

# AM261 HSEC ADAPTER BOARD

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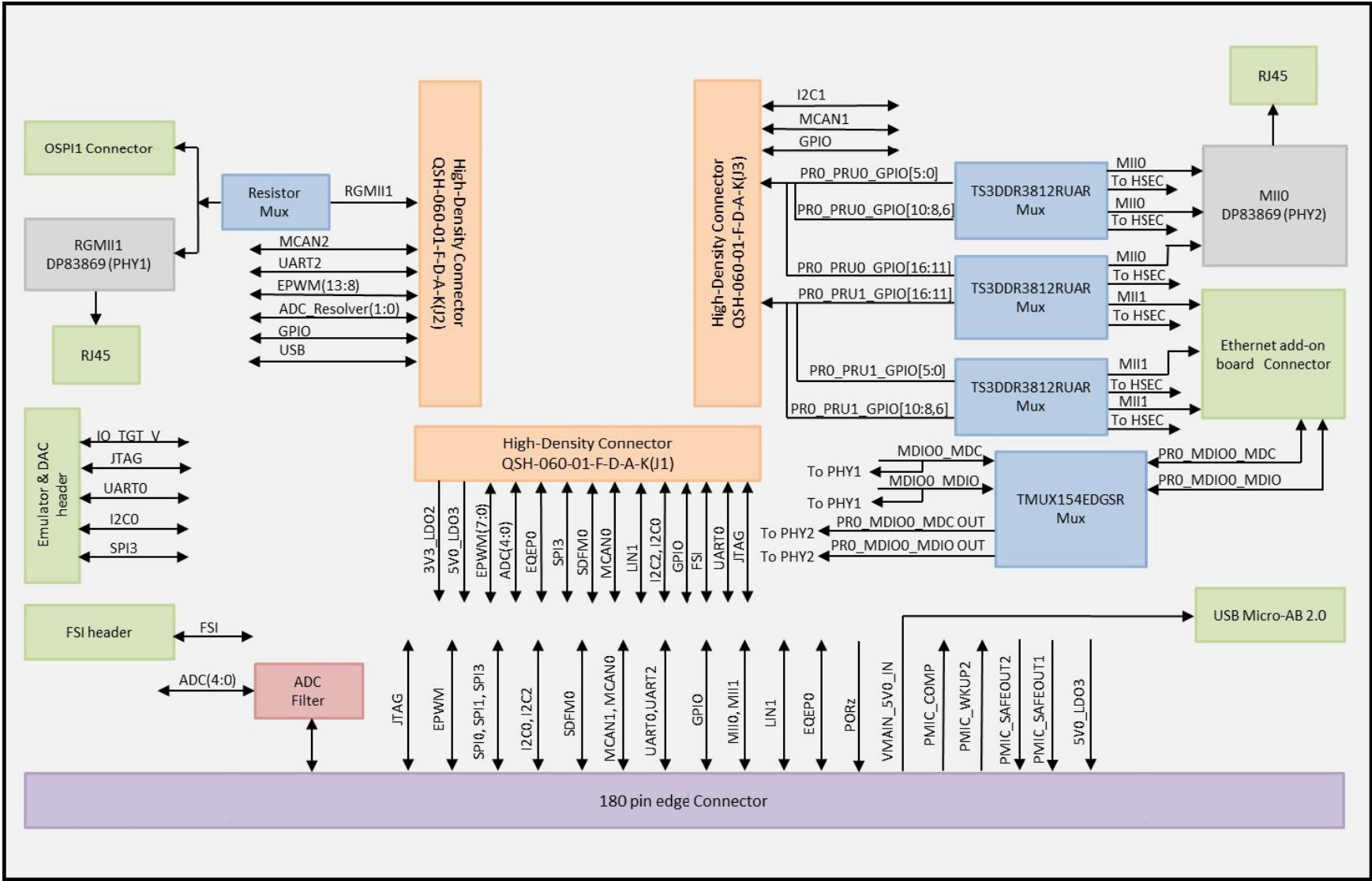
REVISION HISTORY

VER#	DATE	DESCRIPTION	AUTHOR	REVIEWED BY	APPROVED BY
0.1	22-07-2024	INITIAL DRAFT	MISTRAL DESIGN TEAM		

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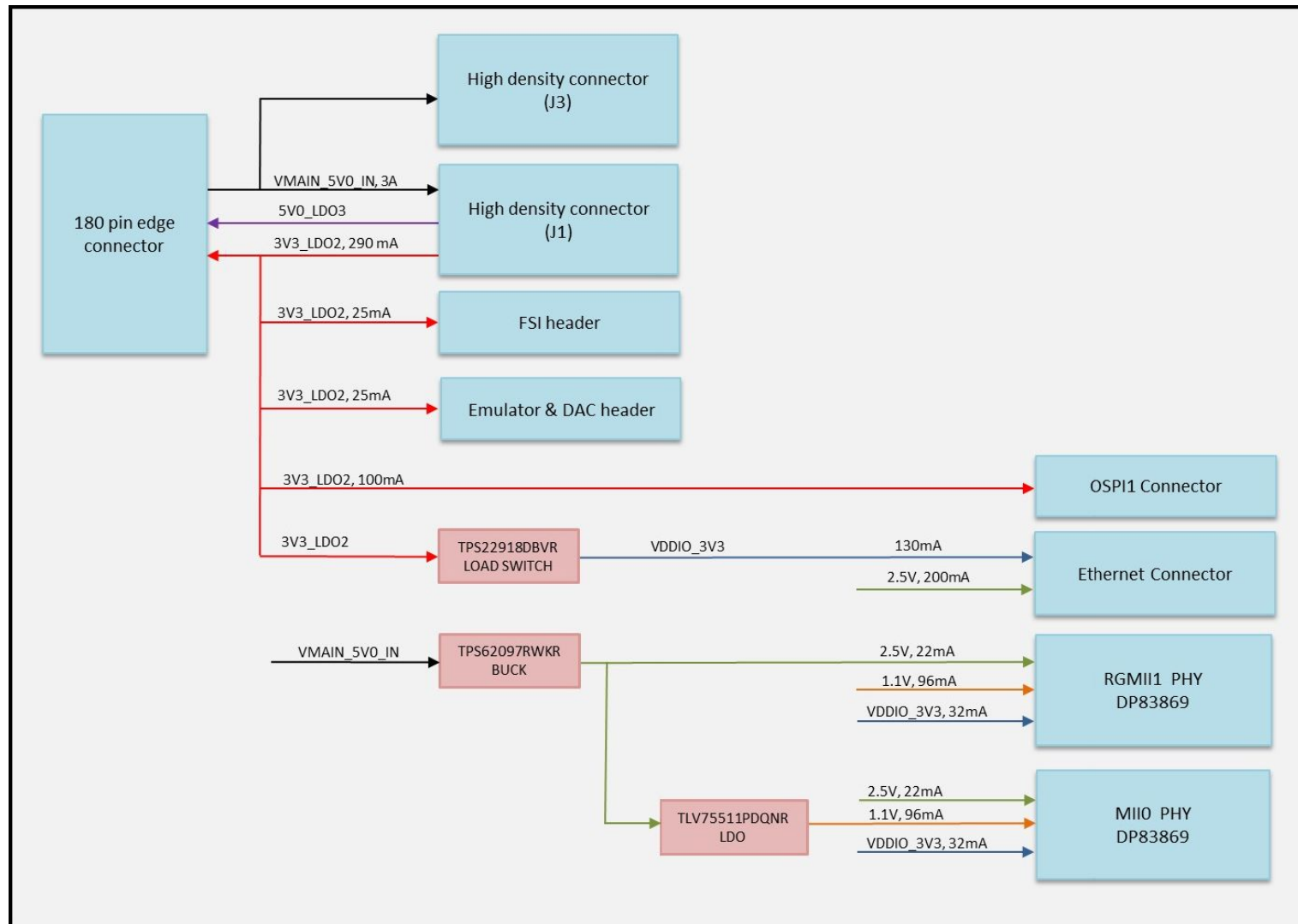
Orderable: HSEC180ADAPEVM-AM		Designed for: Public Release		Mod. Date: 25-07-2024	
TID #:		Project Title: AM261 HSEC Adapter Board			
Number: PROC200		Rev: E1	Sheet Title:		
SVN Rev: Unknown revision		Assembly Variant: 001		Sheet: 2 of 18	
Drawn By: Texas Instruments		File: PROC200_REVISION_HISTORY.SchDoc		Size: B	
Engineer:		Contact:			

