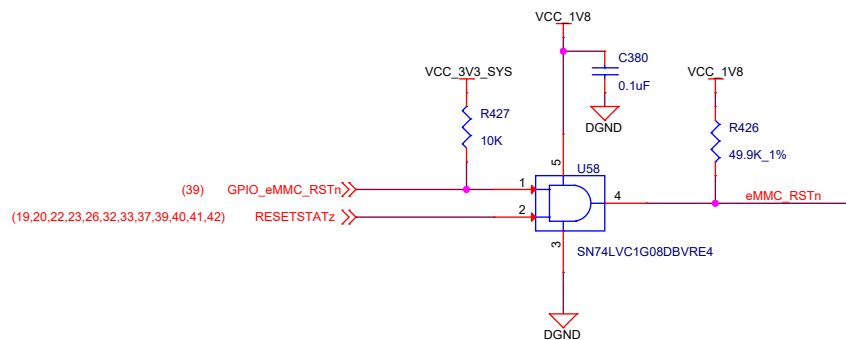
SOC - MMC Interface



eMMC FLASH



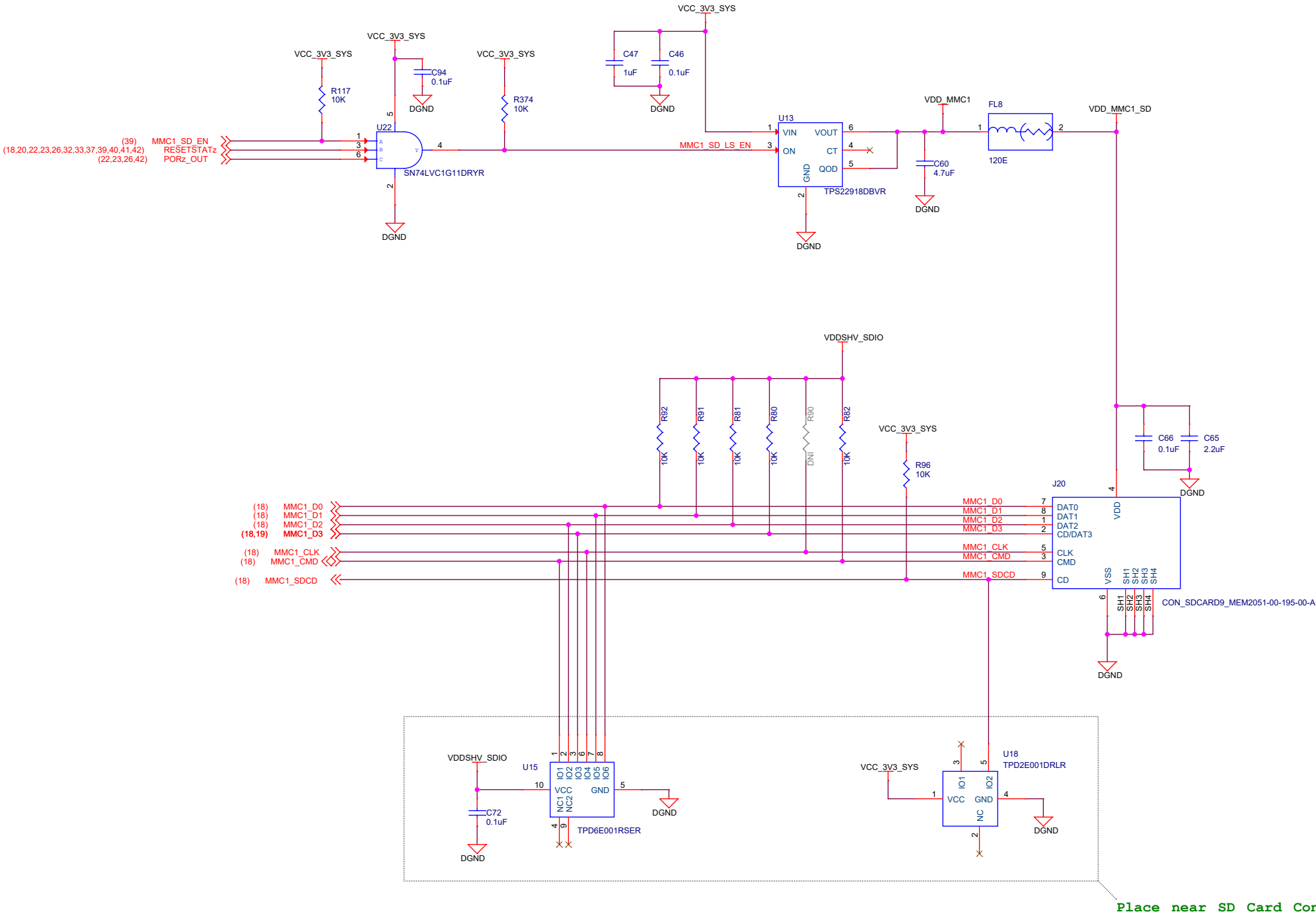
eMMC FLASH RESET



SD CARD INTERFACE

SD CARD RESET

LOAD SWITCH



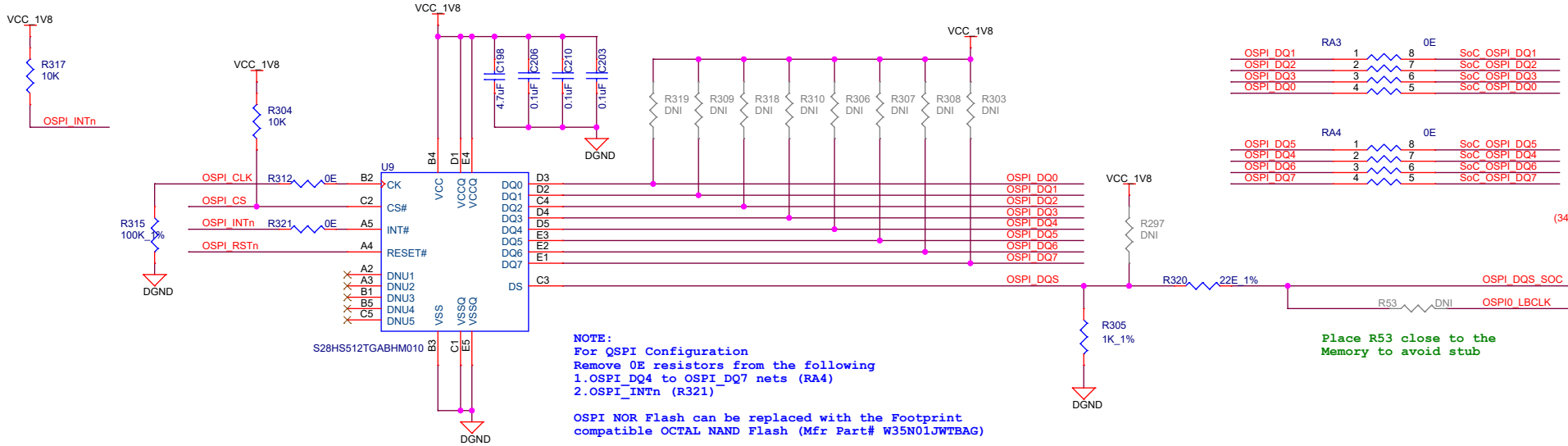
Place near SD Card Connector

Designed for T1 by Mistral Solutions Pvt Ltd

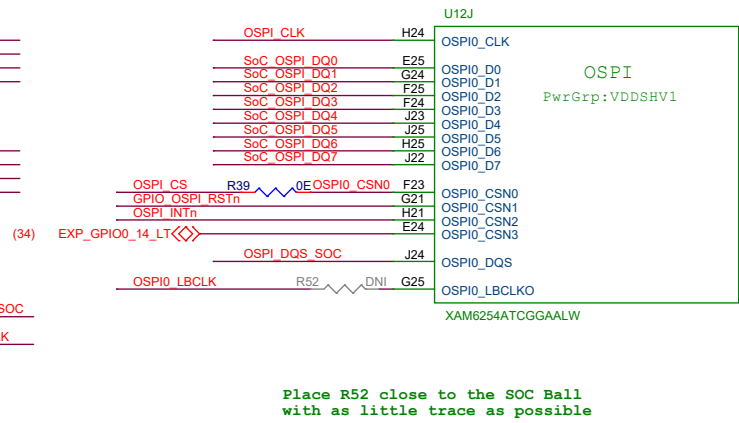


Title SD CARD INTERFACE		
Size	PROC114A1(001)	Rev
C		A1
Date:	Friday, March 31, 2023	Sheet 19 of 44

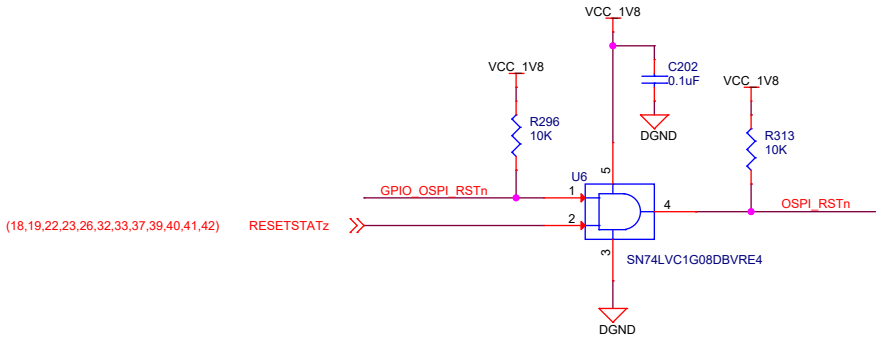
OSPI FLASH



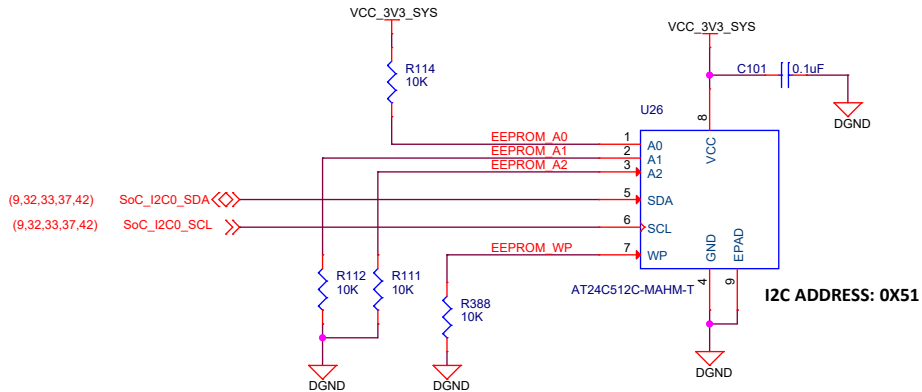
SOC OSPI INTERFACE



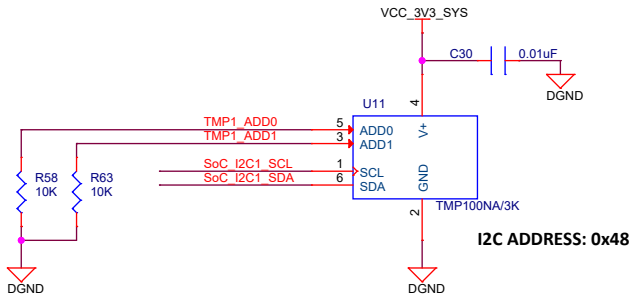
OSPI FLASH RESET



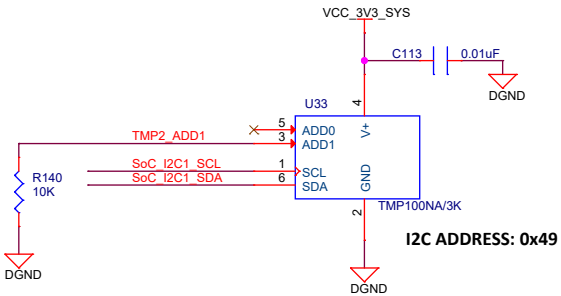
BOARD ID EEPROM



TEMPERATURE SENSORS



CAD NOTE: PLACE TEMP SENSOR U11 CLOSE TO SoC



CAD NOTE: PLACE TEMP SENSOR U33 CLOSE TO DDR4



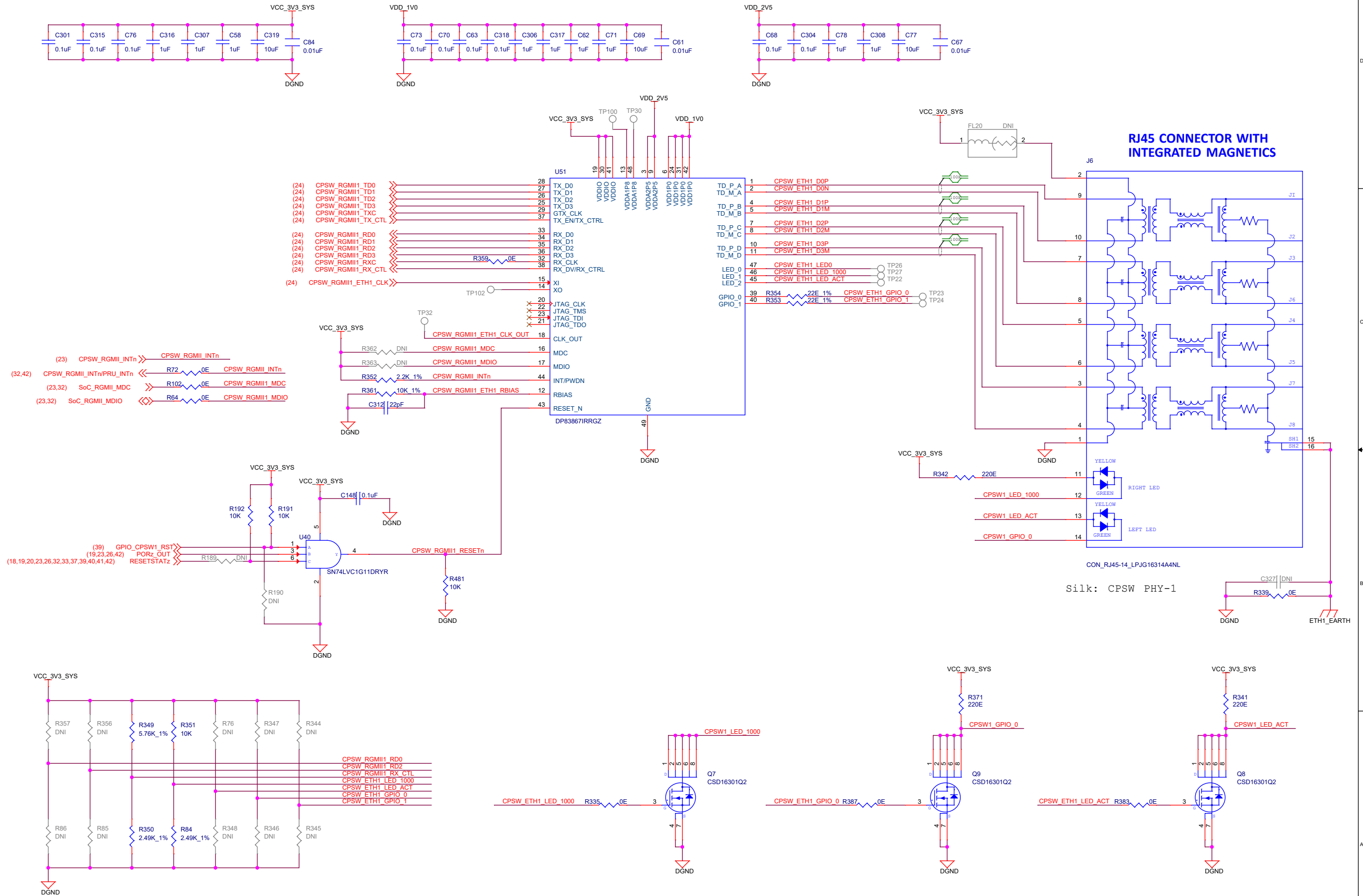
Designed for T1 by Mistral Solutions Pvt Ltd