# AM261 HSEC ADAPTER SYSTEM BLOCK DIAGRAM



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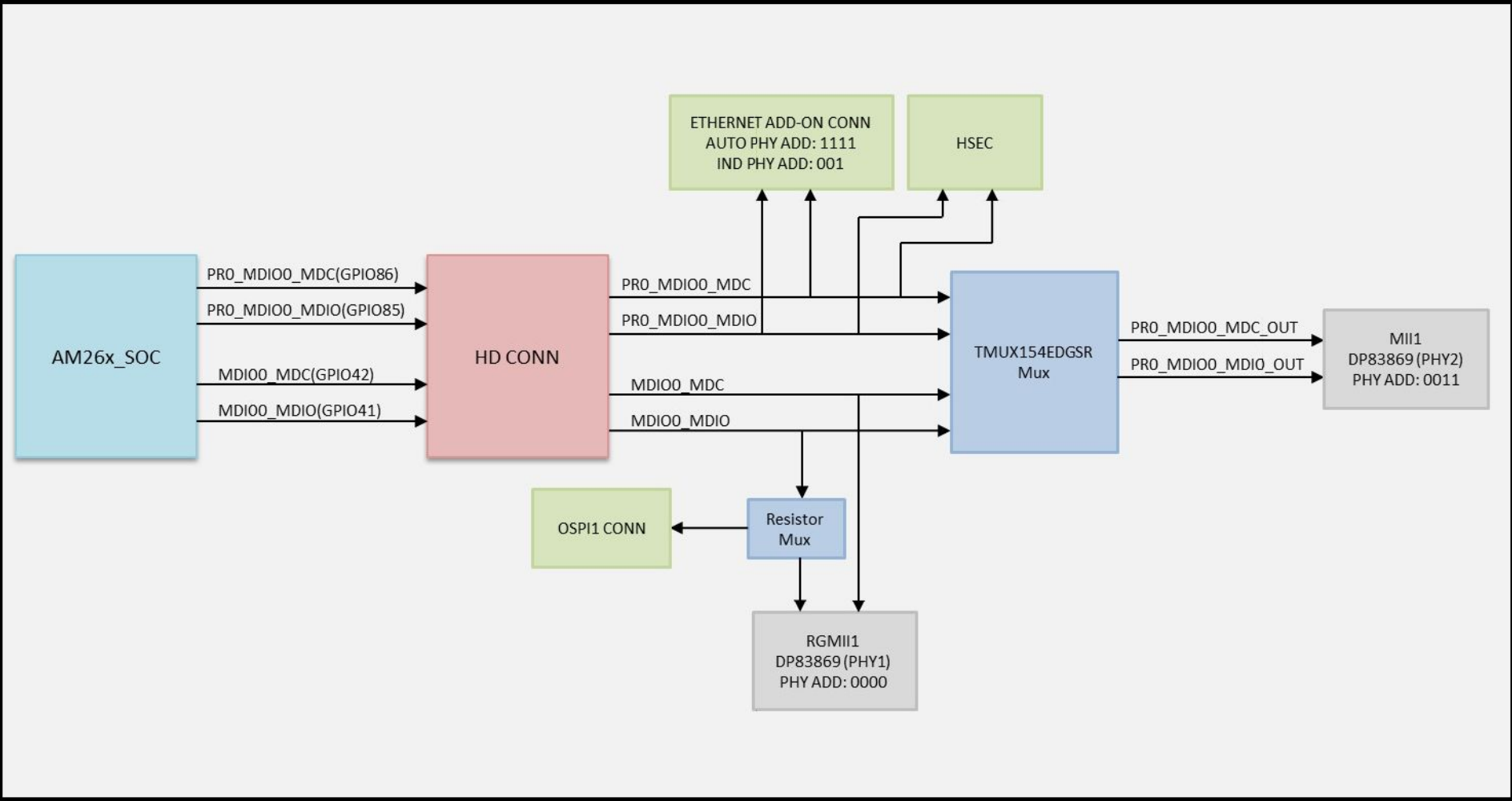
# AM261 HSEC ADAPTER POWER ARCHITECTURE



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TID #:	Project Title: AM261 HSEC Adapter Board	
Number: PROC200	Rev: E1	Sheet Title:
SVN Rev: Unknown revision	Assembly Variant: 001	Sheet: 4 of 18
Drawn By: Texas Instruments	File: PROC200_POWER_ARCHITECTURE.SchDoc	Size: B
Engineer:	Contact:	