Title BOARD ID EEPROM & TEMPERATURE SENSORS

Size	PROC114A1(001)	Rev
C		A1
Date:	Friday, March 31, 2023	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
```

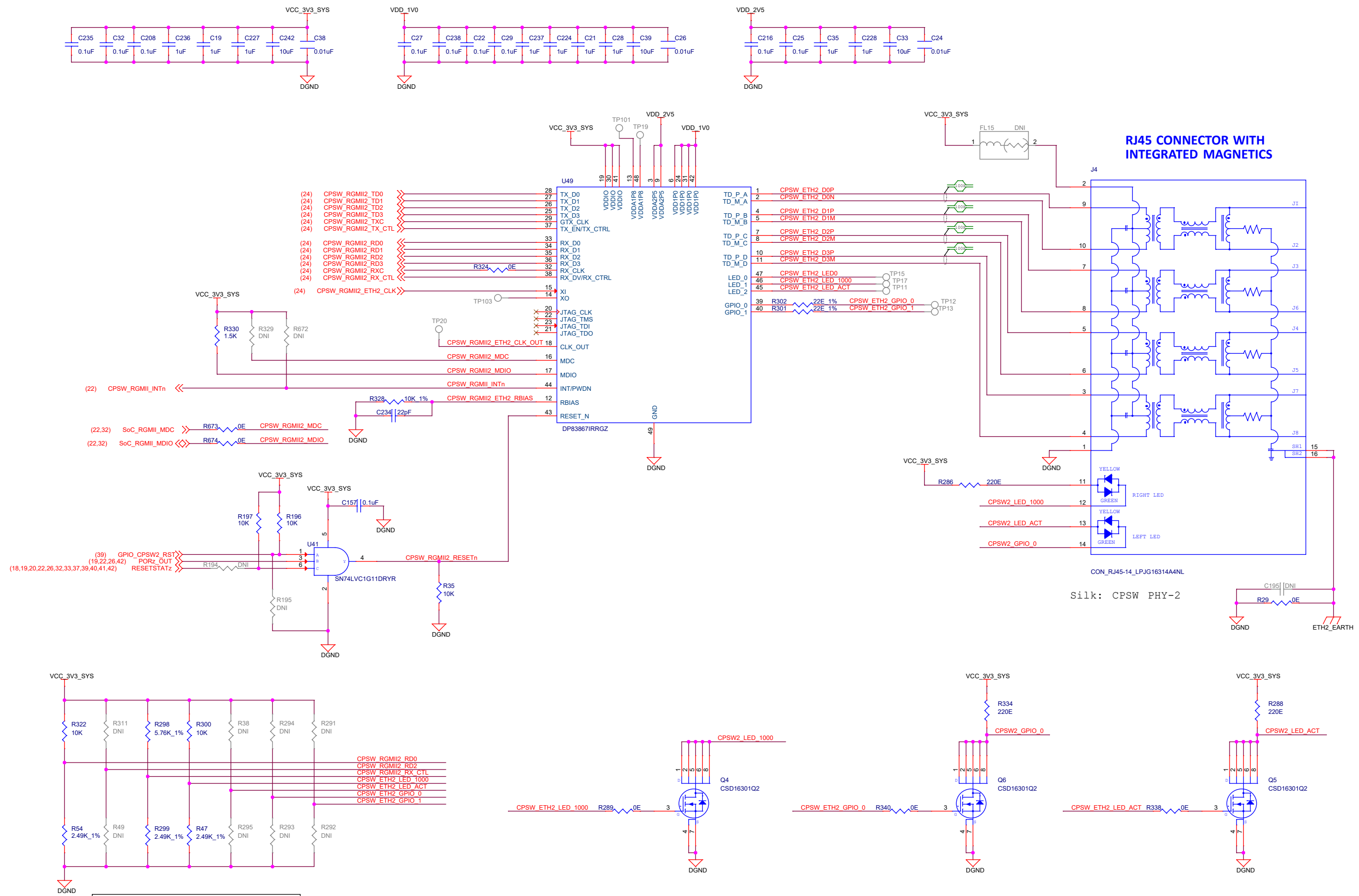
Designed for TI by Mistral Solutions Pvt Ltd



Title	CPSW RGMII_1 ETHERNET PHY
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Size	PROC114A1(001)	Rev
C		A1
Date:	Friday, March 31, 2023	Sheet 22 of 44

CPSW RGMII 2 - PHY



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Title CPSW RGMII_2 ETHERNET PHY

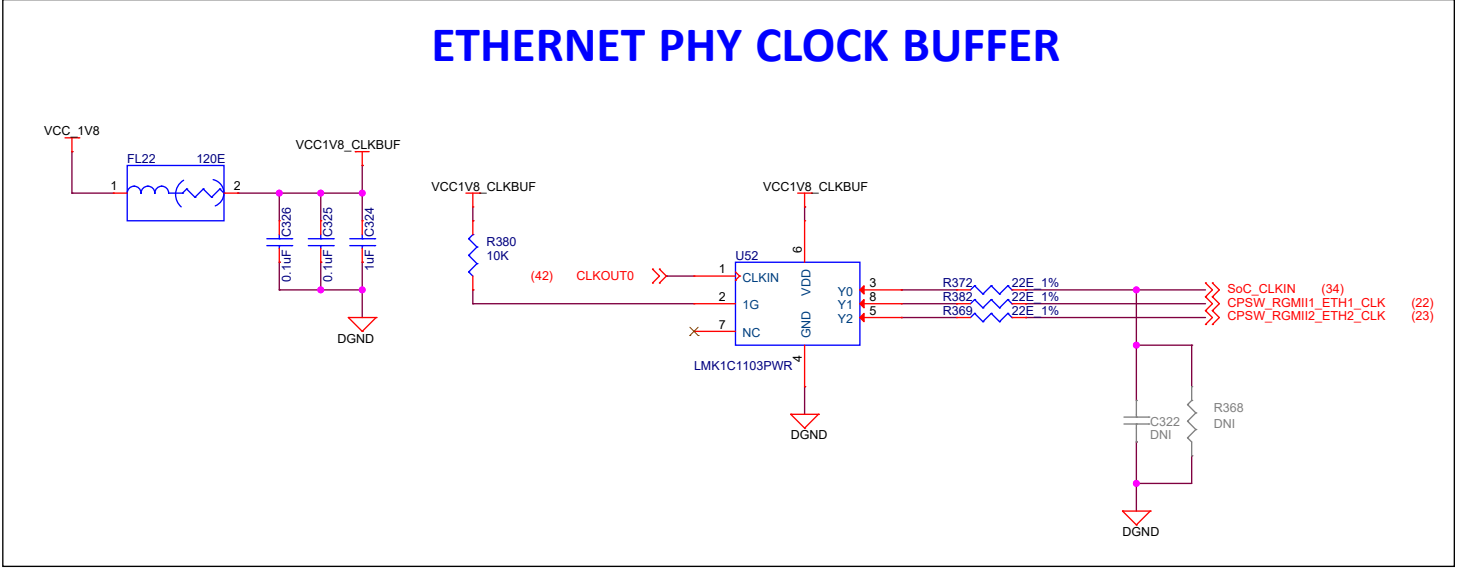
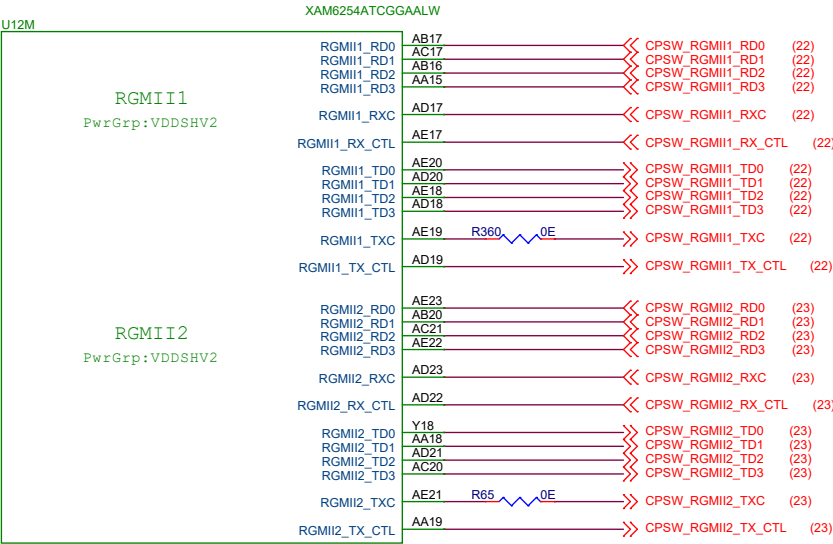
Size PROC114A1(001)

Rev

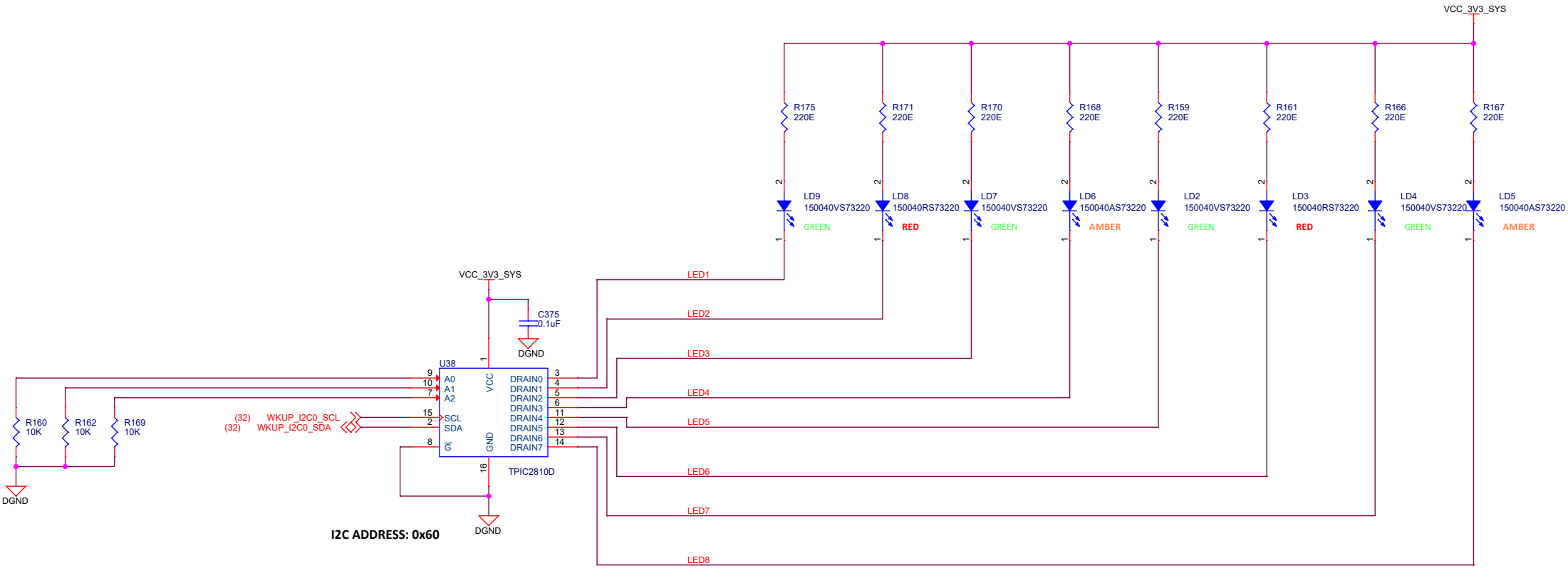
Date: Friday, March 31, 2023

Sheet 23 of 44

A1



LED DRIVER



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Title ETHERNET PHY CLOCK BUFFER & LED DRIVER

Size PROC114A1(001)

Rev

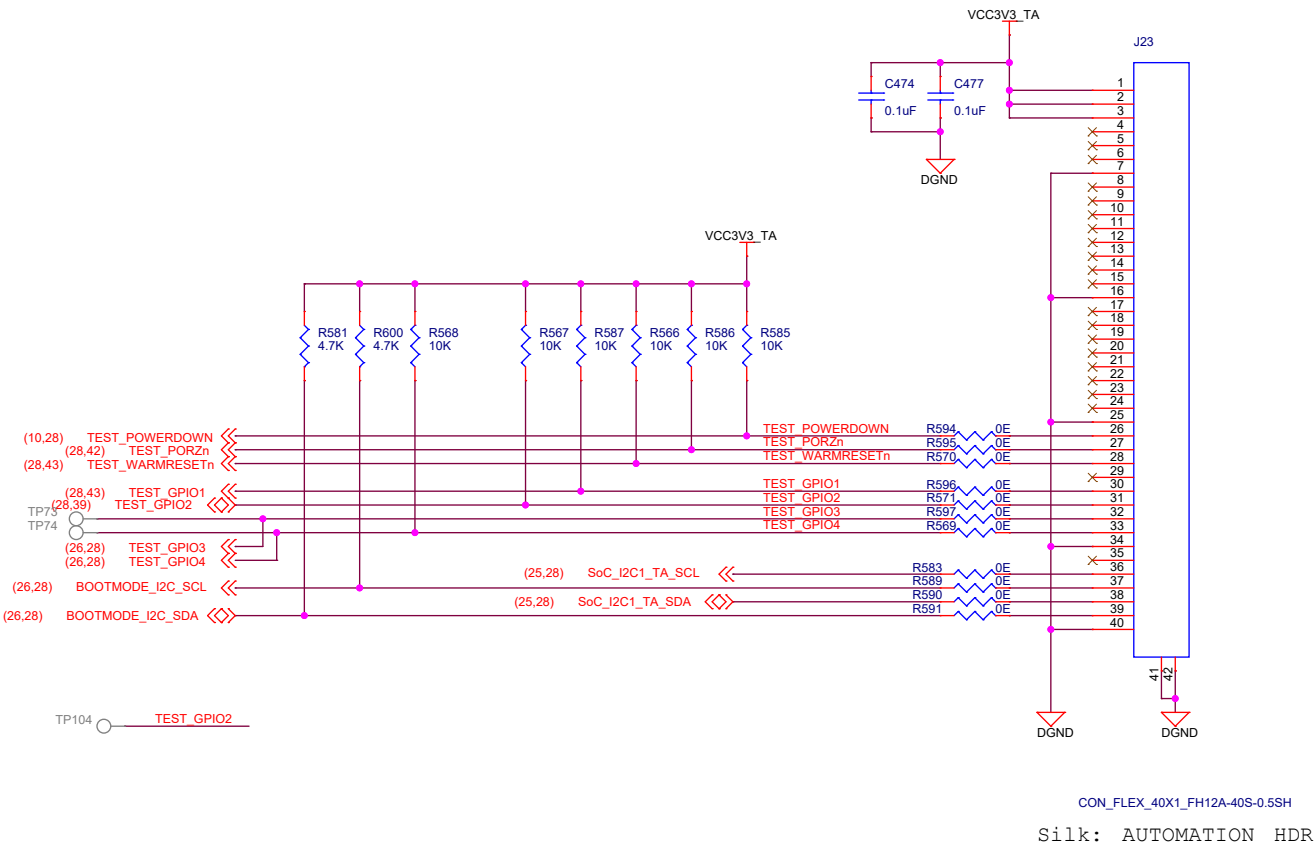
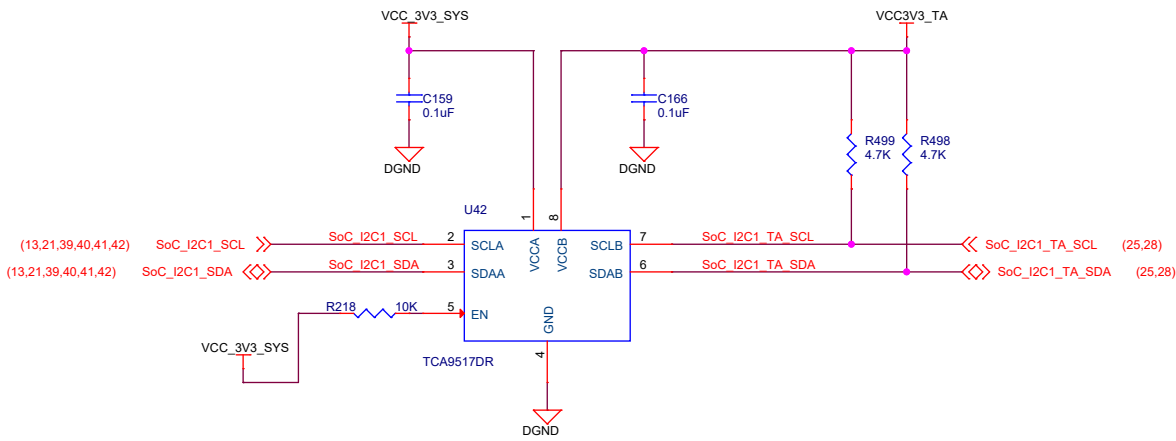
Date: Friday, March 31, 2023

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A1

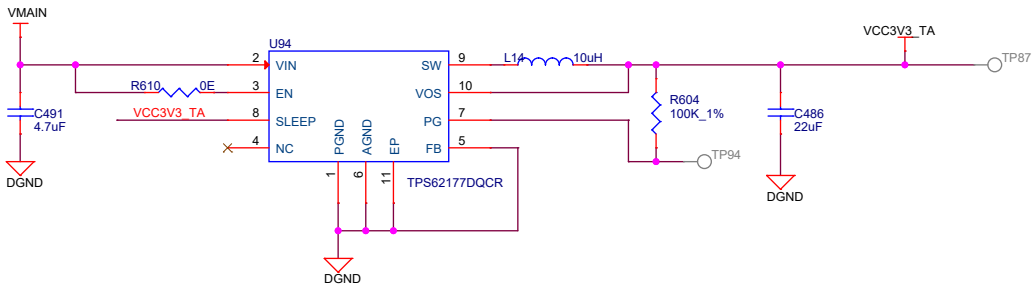
40-PIN TEST AUTOMATION HEADER

I2C BUS BUFFER



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_WARMRESETn	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

Designed for T1 by Mistral Solutions Pvt Ltd



Title TEST AUTOMATION

Size PROC114A1(001)

Rev

Date: Friday, March 31, 2023

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[illegible]

VCC3V3 TA VCC3V3_SYS
 C430 0.1uF C431 0.1uF
 DGND DGND

U75
 1 23 24
 VCC1 VCC2
 11 12 13 25
 GND1 GND2 GND3 EP
 SN74AVC8T245RHL

3 4 5 6 7 8 9 10
 A1 A2 A3 A4 A5 A6 A7 A8
 SYS_BOOTMODE7
 SYS_BOOTMODE6
 SYS_BOOTMODE5
 SYS_BOOTMODE4
 SYS_BOOTMODE3
 SYS_BOOTMODE2
 SYS_BOOTMODE1
 SYS_BOOTMODE0

2 22
 DIR BOOTMODEON

21 20 19 18 17 16 15 14
 B1 B2 B3 B4 B5 B6 B7 B8
 BOOTMODE7
 BOOTMODE6
 BOOTMODE5
 BOOTMODE4
 BOOTMODE3
 BOOTMODE2
 BOOTMODE1
 BOOTMODE0

DIR = H: A -> B
 DIR = L: B -> A
 OE = H: output = Hi-Z

(19,22,23,42) PORz_OUT
 (18,19,20,22,23,32,33,37,39,40,41,42) RESETSTATz
 (25,28) TEST_GPIO3
 R221 DNI
 R222 OE
 SYSBOOT_BUF_ENz
 TEST_GPIO3

Top Diagram: 74VHC125 (U73) Configuration

The 74VHC125 (U73) is configured as a 3-to-8 decoder. The inputs are DIR (pin 2) and BOOTMODEON (pin 22). The output OE (pin 11) is connected to GND. The outputs B1-B8 (pins 21-14) are connected to BOOTMODE15 through BOOTMODE8 (pins 32-25). The inputs A1-A8 (pins 1-8) are connected to VCC3V3_TA through VCCB2 (pins 23-30). The inputs B1-B8 (pins 21-14) are connected to BOOTMODE15 through BOOTMODE8 (pins 32-25). The inputs A1-A8 (pins 1-8) are connected to VCC3V3_TA through VCCB2 (pins 23-30). The inputs B1-B8 (pins 21-14) are connected to BOOTMODE15 through BOOTMODE8 (pins 32-25).

Bottom Diagram: 74VHC1G08 (U43) Configuration

The 74VHC1G08 (U43) is configured as a 2-to-1 multiplexer. The inputs are TEST_GPIO3 (pin 1) and SYSBOOT_BUF_Enz (pin 2). The output is BOOTMODEON (pin 4). The inputs A1-A8 (pins 1-8) are connected to VCC3V3_TA through VCCB2 (pins 23-30). The inputs B1-B8 (pins 21-14) are connected to BOOTMODE15 through BOOTMODE8 (pins 32-25). The inputs A1-A8 (pins 1-8) are connected to VCC3V3_TA through VCCB2 (pins 23-30). The inputs B1-B8 (pins 21-14) are connected to BOOTMODE15 through BOOTMODE8 (pins 32-25).