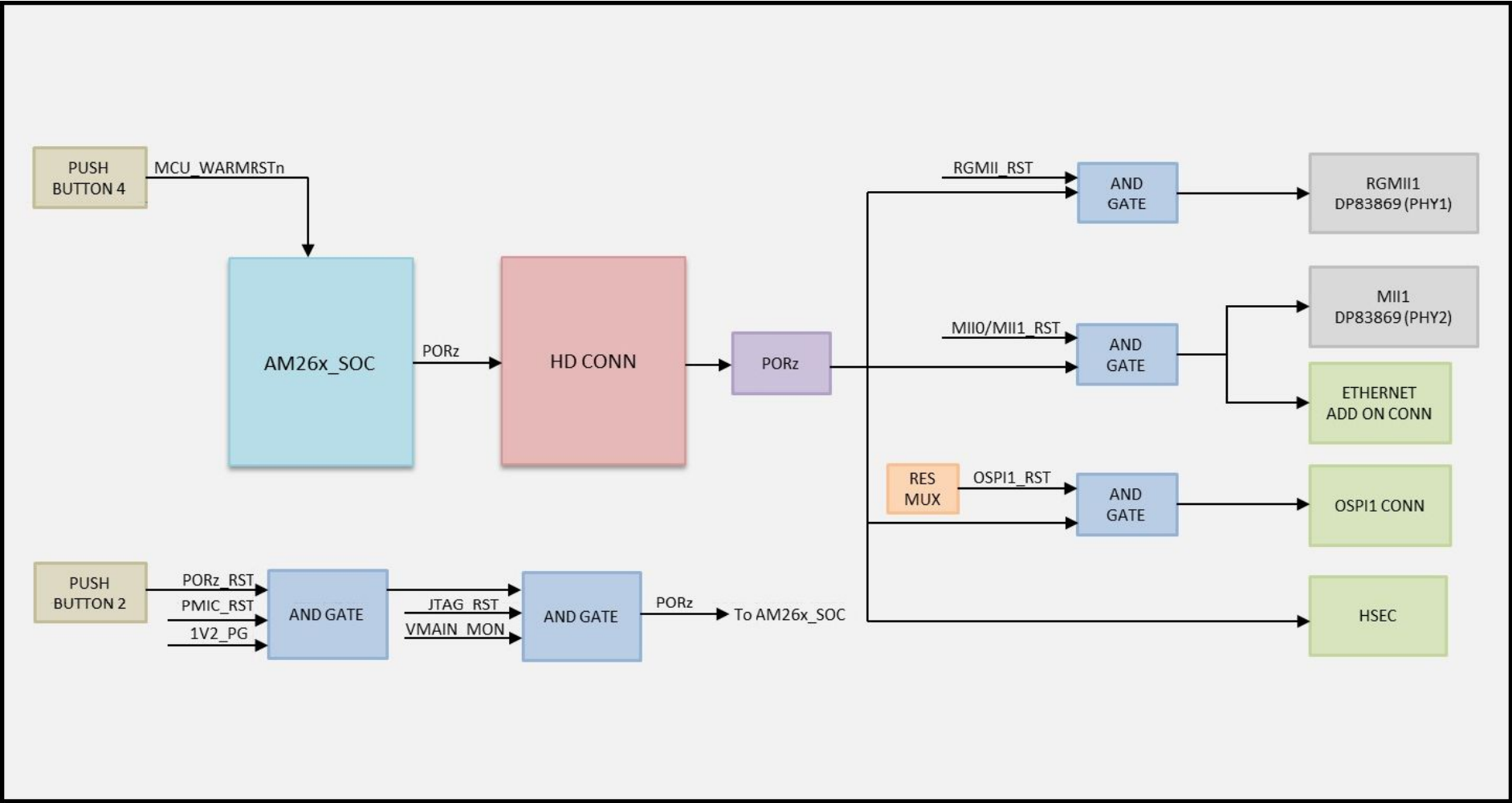
# AM261 HSEC ADAPTER CLOCK ARCHITECTURE



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Orderable: HSEC180AD-PEVM-AM		Designed for: Public Release		Mod. Date: 25-07-2024	
TID #:		Project Title: AM261 HSEC Adapter Board			
Number: PROC200	Rev: E1	Sheet Title:			
SVN Rev: Unknown revision		Assembly Variant: 001		Sheet: 5 of 18	
Drawn By: Texas Instruments		File: PROC200_CLOCK_ARCHITECTURE.SchDoc		Size: B	
Engineer:		Contact:			

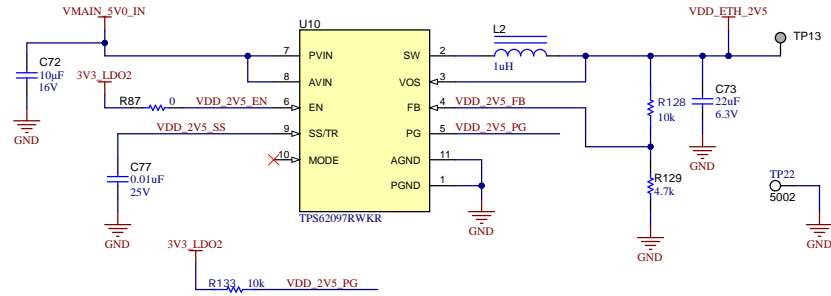
# AM261 HSEC ADAPTER RESET SIGNAL ARCHITECTURE



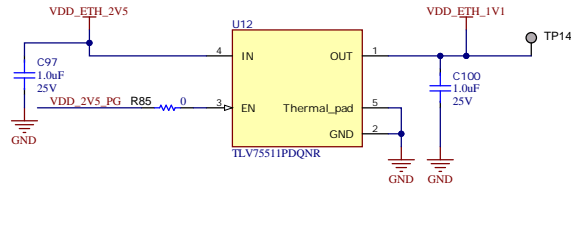
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## POWER SUPPLY