SW1
416131160808

SW2
416131160808

Silk: BMODE 0-7

Silk: BMODE 8-15

VCC3V3 TA

DGND

VCC3V3 TA

DGND

SWITCH ON = LOGIC 1
SWITCH OFF = LOGIC 0

SYS_BOOTMODE0

SYS_BOOTMODE1

SYS_BOOTMODE2

SYS_BOOTMODE3

SYS_BOOTMODE4

SYS_BOOTMODE5

SYS_BOOTMODE6

SYS_BOOTMODE7

SYS_BOOTMODE8

SYS_BOOTMODE9

SYS_BOOTMODE10

SYS_BOOTMODE11

SYS_BOOTMODE12

SYS_BOOTMODE13

SYS_BOOTMODE14

SYS_BOOTMODE15

R202

R203

R204

R205

R206

R207

R208

R209

R210

R211

R212

R213

R214

R215

R216

R217

R236

R237

R238

R239

R240

R241

R242

R243

R244

R245

R246

R247

R248

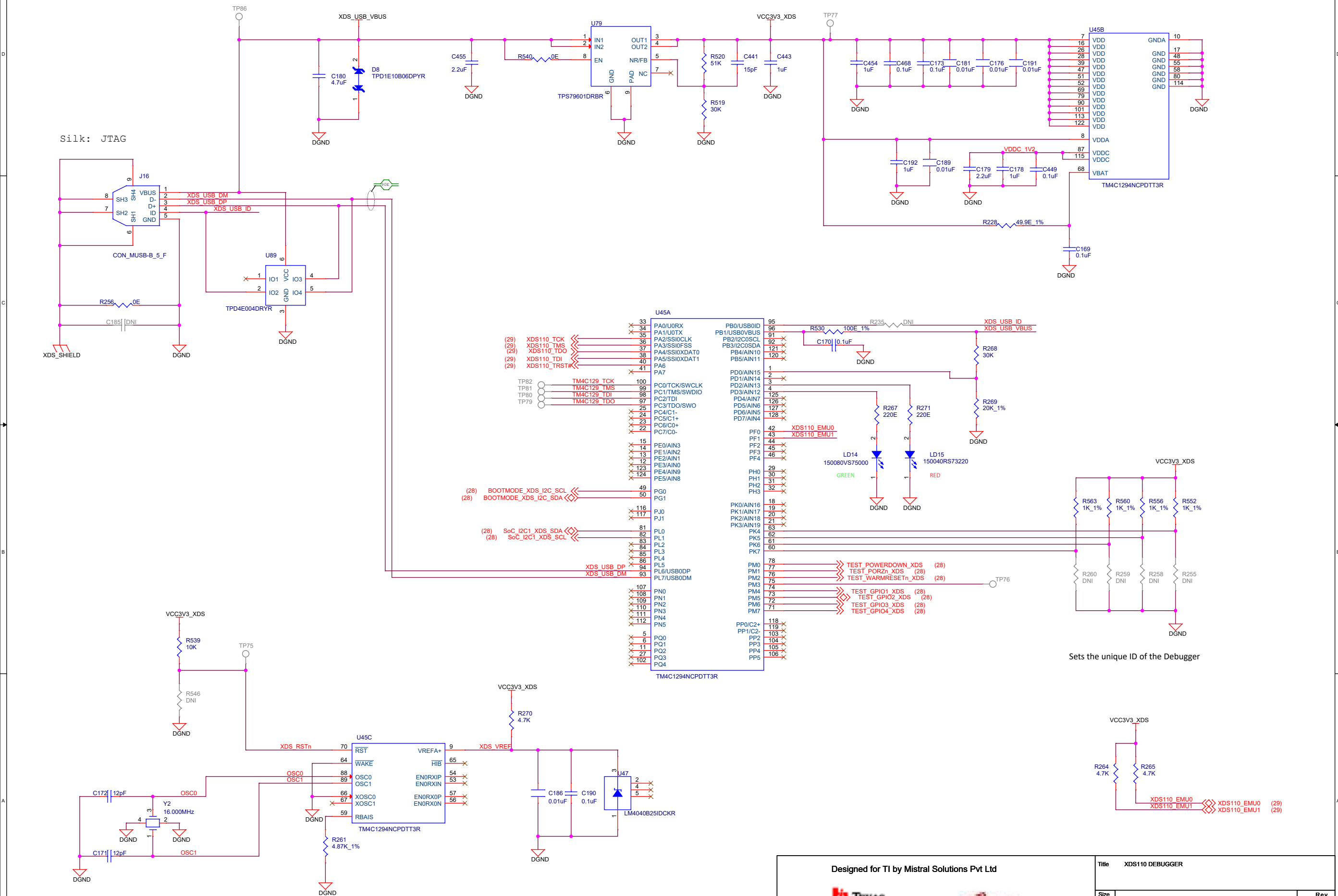
R249

R250

R251

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

XDS110 DEBUGGER

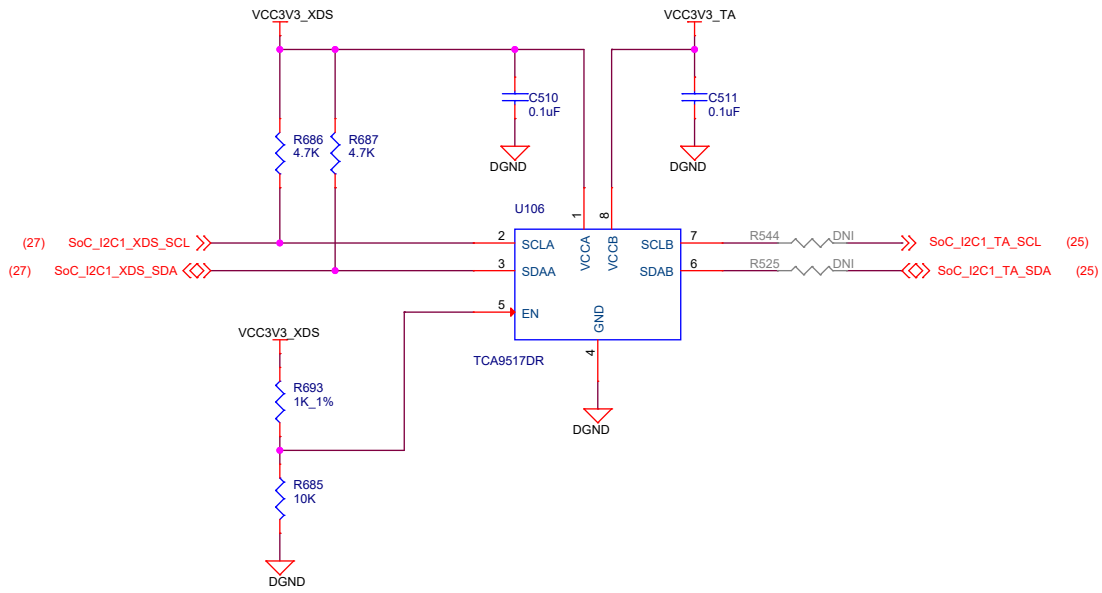


Designed for TI by Mistral Solutions Pvt Ltd

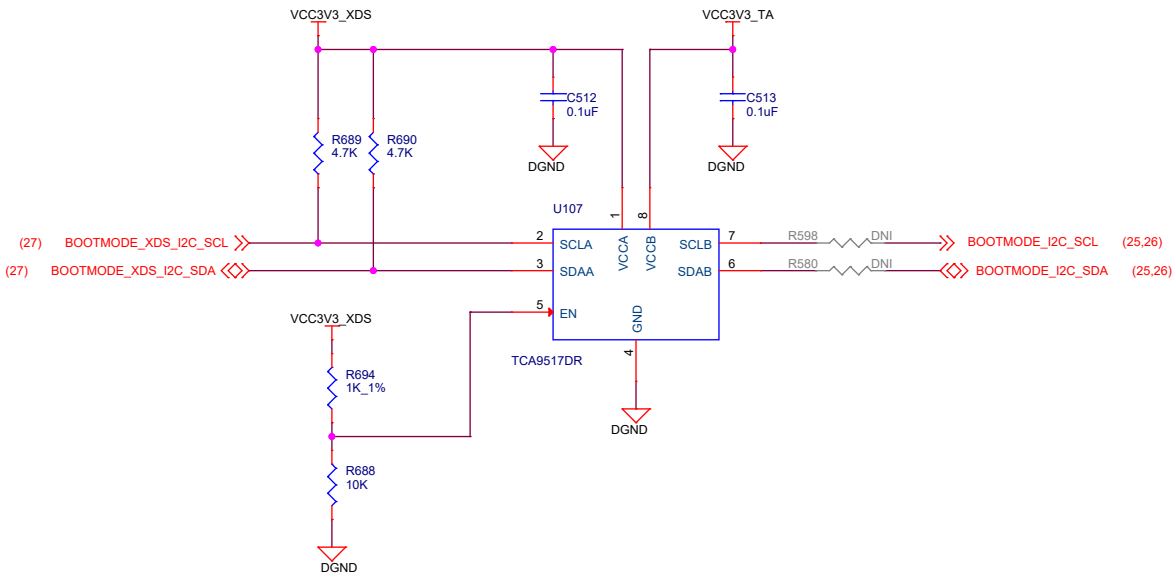


Title XDS110 DEBUGGER				
Size	PROC114A1(001)			Rev
C				A1
Date:	Friday, March 31, 2023	Sheet	27 of	44

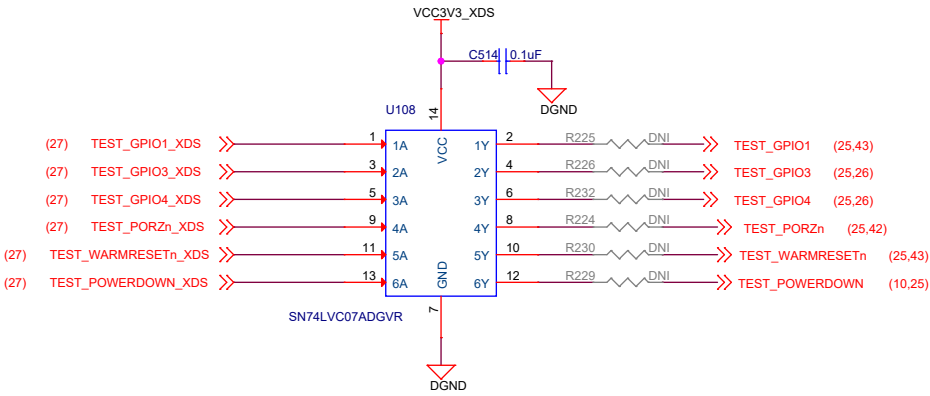
I2C_TA BUS BUFFER



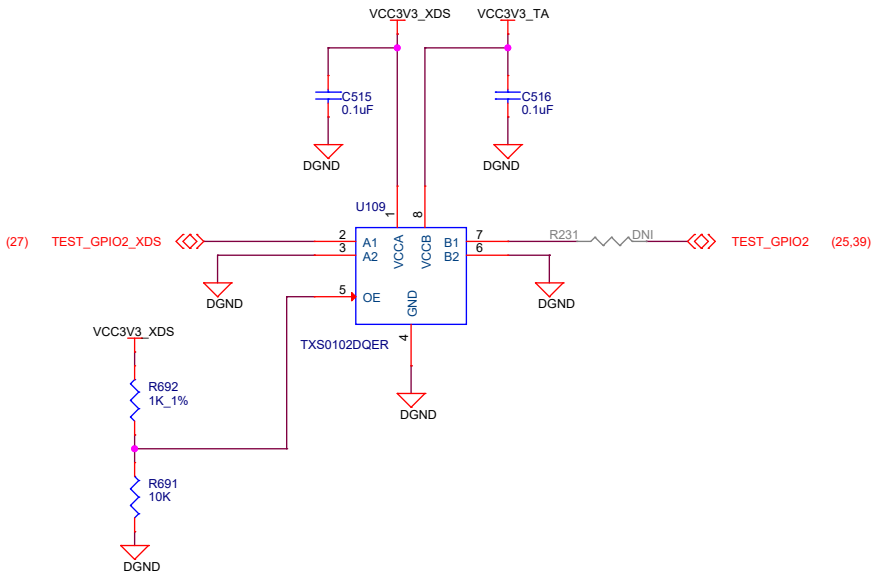
BOOTMODE_I2C_TA BUFFER



ISOLATION BUFFERS FOR TA SIGNALS



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

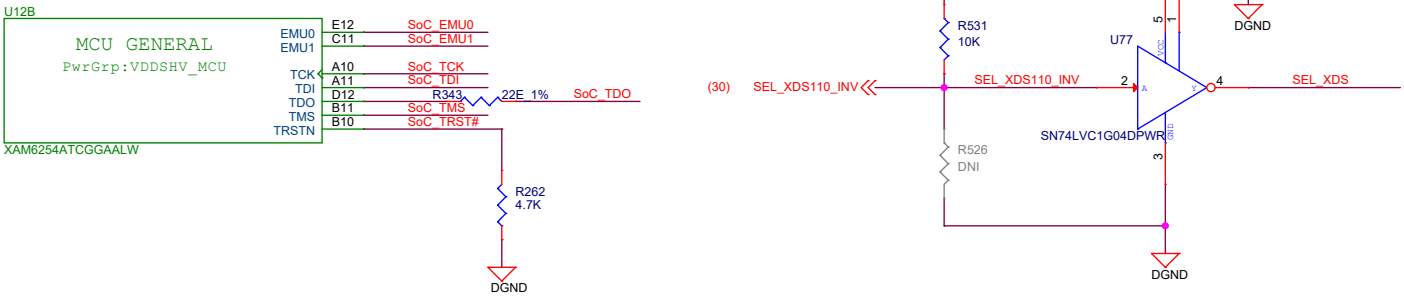


Designed for T1 by Mistral Solutions Pvt Ltd

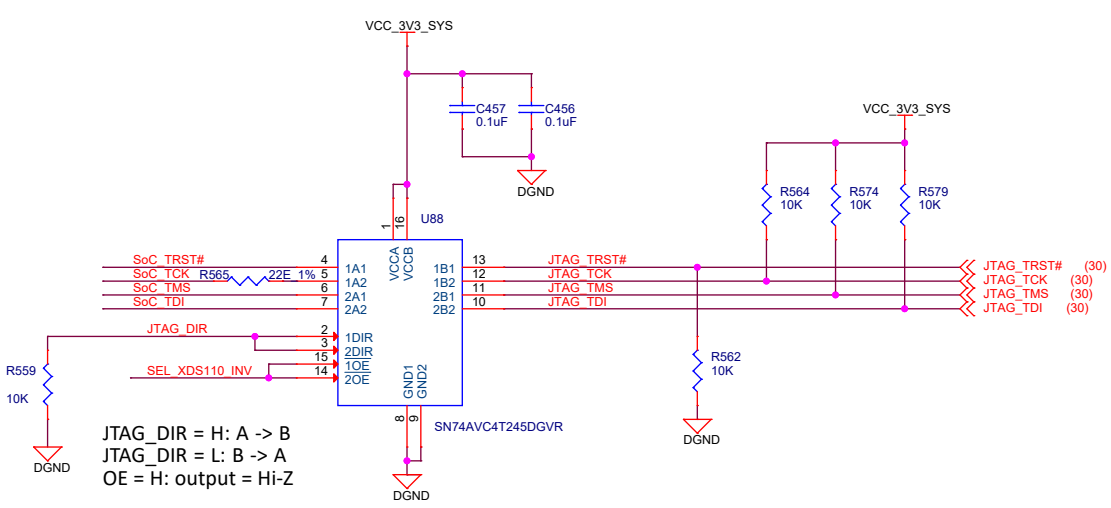


Title AUTOMATION SIGNALS BUFFER		
Size	PROC114A1(001)	Rev
C		A1
Date:	Friday, March 31, 2023	Sheet 28 of 44

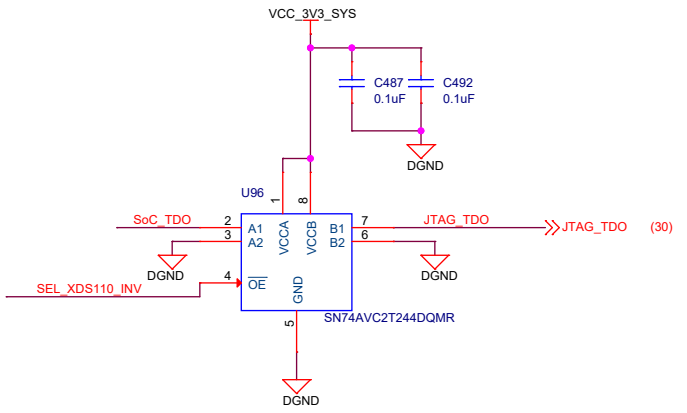
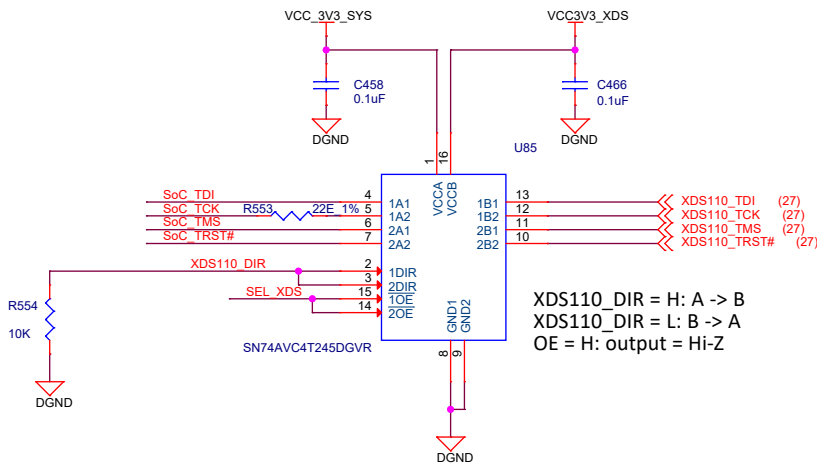
JTAG SOC SECTION



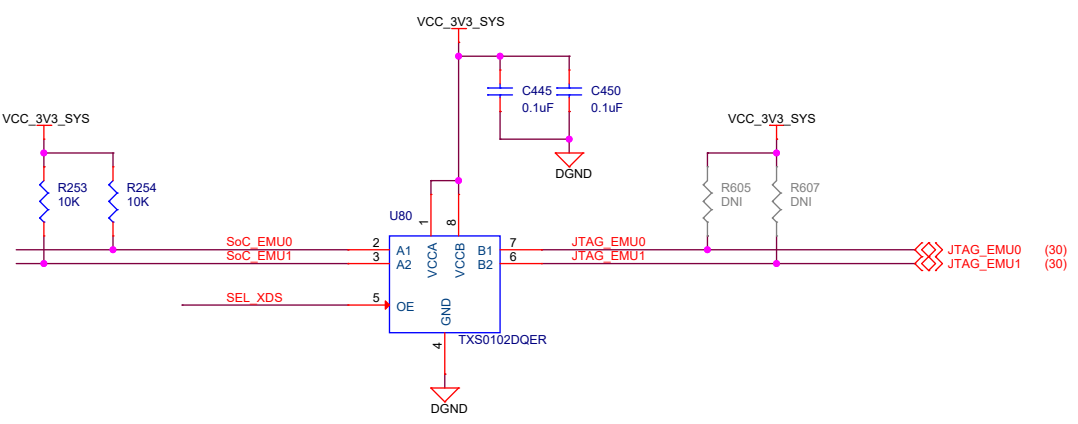