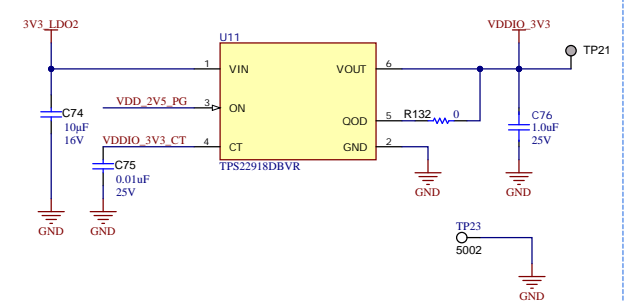
### 2.5V POWER SUPPLY



### 1.1V, 0.5AMPS SUPPLY

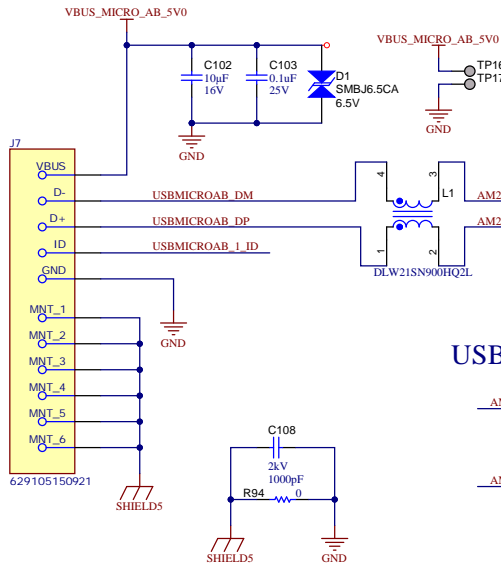


### LOAD SWITCH

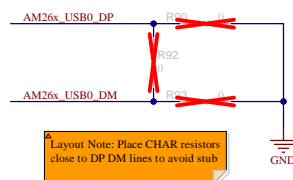


## USB2.0 Micro\_AB

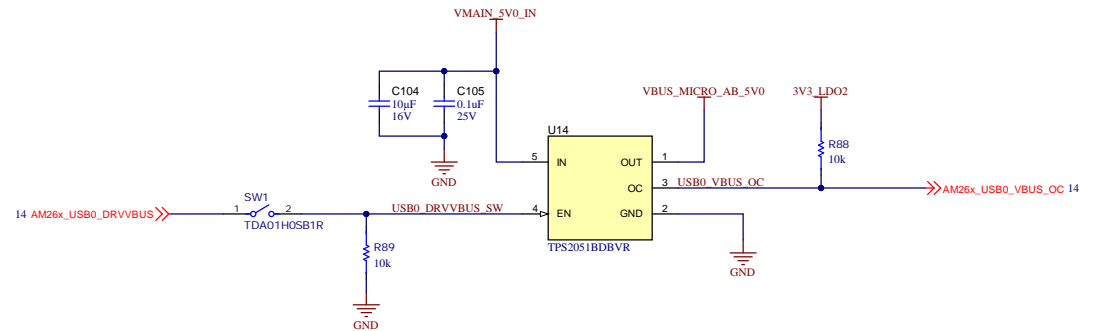
### USB2.0 Micro\_AB PORT



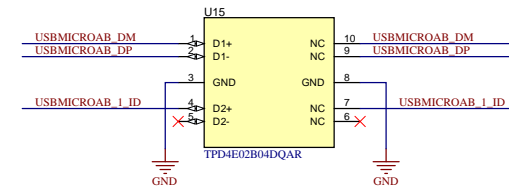
### USB 2.0 characterization Res



### USB micro AB Power-Distribution Switch

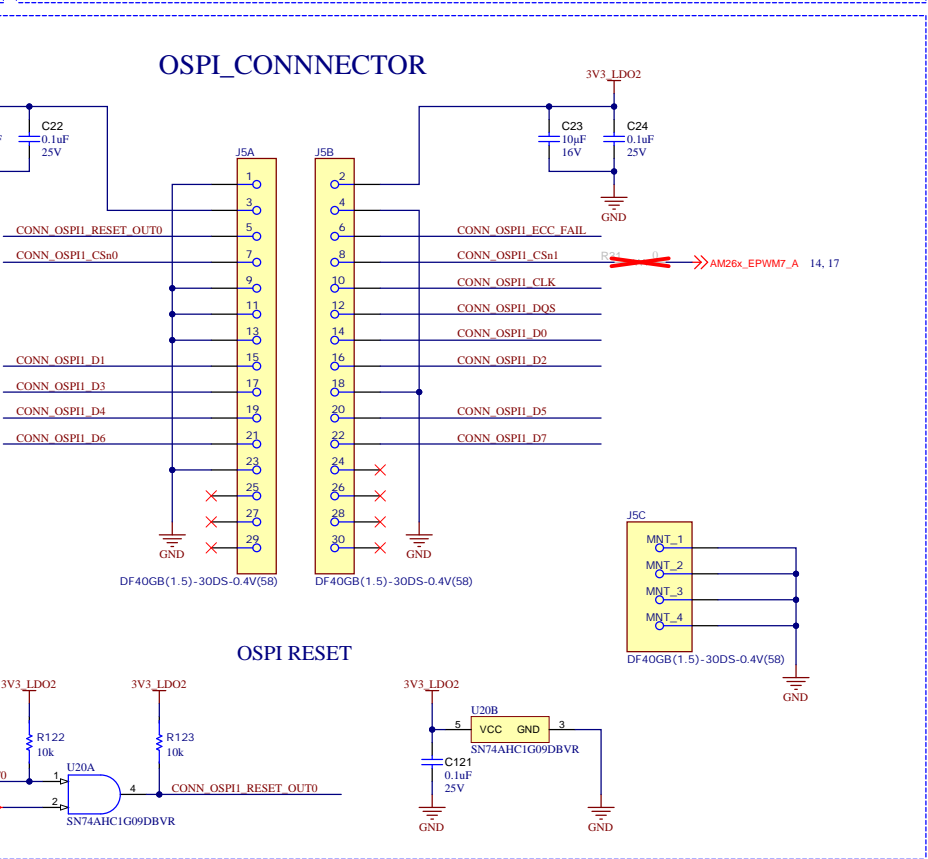
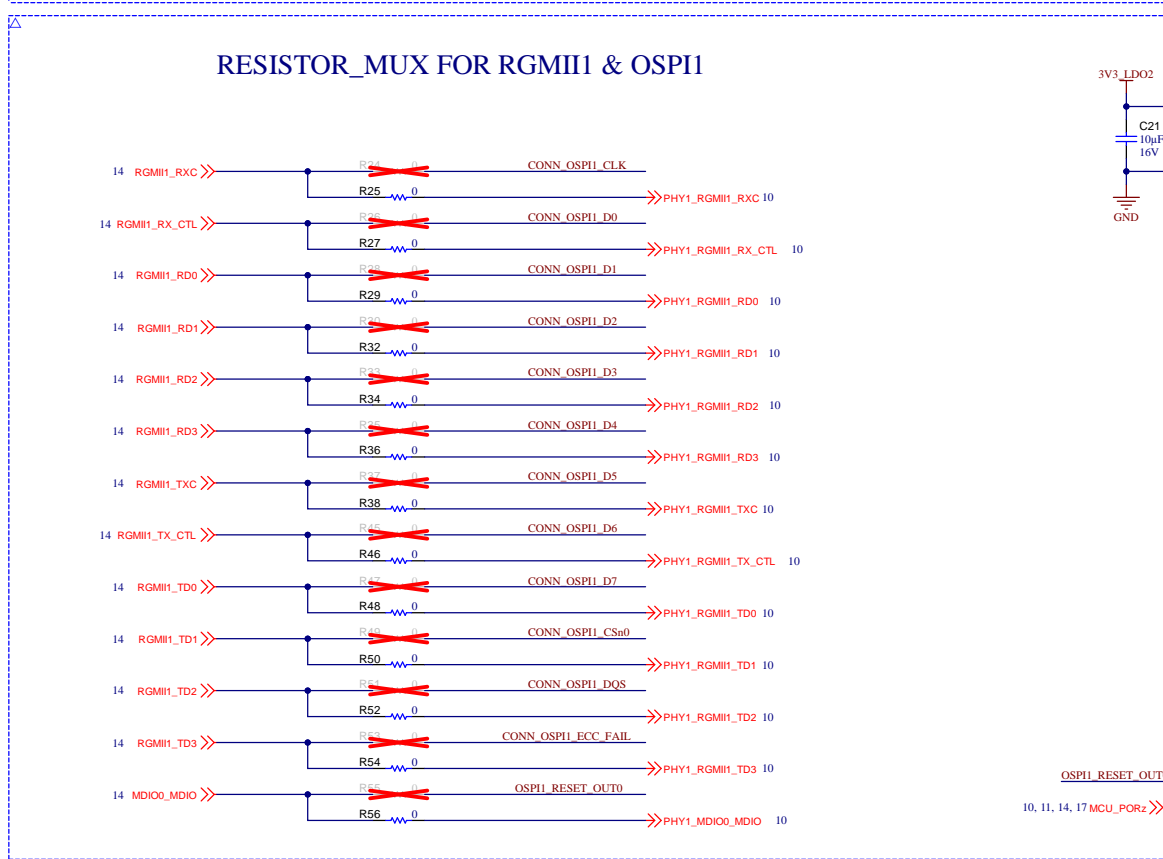
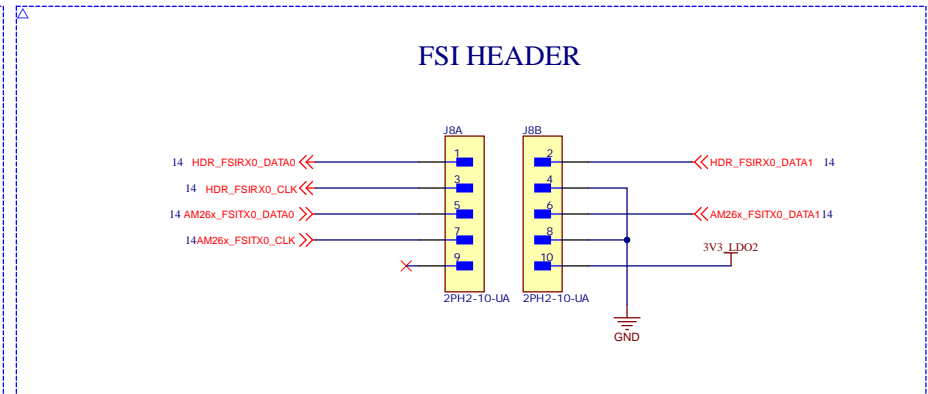
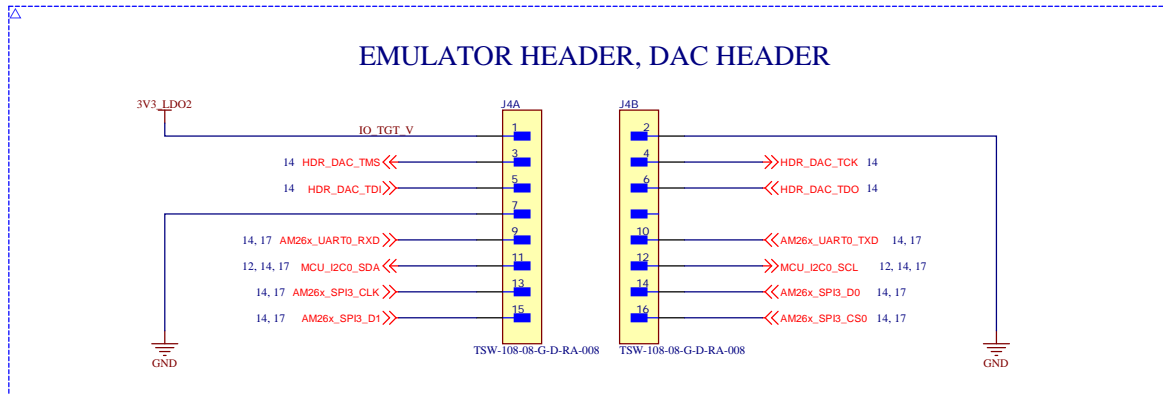


### USB Micro-AB ESD Protection

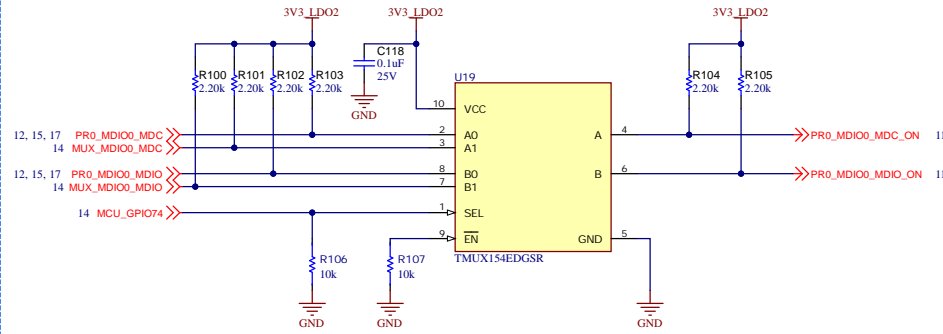
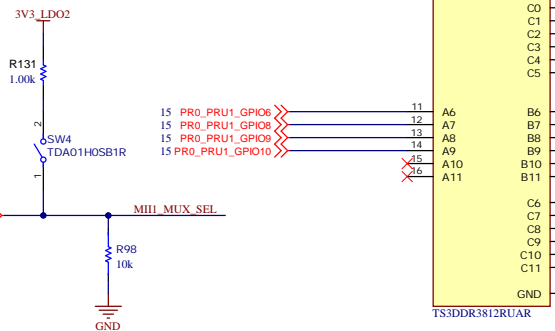
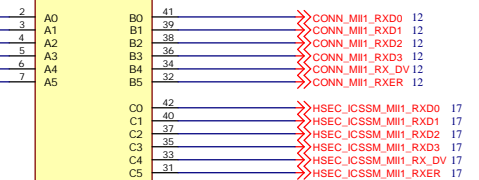


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Orderable: HSEC180ADAPEVM-AM	Designed for: Public Release	Mod. Date: 07-08-2024
TID #:	Project Title: AM261 HSEC Adapter Board	
SVN Rev: N/A	Rev: E1	Sheet Title:
Drawn By: Texas Instruments	Assembly Variant: 001	Sheet: 7 of 18
Engineer:	File: PROC200_LDO_USB_MICRO-AB_SchDoc	Size: B
	Contact:	