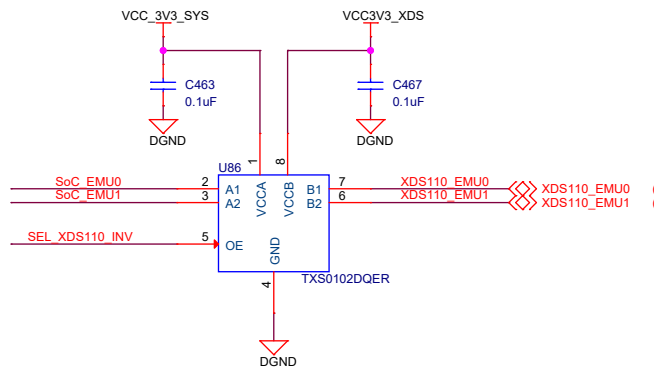
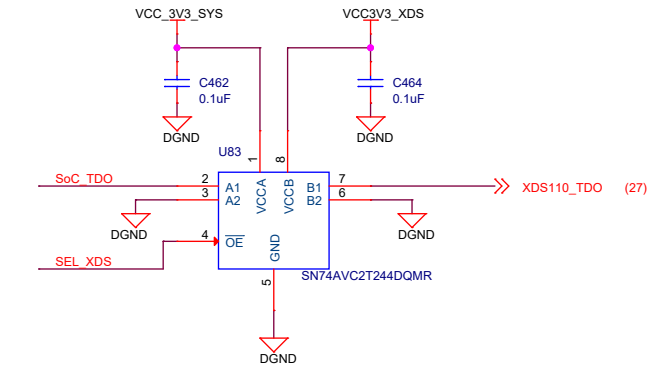
cTI20 JTAG BUFFERS



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.

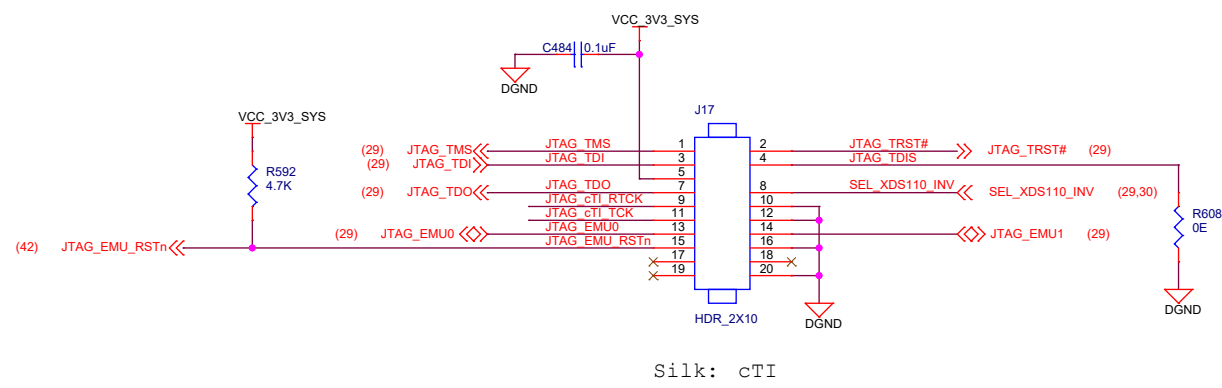


Designed for T1 by Mistral Solutions Pvt Ltd

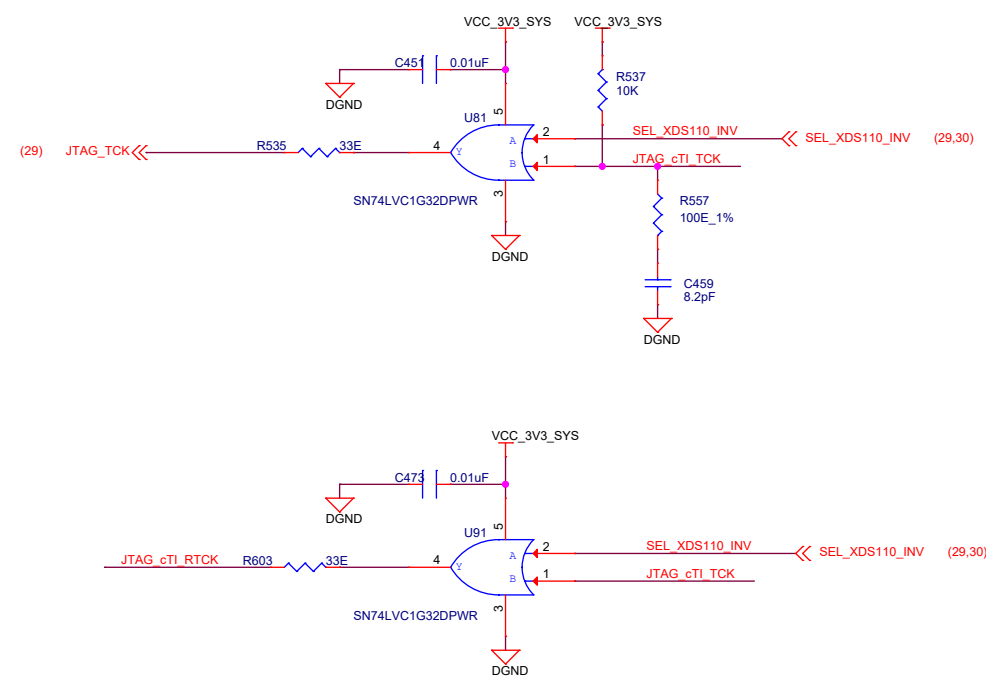


Title JTAG BUFFER		
Size	PROC114A1(001)	Rev
C		A1
Date:	Friday, March 31, 2023	Sheet 29 of 44

JTAG 20 PIN cTI CONNECTOR



JTAG CLOCK BUFFER

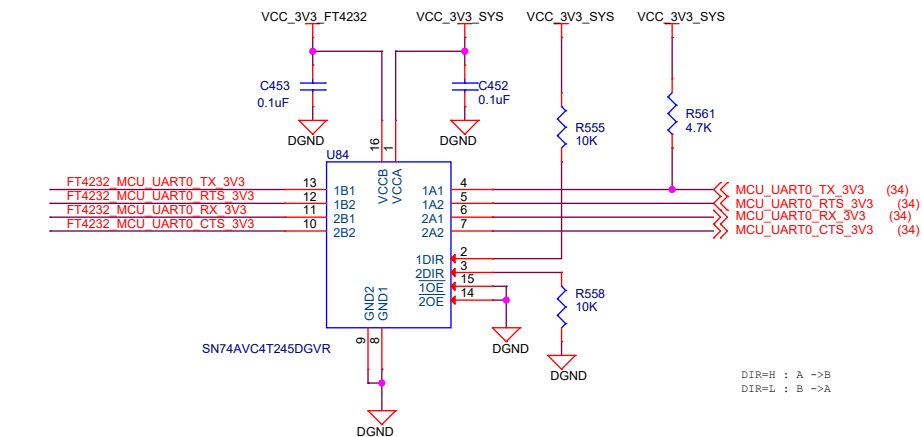
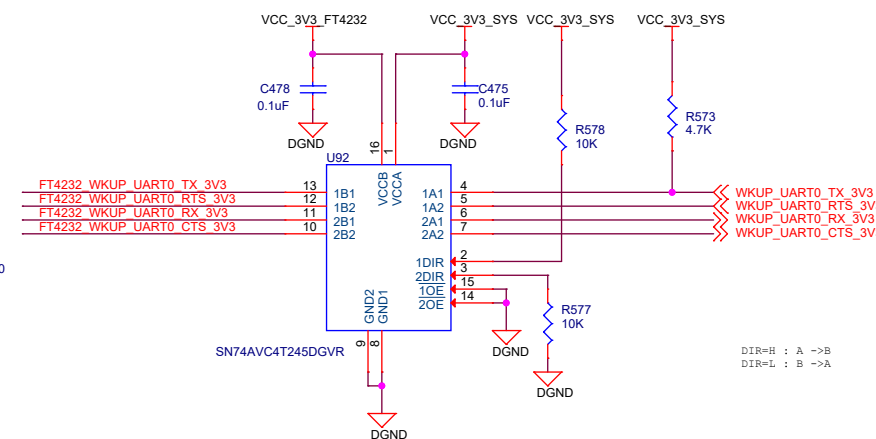
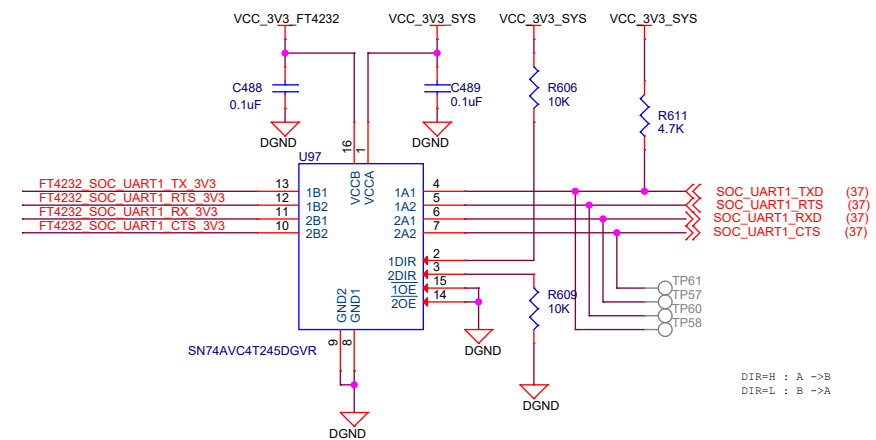
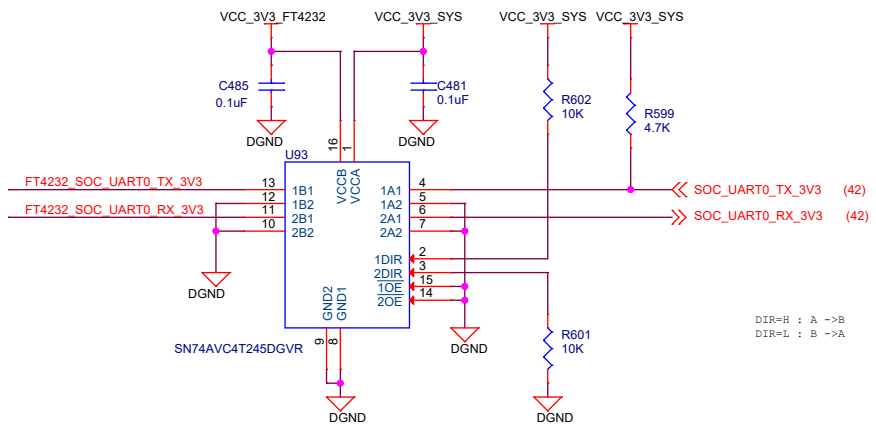
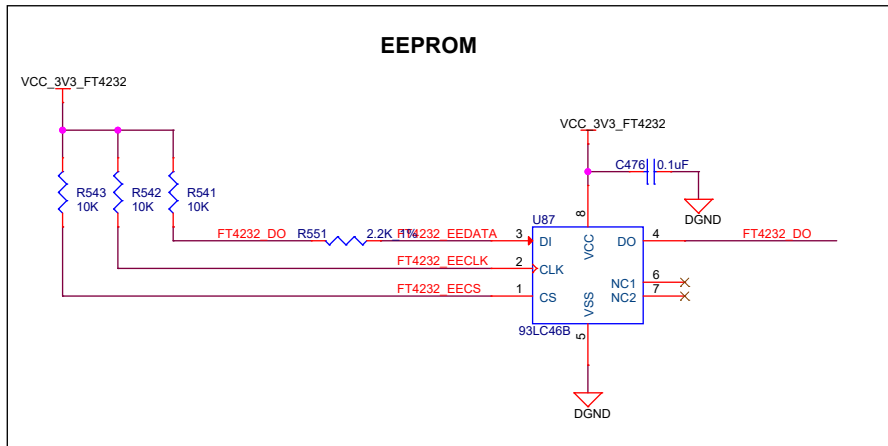
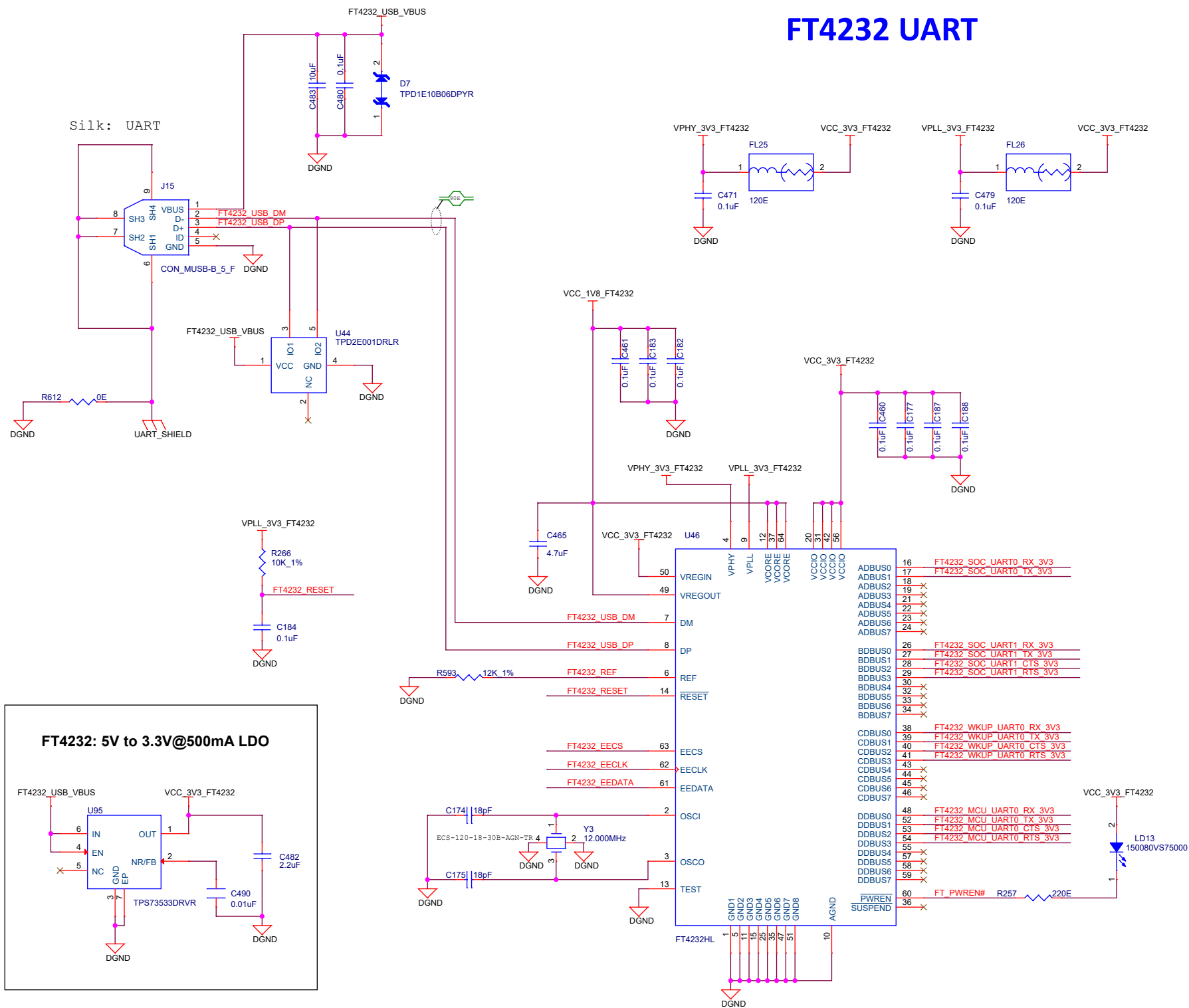


Designed for TI by Mistral Solutions Pvt Ltd

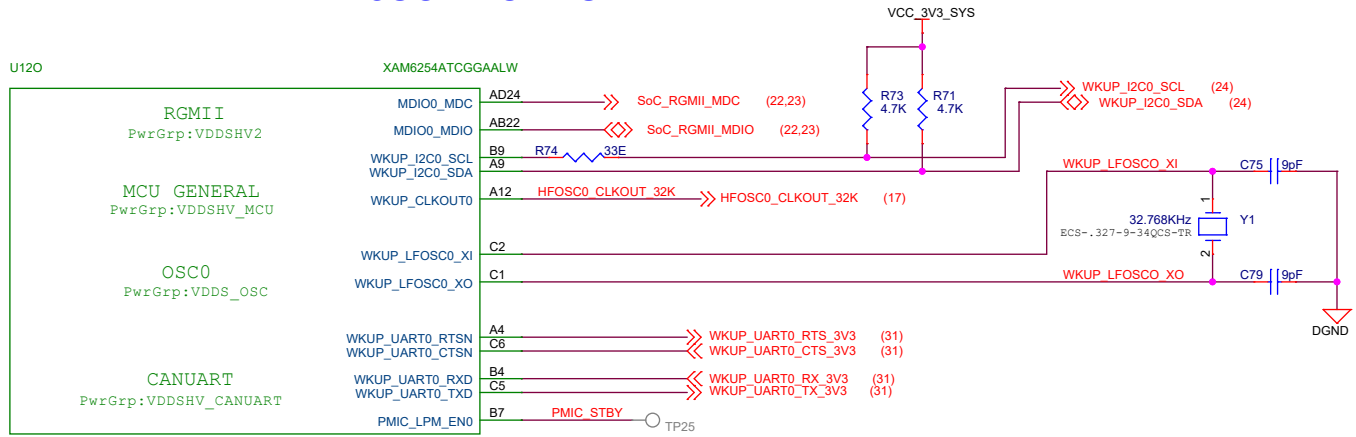


Title JTAG 20 PIN cTI CONNECTOR		
Size	PROC114A1(001)	Rev
C		A1
Date:	Friday, March 31, 2023	Sheet 30 of 44

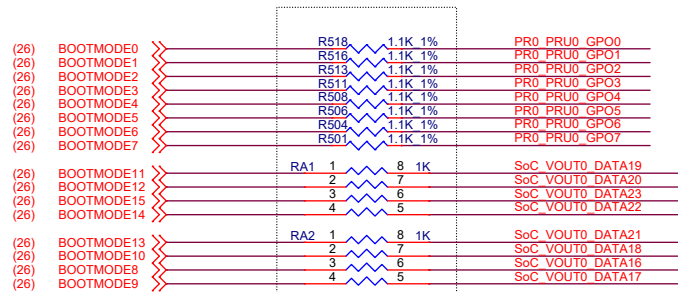
FT4232 UART



SOC WKUP DOMAIN

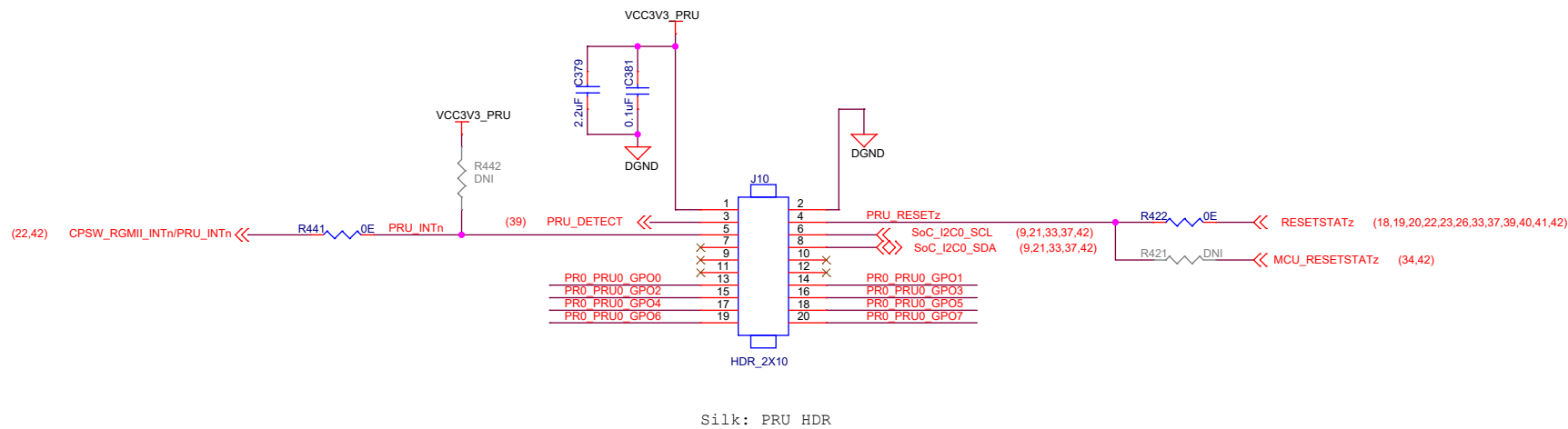


BOOTMODE PINS



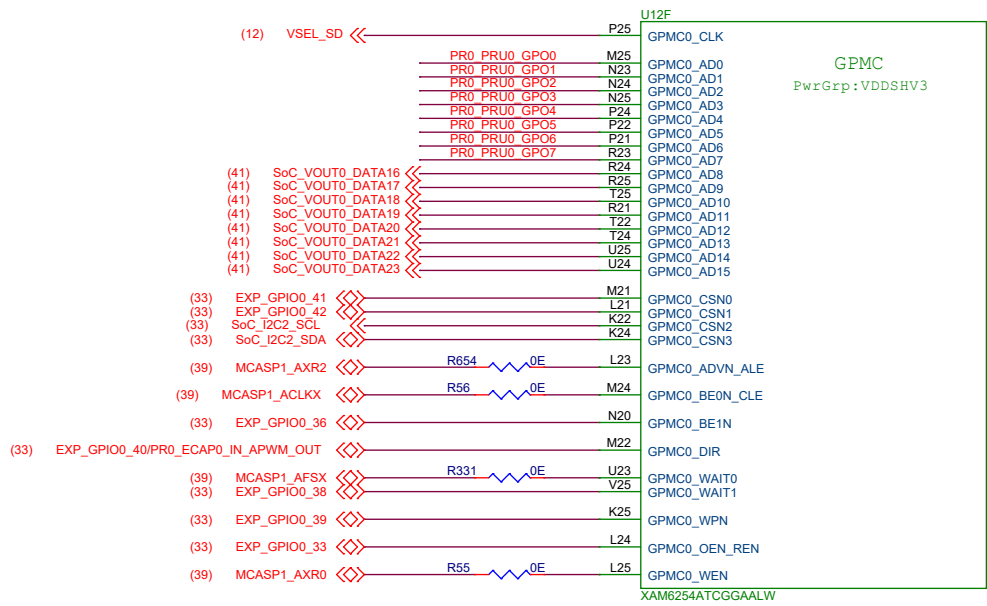
NOTE: Resistors are used to isolate the BOOTMODE control logic after the value is latched

PRU HEADER

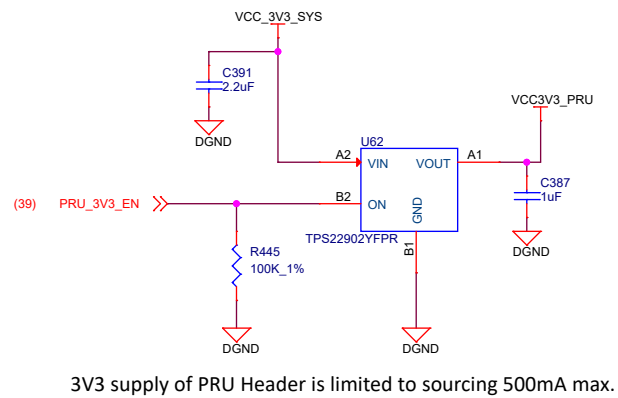


NOTE: PRU Header I/O are not fail-safe and shall not be driven when AM62x Starter Kit is not powered.

SOC GPMC



POWER SWITCH FOR PRU HEADER



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

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Title PRU HEADER

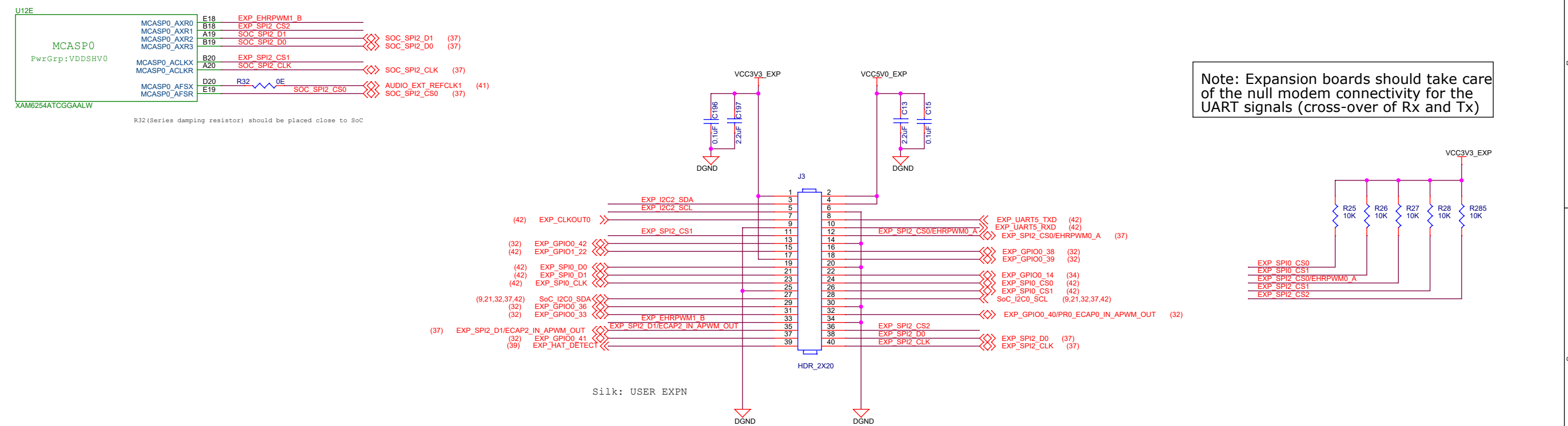
Size PROC114A1(001)

Rev

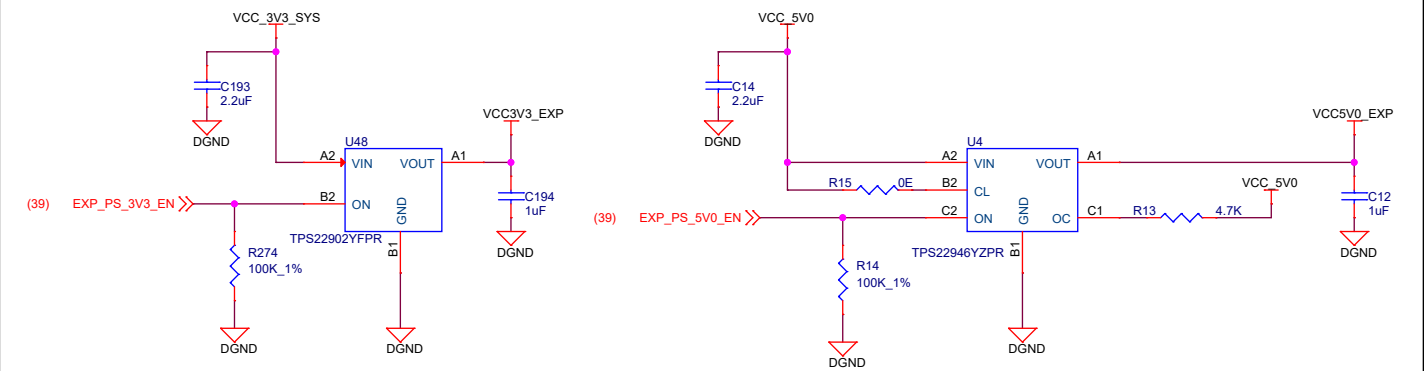
Date: Friday, March 31, 2023