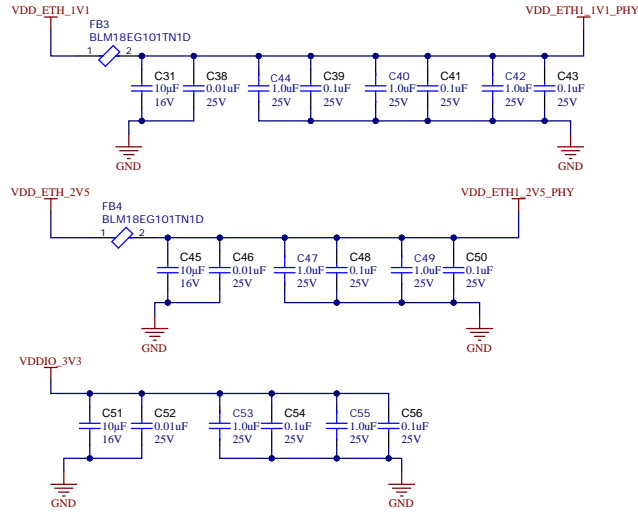




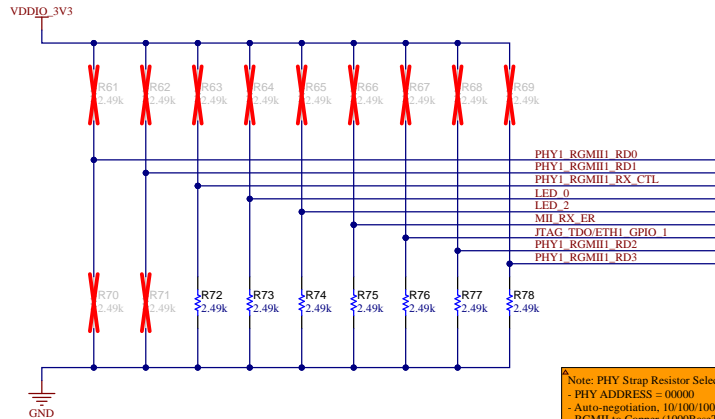
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# RGMII\_PHY1

## PHY Decoupling

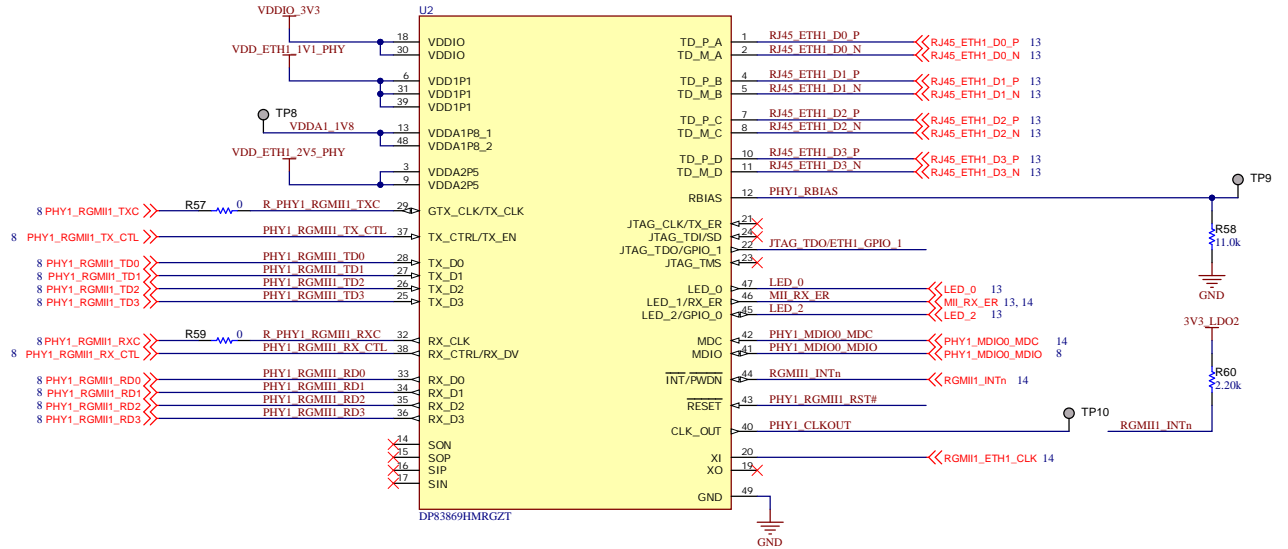


## PHY Strap Resistors



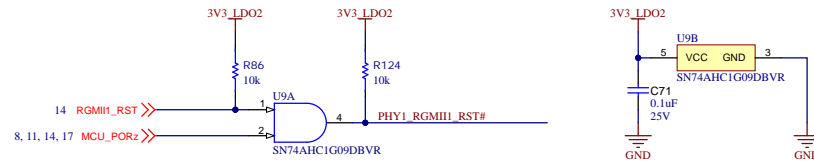
Note: PHY Strap Resistor Selection  
 - PHY ADDRESS = 00000  
 - Auto-negotiation, 10/100/1000 advertised, Auto-MDI-X  
 - RGMII to Copper (1000Base-T/100Base-TX/10Base-Tc)

## RGMII\_PHY



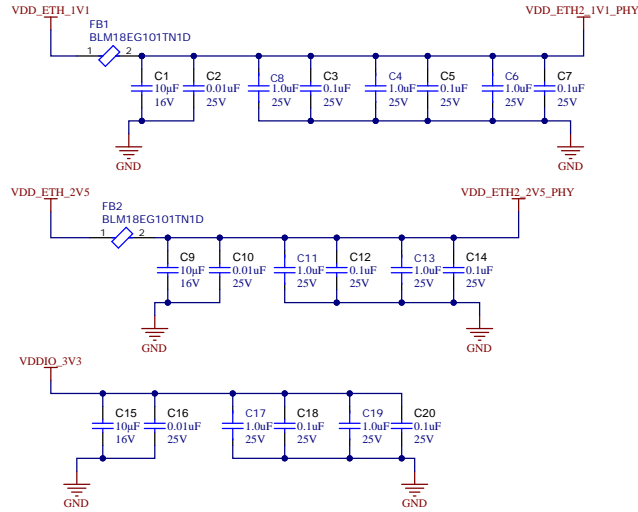
PHY ID: 0000

## RGMII\_RESET

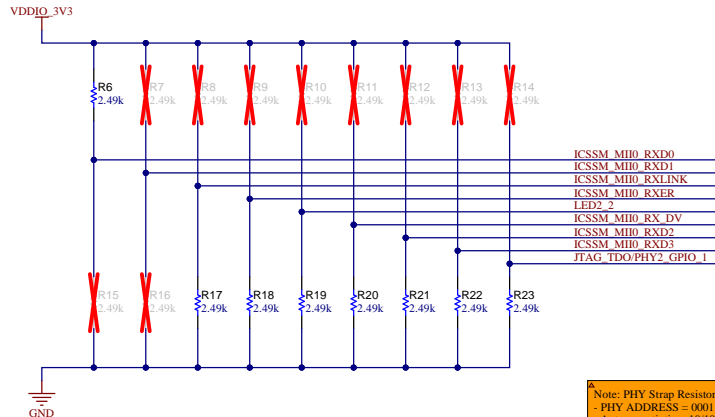


## MII0\_PHY2

### PHY Decoupling

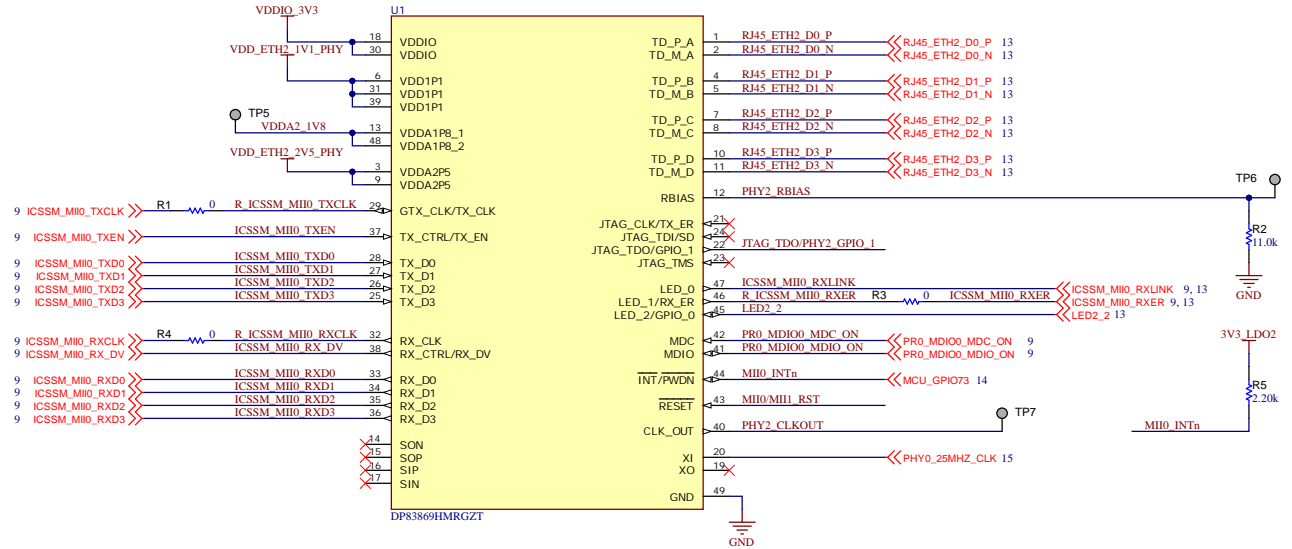


### PHY Strap Resistors



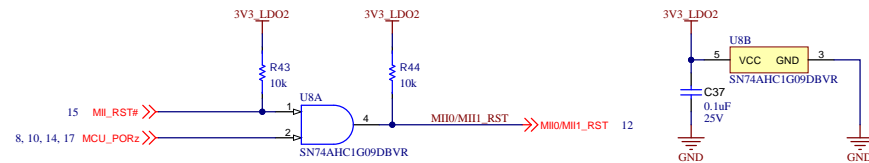
Note: PHY Strap Resistor Selection  
 - PHY ADDRESS = 0011  
 - Auto-negotiation, 10/100/1000 advertised, Auto-MDI-X  
 - RGMII to Copper (1000Base-T/100Base-TX/10Base-Te)

### MII0\_PHY



PHY ID: 0011

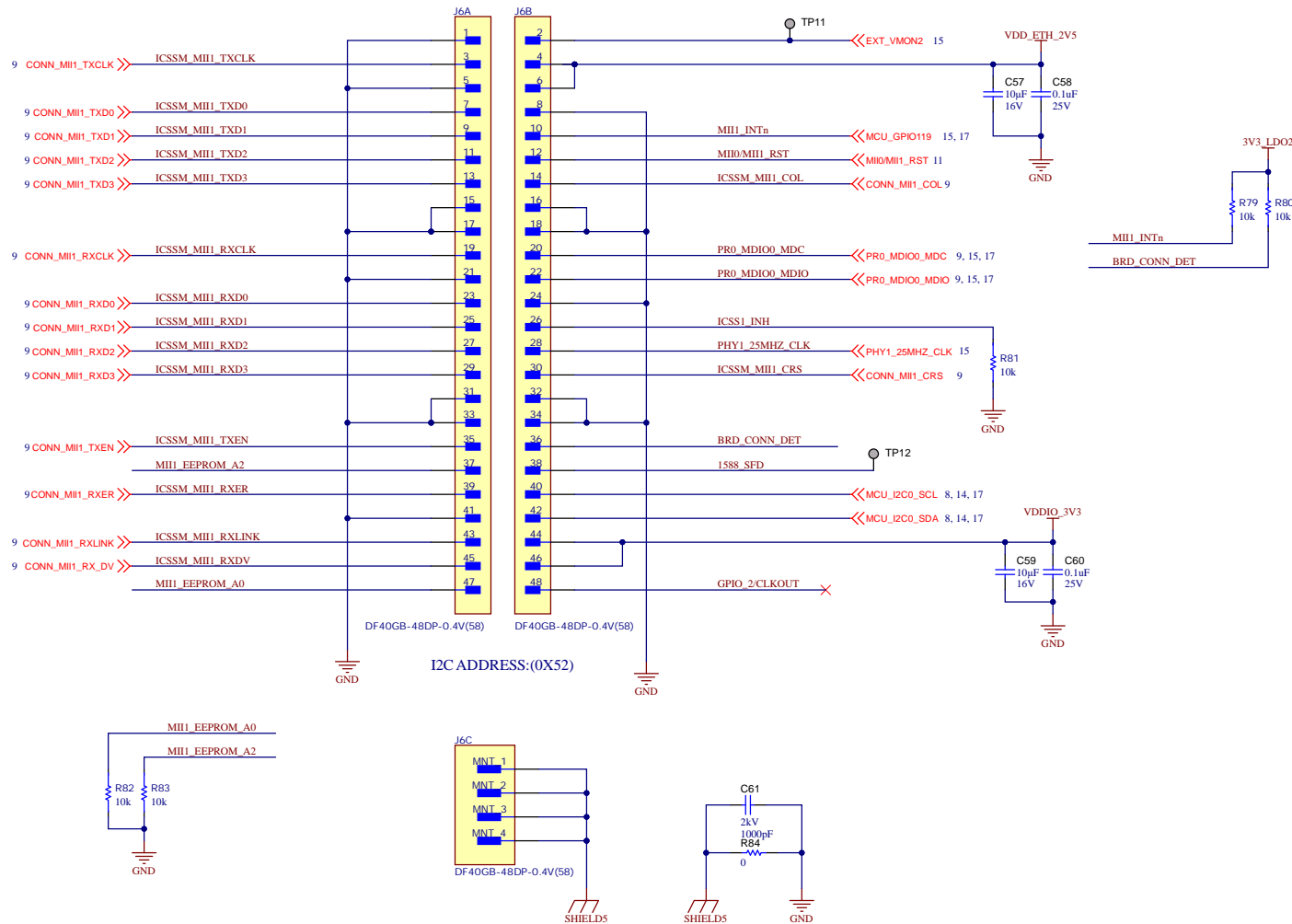
### MII0/MII1\_RESET



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TID #:	Project Title: AM261 HSEC Adapter Board	
Number: PROC200	Rev: E1	Sheet Title:
SVN Rev: Unknown revision	Assembly Variant: 001	Sheet: 11 of 18
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Engineer:	Contact:	