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USER EXPANSION CONNECTOR



POWER SWITCHES FOR USER EXPANSION CONNECTOR



NOTE:

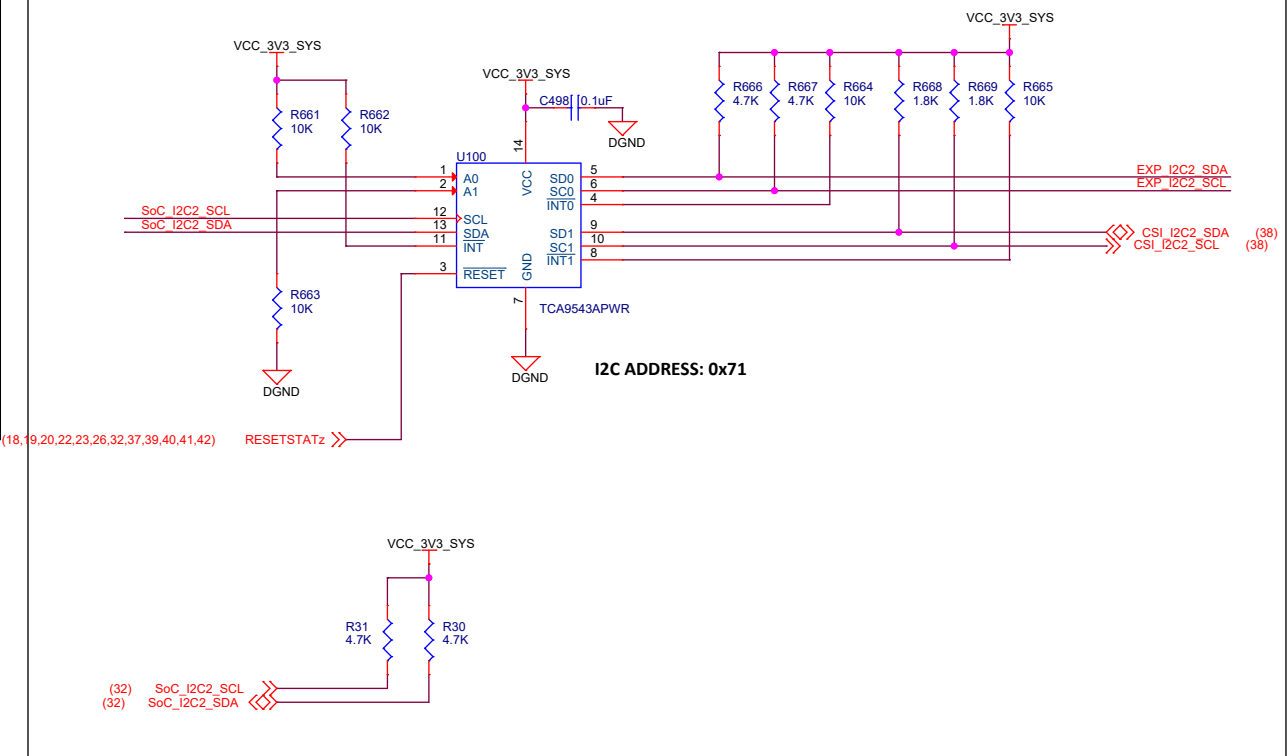
AM62x Starter Kit shall not be powered through the 5V0 or 3V3 pins on the 40-pin User Expansion Connector.

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.

I2C SWITCH FOR SoC_I2C2

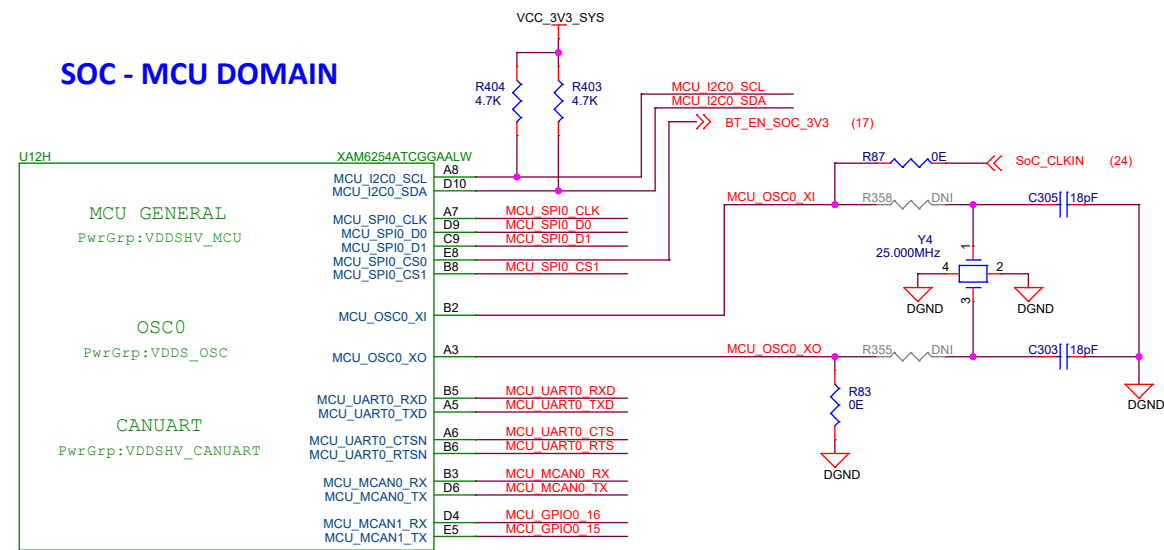


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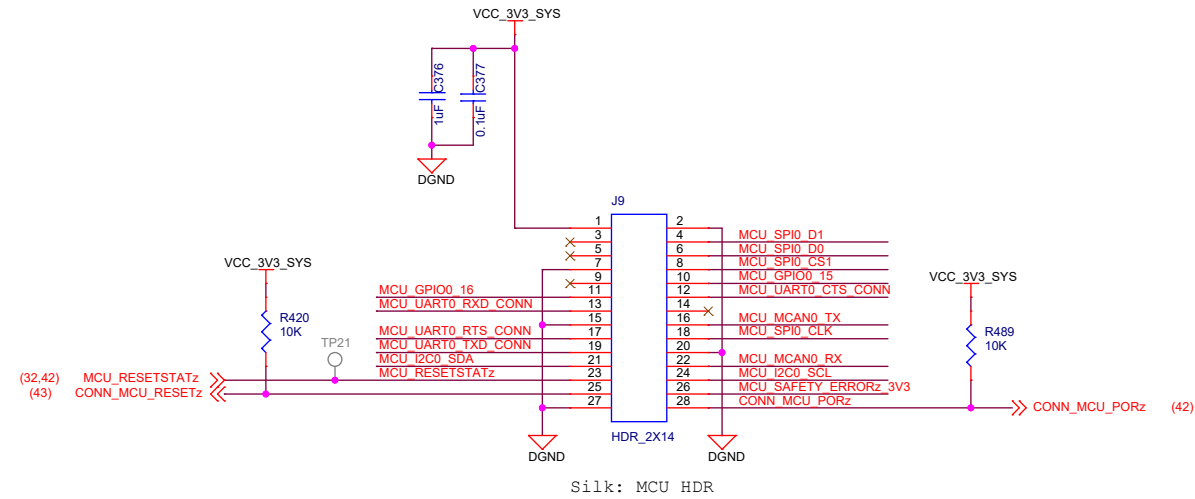


Title USER EXPANSION CONNECTOR		
Size	PROC114A1(001)	Rev
C		A1
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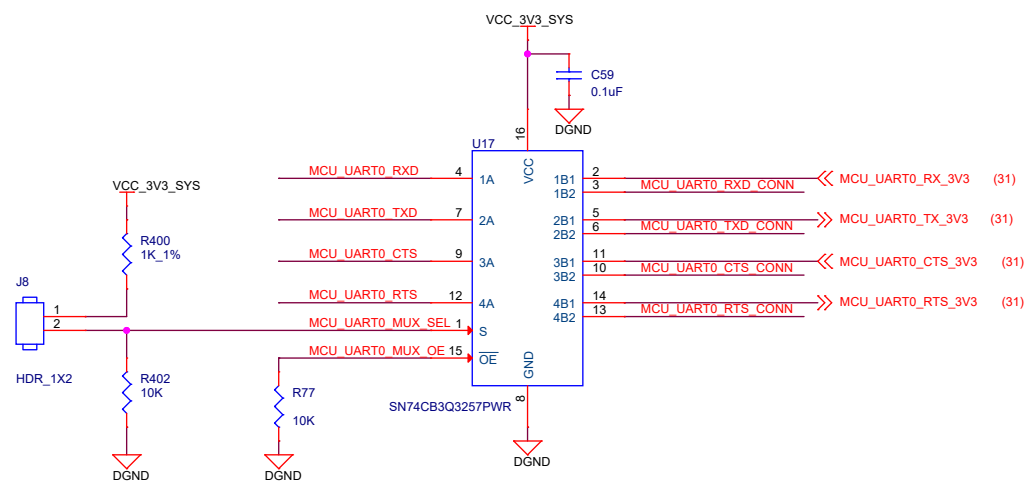
SOC - MCU DOMAIN



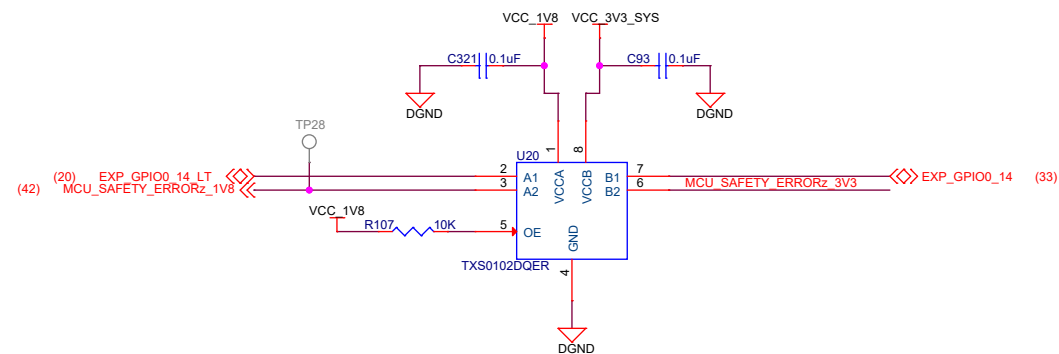
MCU HEADER



MCU_UART0 MUX



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



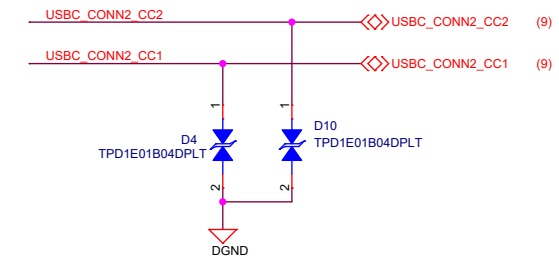
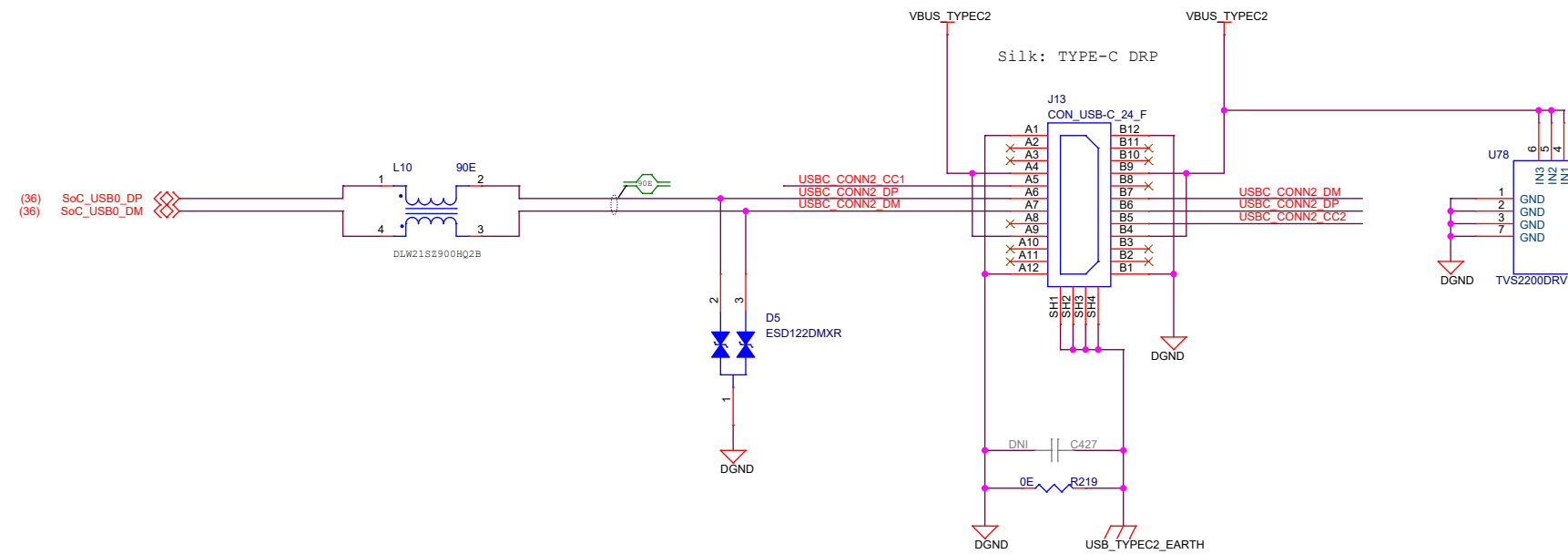
Designed for TI by Mistral Solutions Pvt Ltd



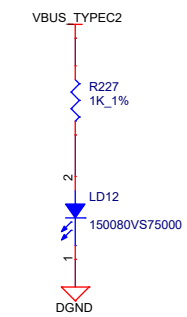
Title	MCU HEADER
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Size	PROC114A1(001)	Rev
C		A1
Date:	Friday, March 31, 2023	Sheet 34 of 44

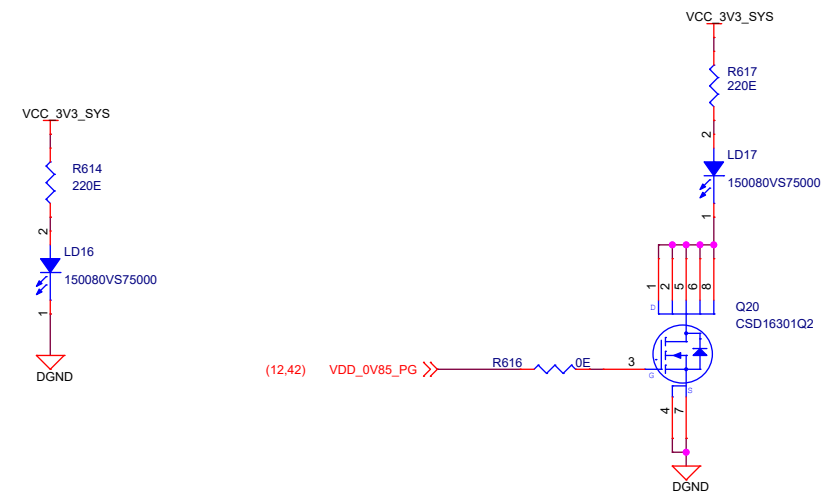
USB0 TYPE-C DRP



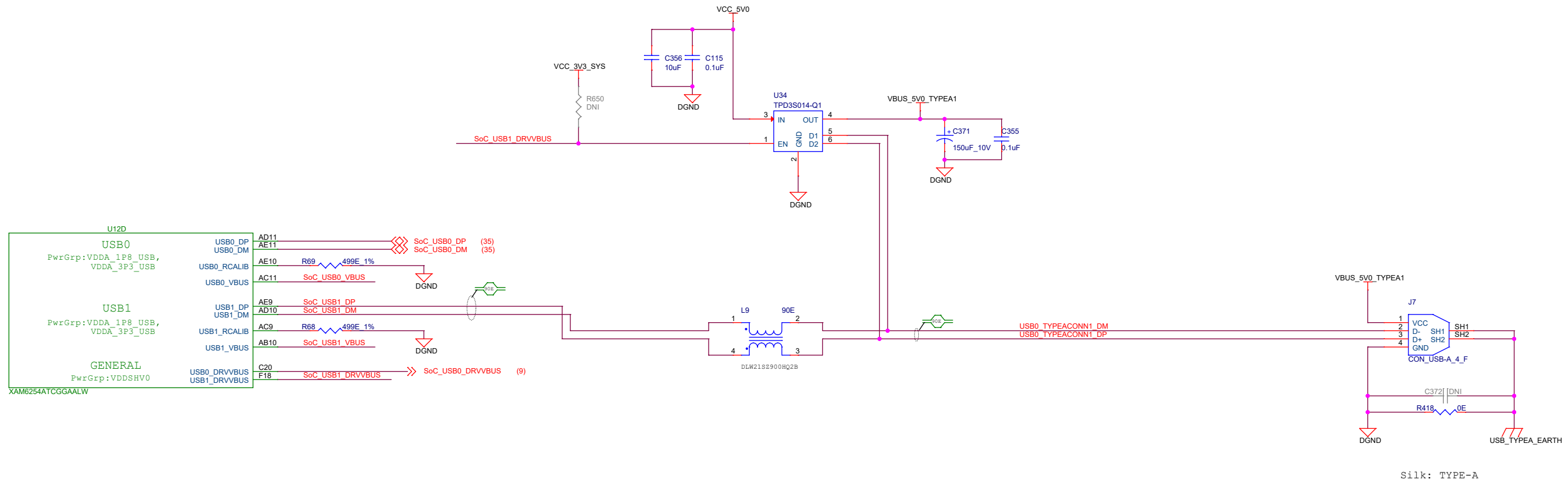
POWER INDICATION LED: VBUS_TYPEC2



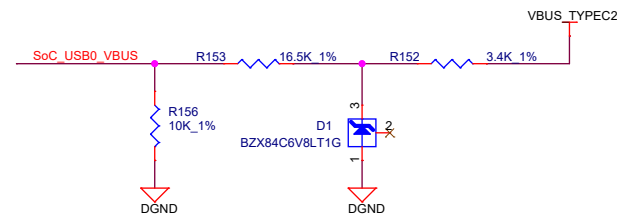
POWER RAIL LEDS



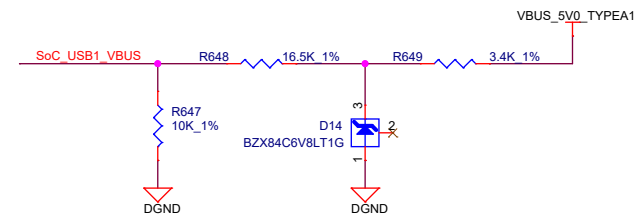
USB1 TYPE-A



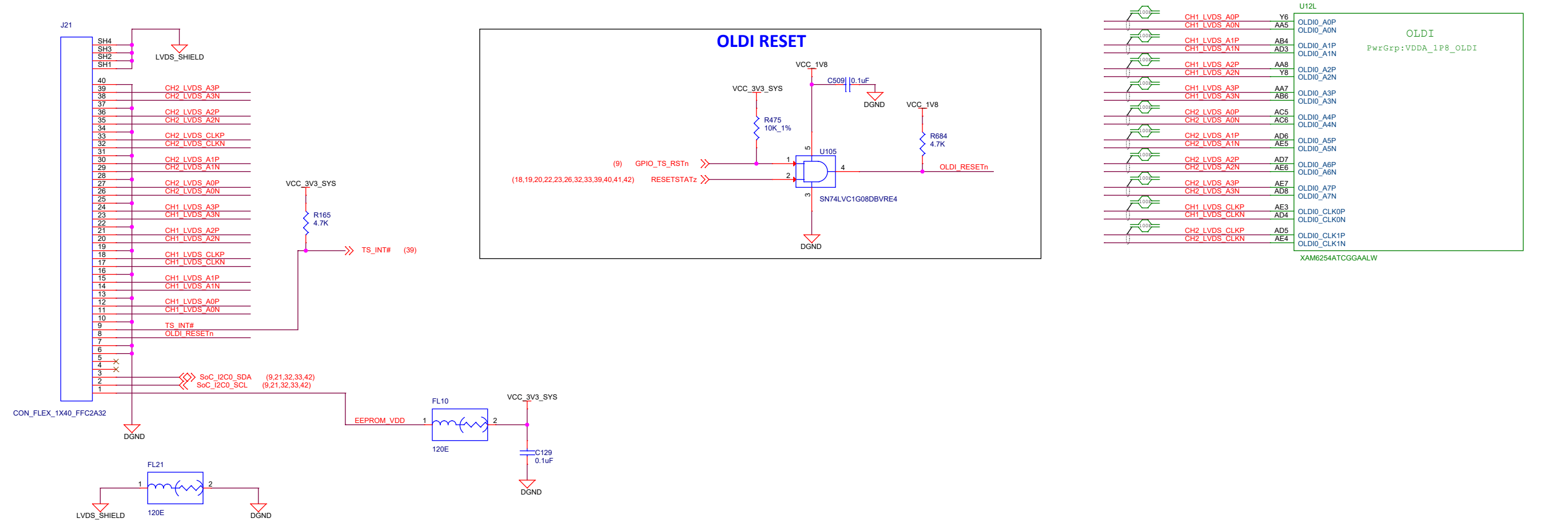
Note: Recommended VBUS circuit for USB connector. Supports 5V-30V VBUS



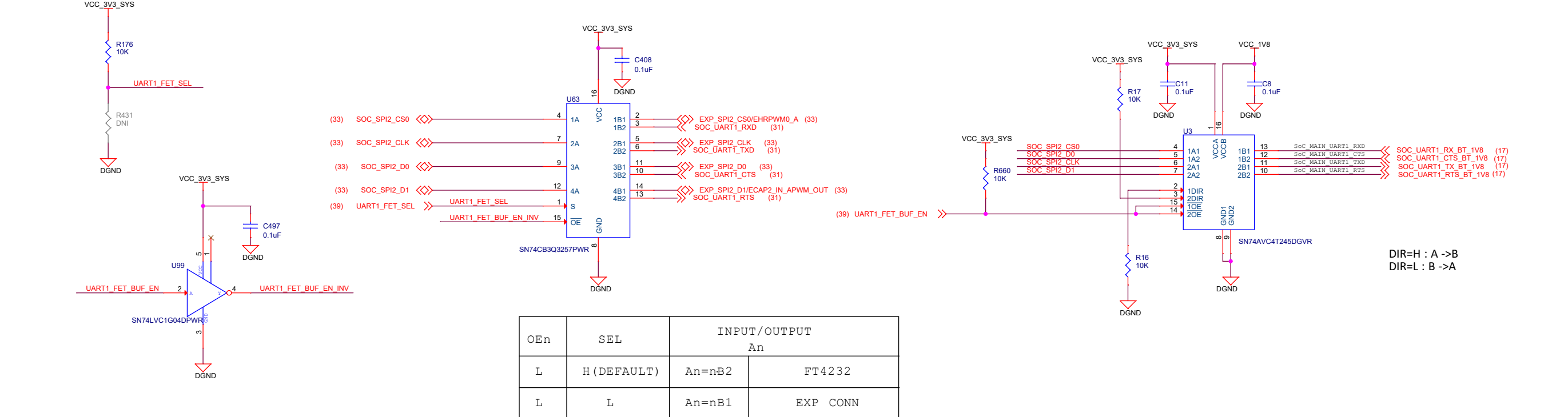
Note: Recommended VBUS circuit for SoC_USB1_VBUS



OLDI DISPLAY INTERFACE



SoC UART1 FET SWITCH & BUFFER



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

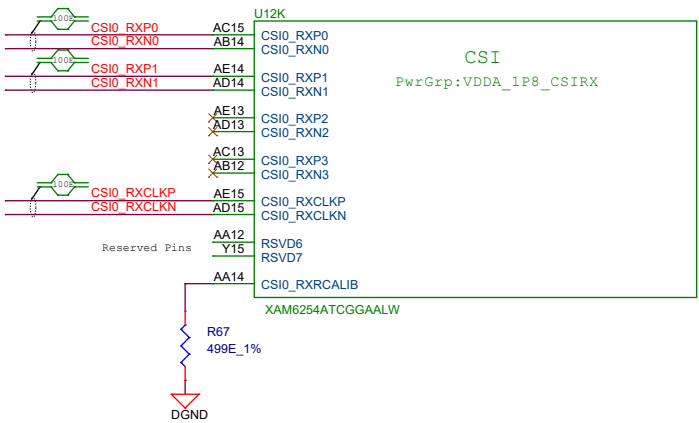
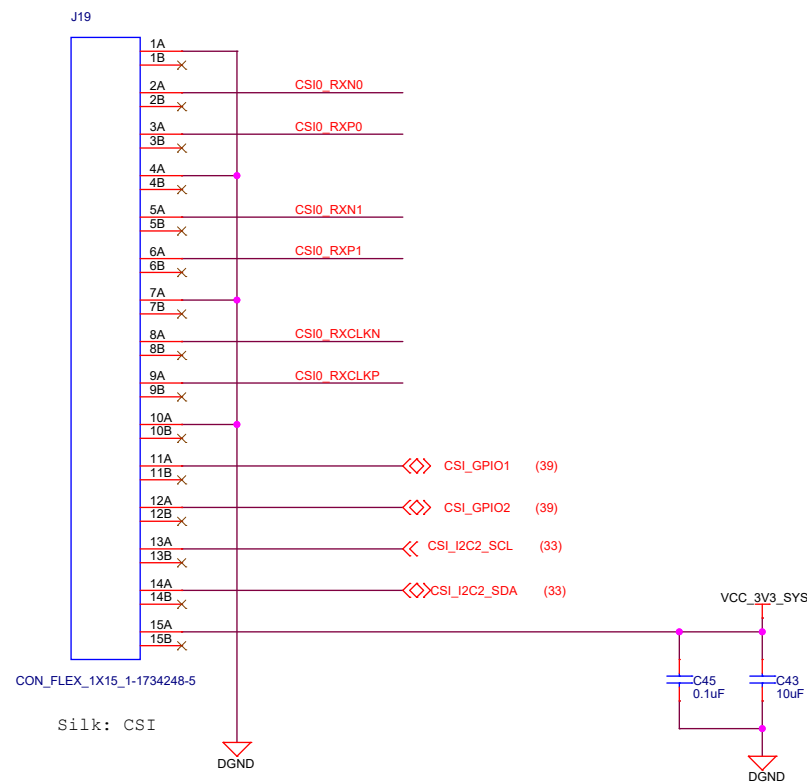
Designed for T1 by Mistral Solutions Pvt Ltd



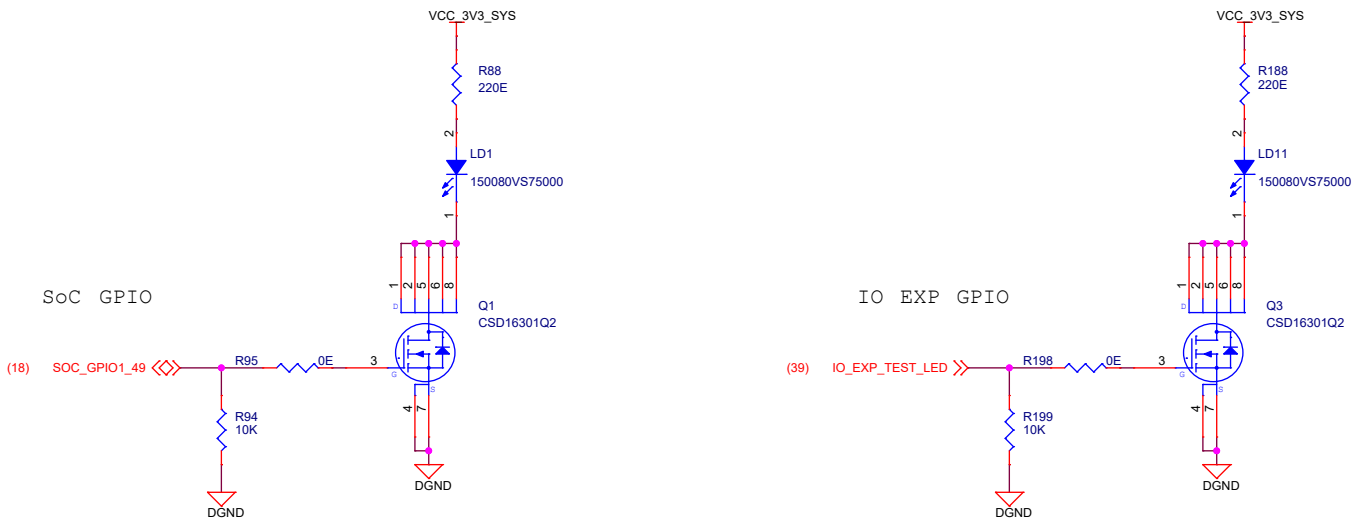
Title OLDI DISPLAY INTERFACE		
Size C	PROC114A1(001)	Rev A1
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CSI INTERFACE

CSI CAMERA HEADER



USER TEST LEADS

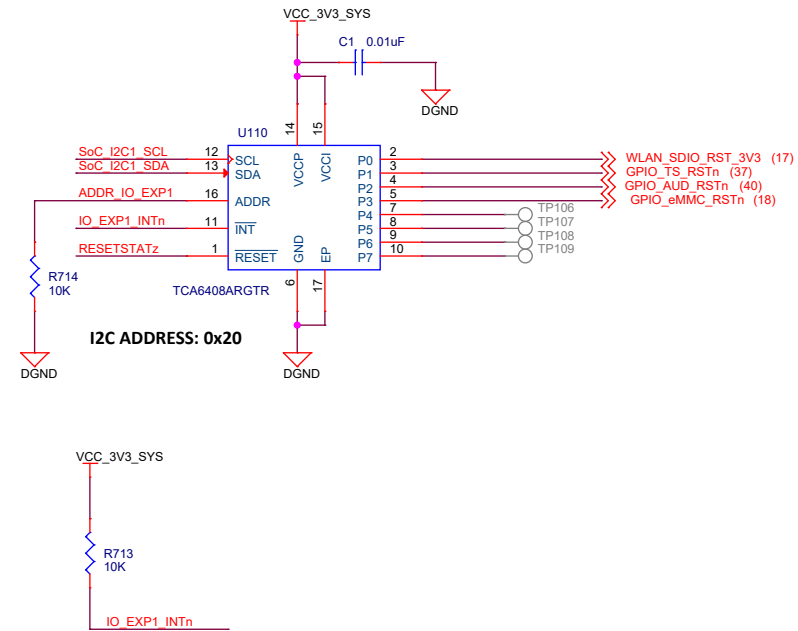
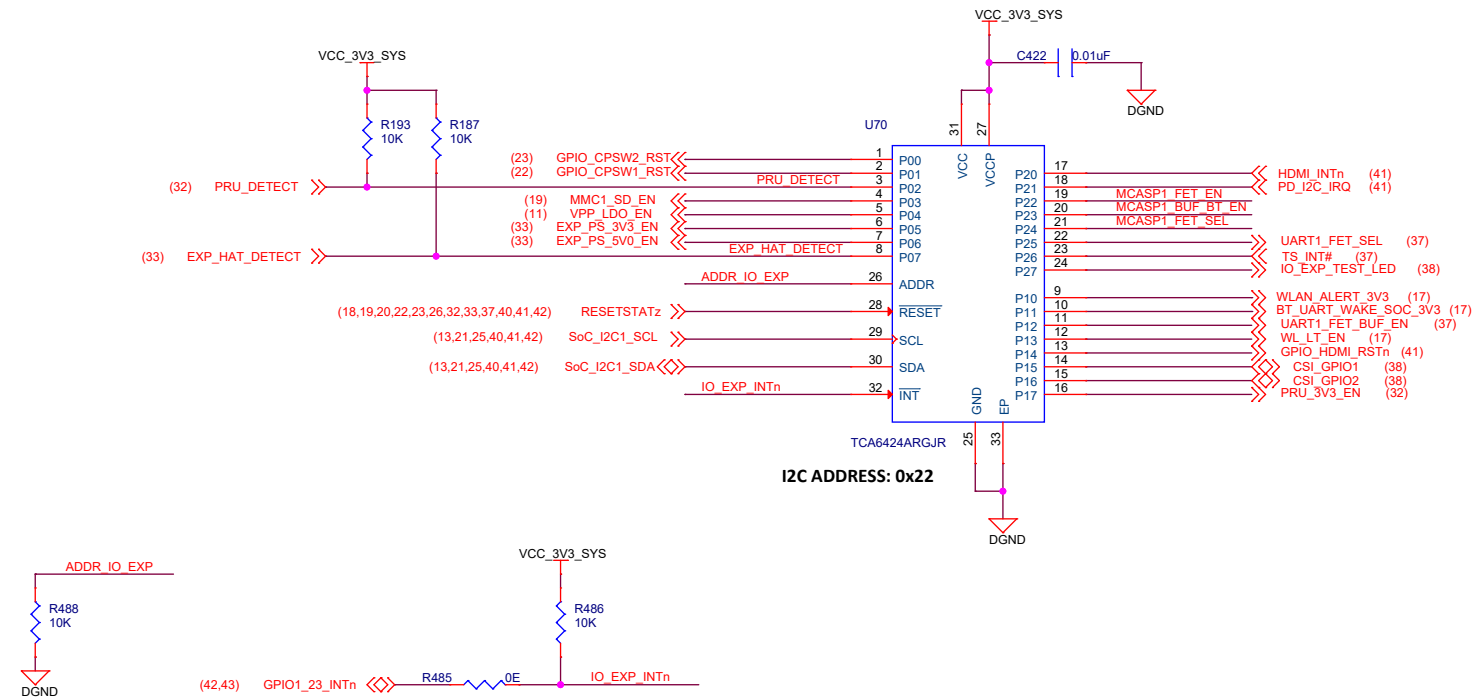


Designed for T1 by Mistral Solutions Pvt Ltd

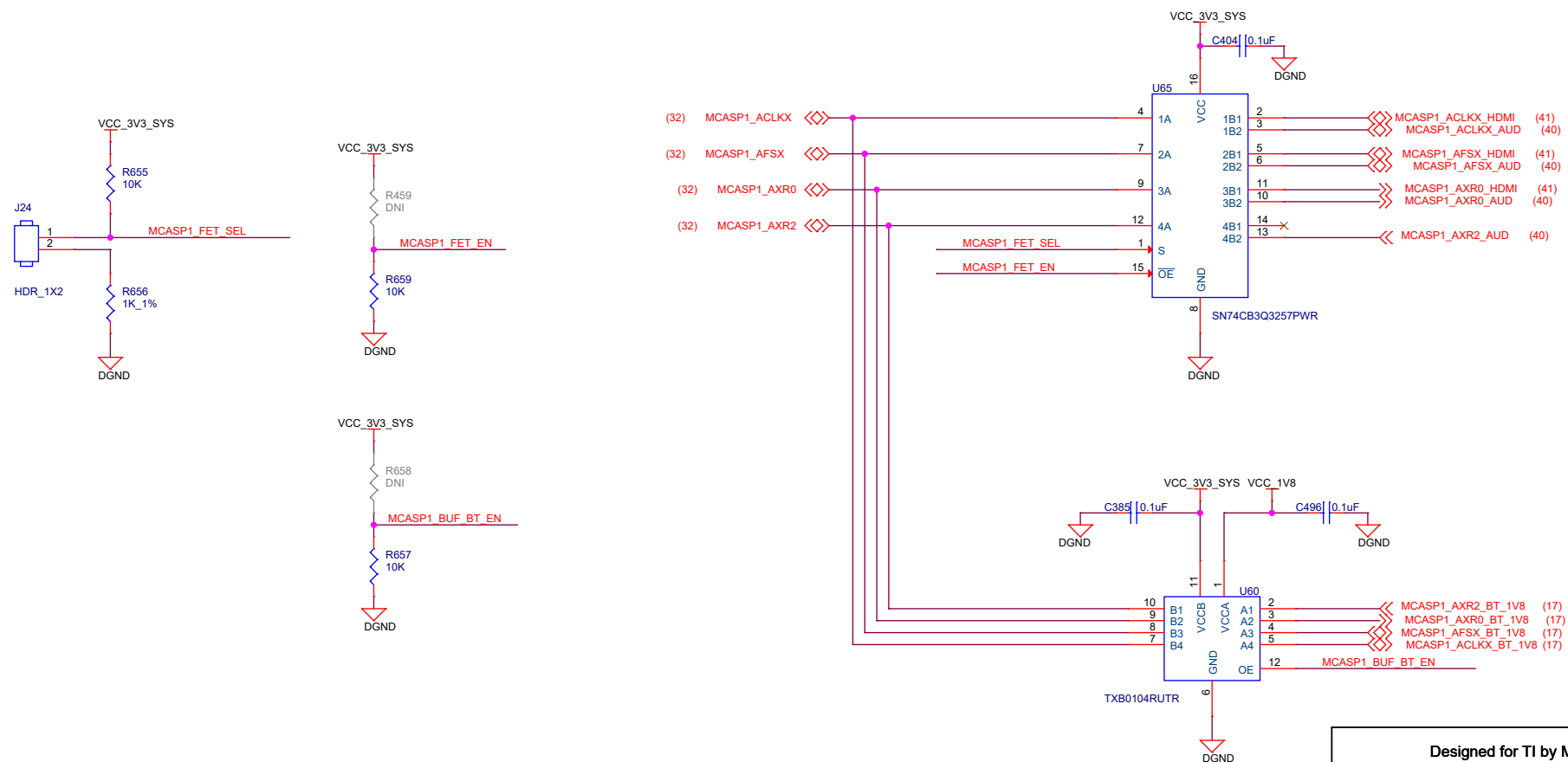


Title			CSI INTERFACE & USER TEST LEADS	
Size	PROC114A1(001)			Rev
	C			A1
Date:	Friday, March 31, 2023	Sheet	38	of 44

IO EXPANDER

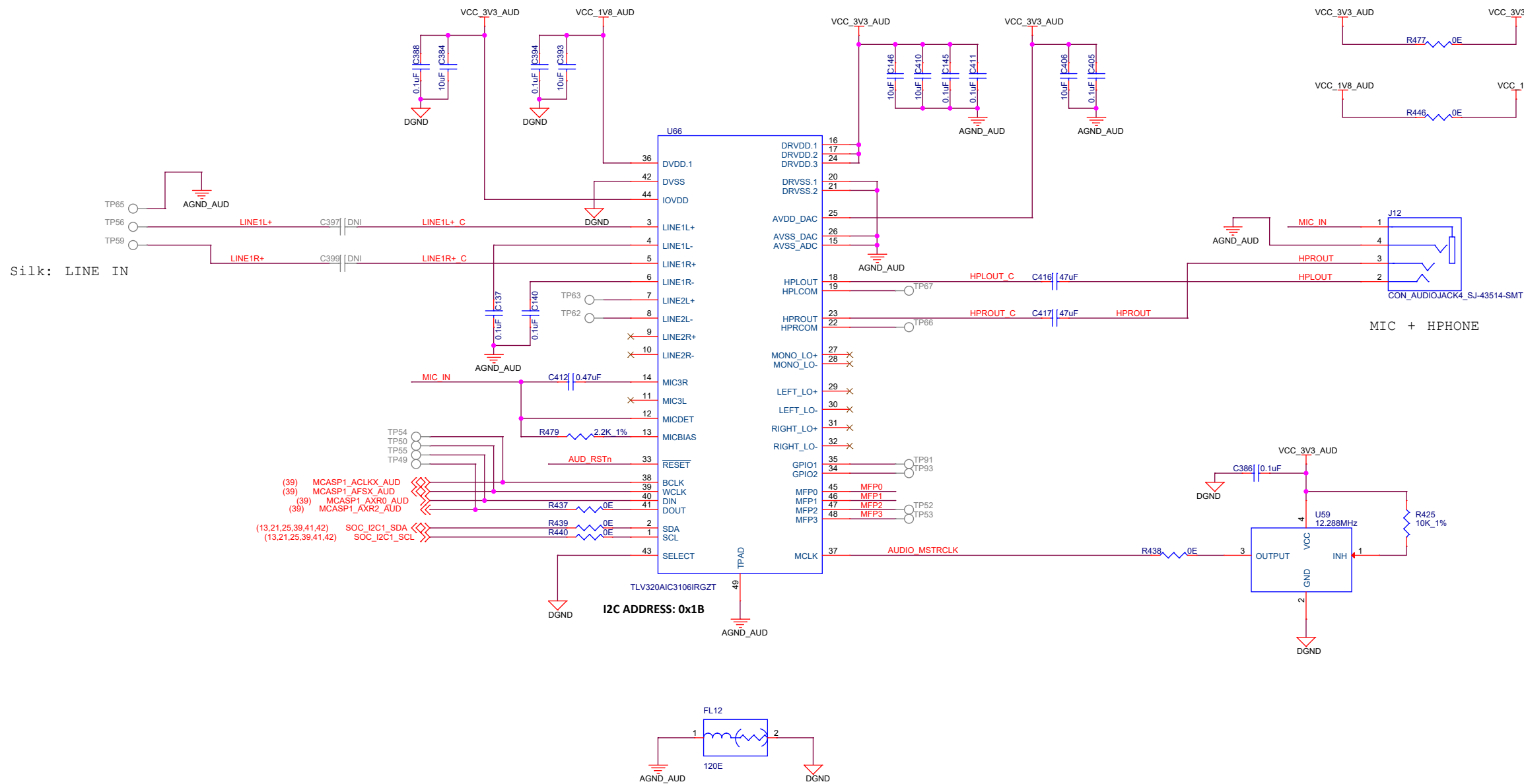


MCASP1 FET SWITCH & BUFFER

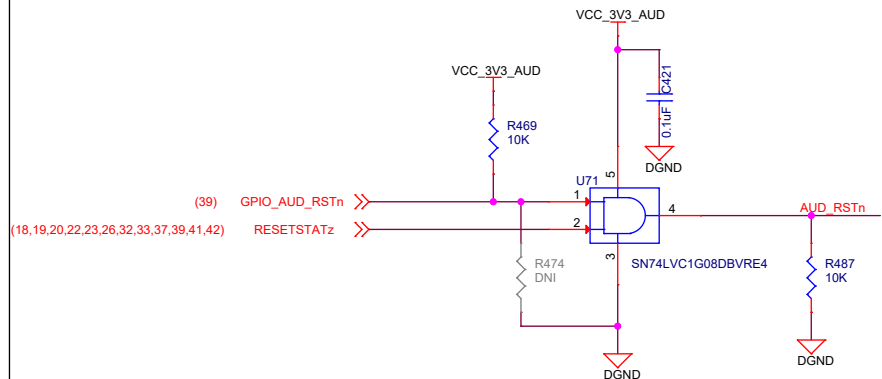


OEn	SEL	INPUT/OUTPUT An	
L	H (DEFAULT)	An=nB2	MCASP1 - CODEC
L	L	An=nB1	MCASP1 - HDMI

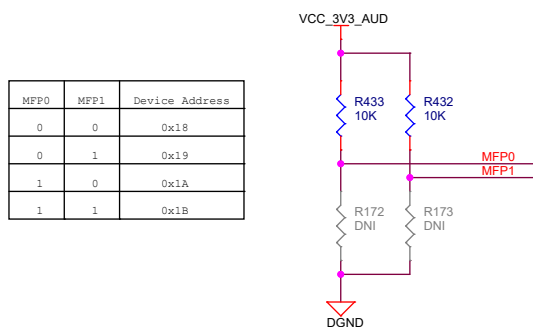
AUDIO CODEC



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 PROC114A1(001)

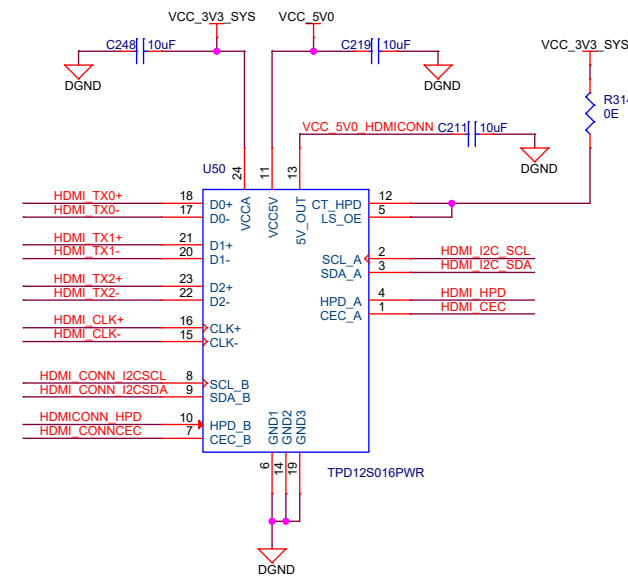
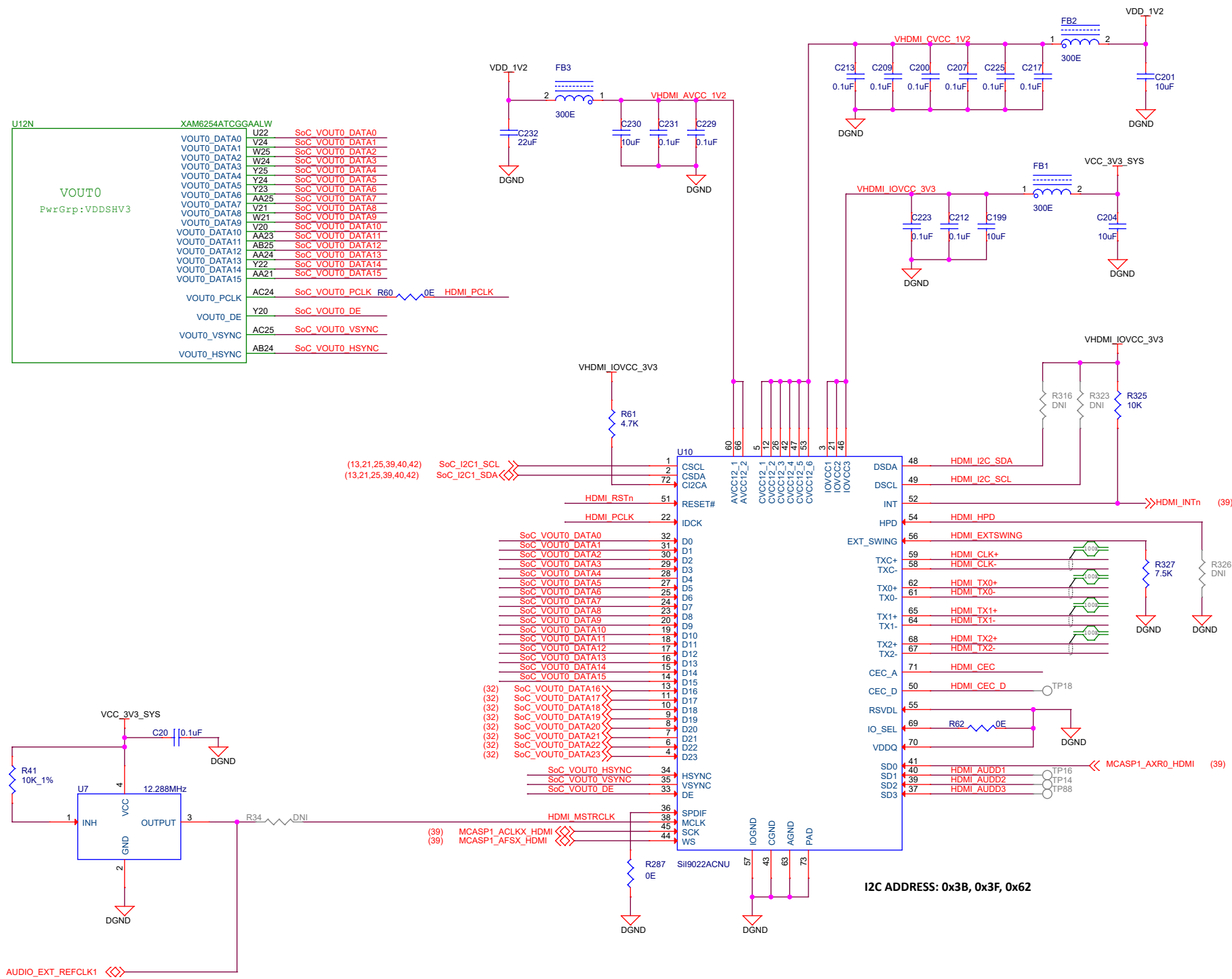
Rev

Date: Friday, March 31, 2023

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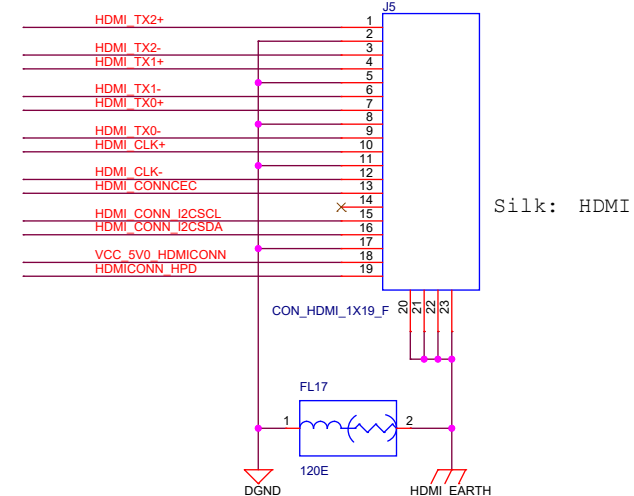
A1

HDMI INTERFACE

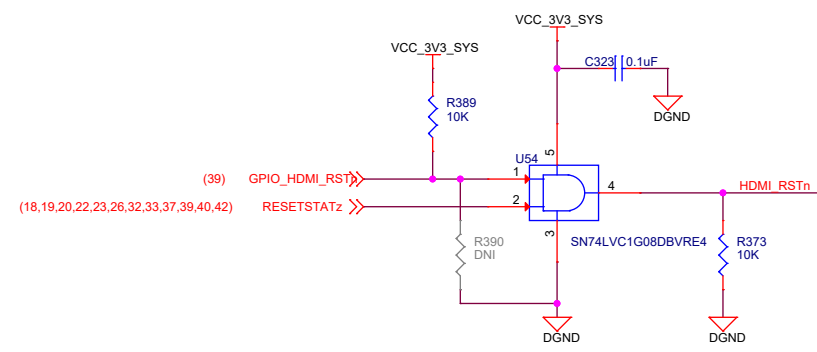


NOTE:
TPD12S016PWR has integrated pullup or pulldown resistors on the I2C and HPD lines hence no external pullup or pulldown required.

HDMI CONNECTOR



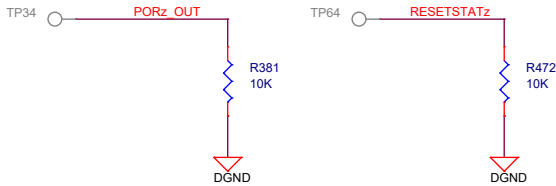
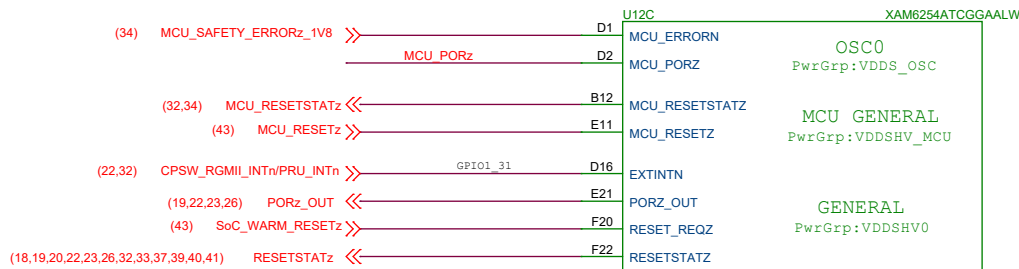
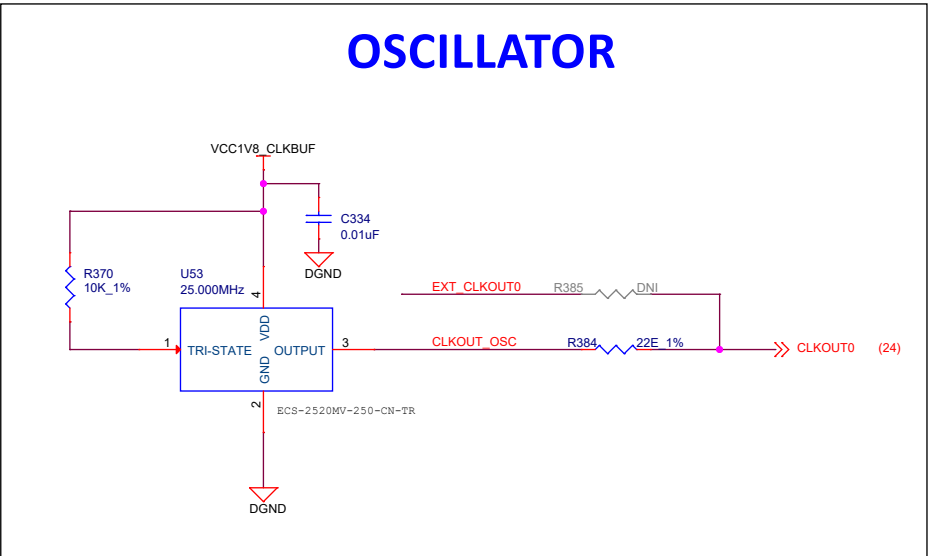
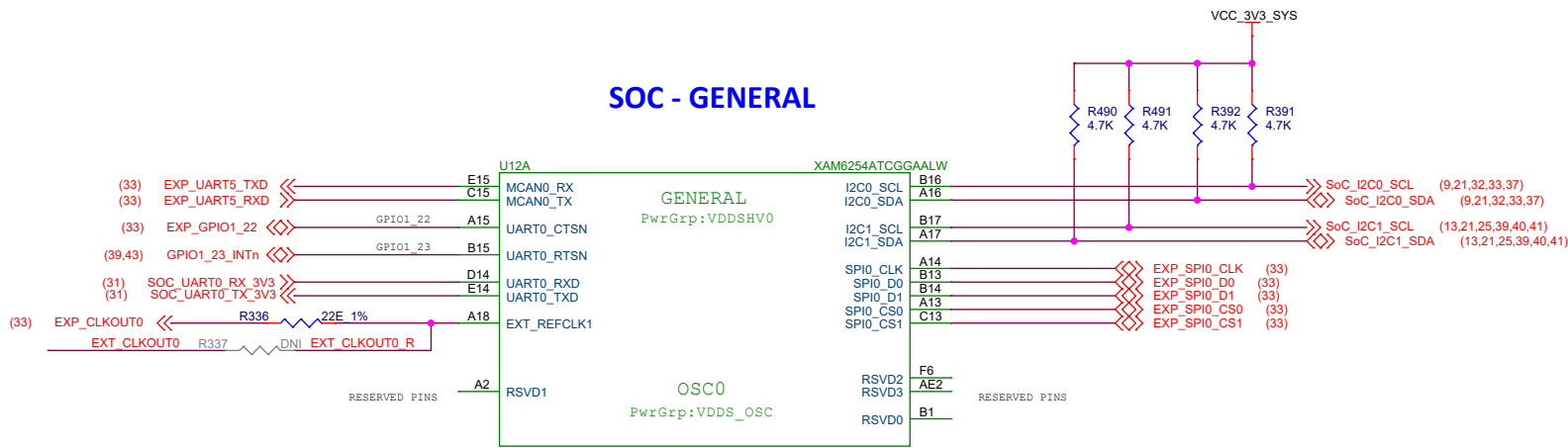
HDMI RESET



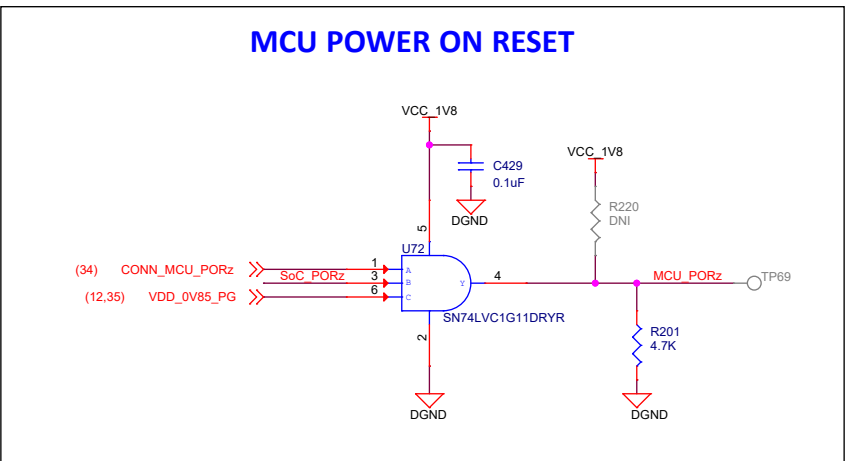
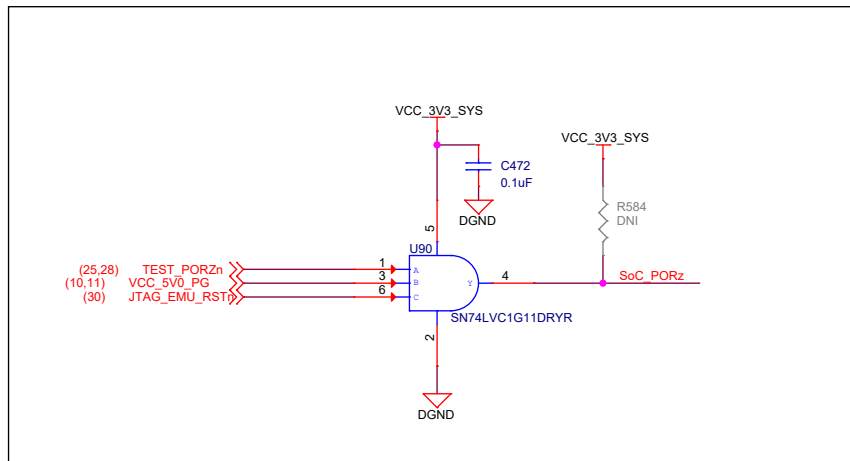
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Title		HDMI INTERFACE		
Size	PROC114A1(001)			Rev
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Pull-down resistor on PORz_OUT is provided to keep the signal low until the processor is released from reset during the power-up sequence



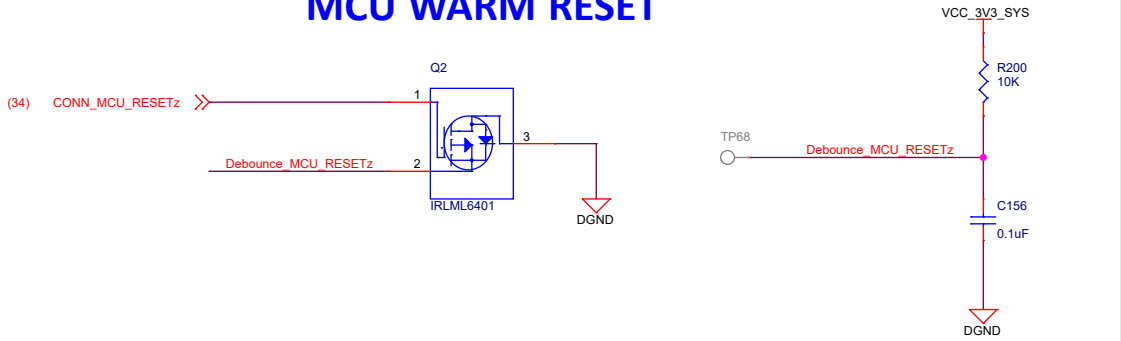
Designed for T1 by Mistral Solutions Pvt Ltd



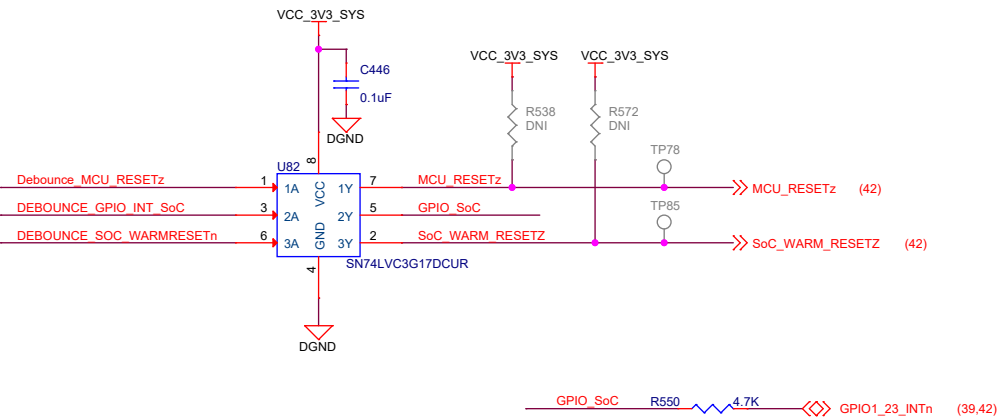
Title			OSCILLATOR	
Size	PROC114A1(001)		Rev	
C			A1	
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RESET

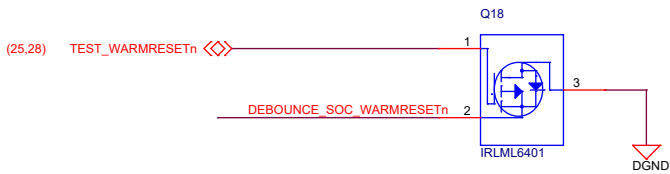
MCU WARM RESET



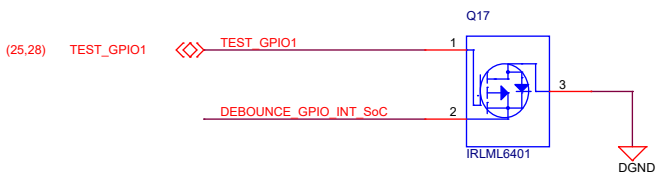
DEBOUNCE CIRCUIT



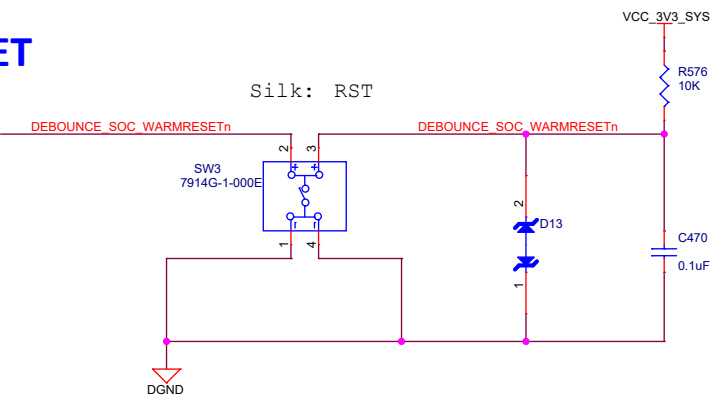
SOC WARM RESET



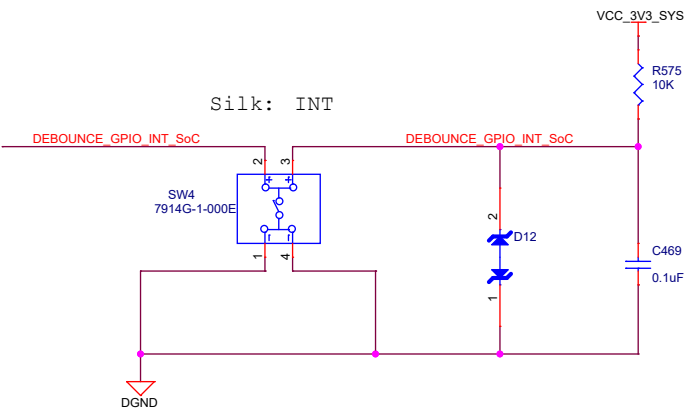
USER INTERRUPT



Silk: RST



Silk: INT



Designed for T1 by Mistral Solutions Pvt Ltd



Title RESET		
Size	PROC114A1(001)	Rev
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HARDWARE SCHEMATICS

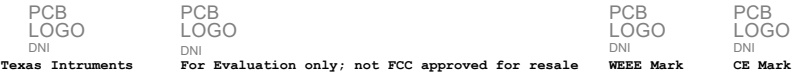
ASSEMBLY NOTES

- 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

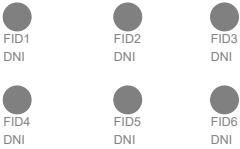
Board Serial No. Assembly Revision



STANDOFF,SCREW & WASHER FOR PCIe M.2



FIDUCIALS



ORDERABLE PART NO



Oderable Part Number	
Variant	Label Text
001	SK-AM62
002	SK-AM62B

Designed for T1 by Mistral Solutions Pvt Ltd



Title HARDWARE SCHEMATICS		
Size	PROC114A1(001)	Rev
C		A1
Date:	Tuesday, April 11, 2023	Sheet 44 of 44