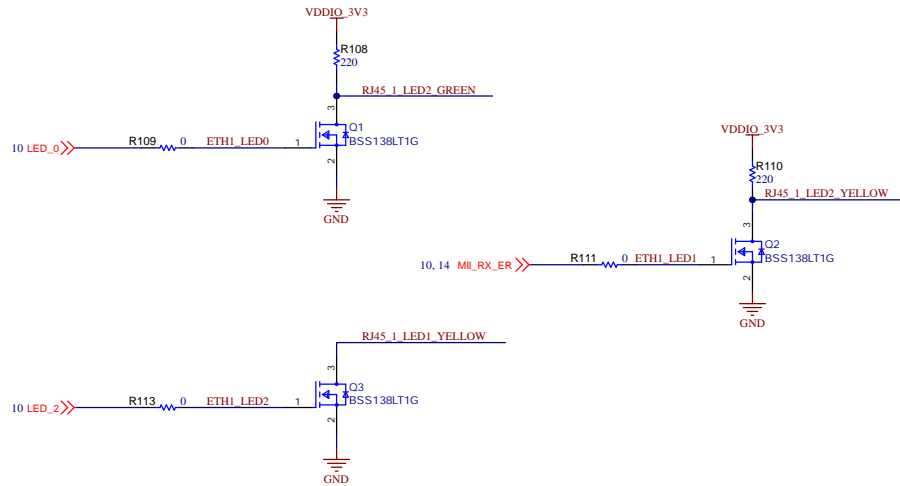
# MII1\_ADD\_ON\_CONNECTOR



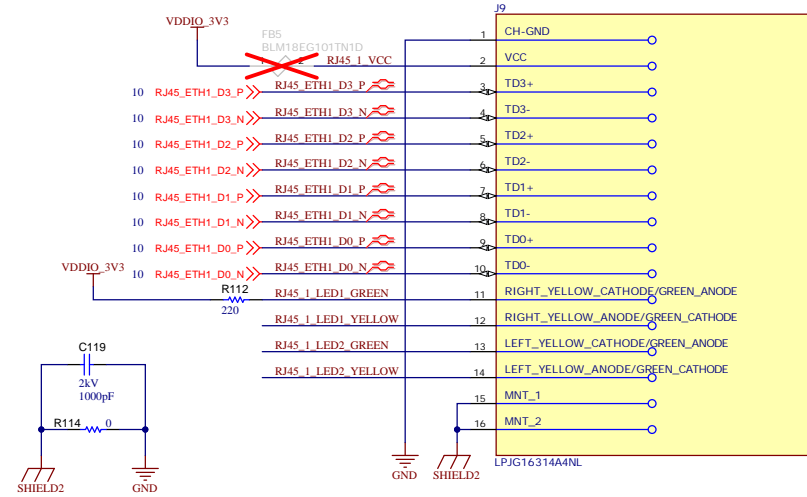
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Orderable: HSEC180ADAPEVM-AM	Designed for: Public Release	Mod. Date: 27-08-2024
TID #:	Project Title: AM261 HSEC Adapter Board	
Number: PROC200	Rev: E1	Sheet Title:
SVN Rev: Unknown revision	Assembly Variant: 001	Sheet: 12 of 18
Drawn By: Texas Instruments	File: PROC200_MII1_ADD_ON_CONN.SchDoc	Size: B
Engineer:	Contact:	

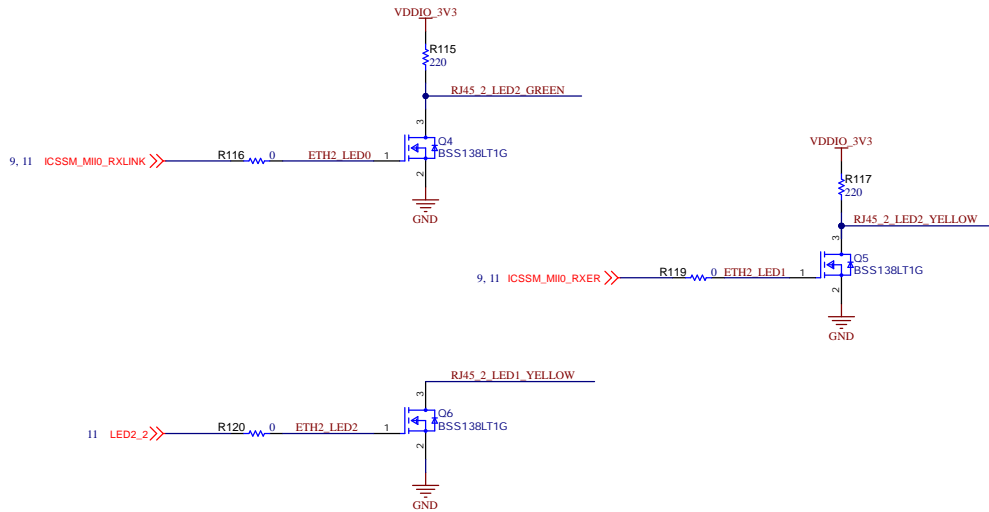
## RJ-45\_1 LED Drivers



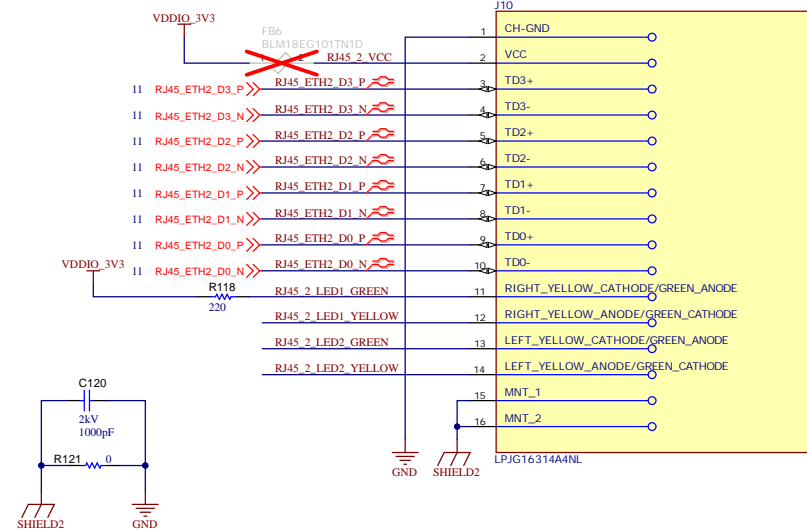
## RJ-45 Jack #1



## RJ-45\_2 LED Drivers



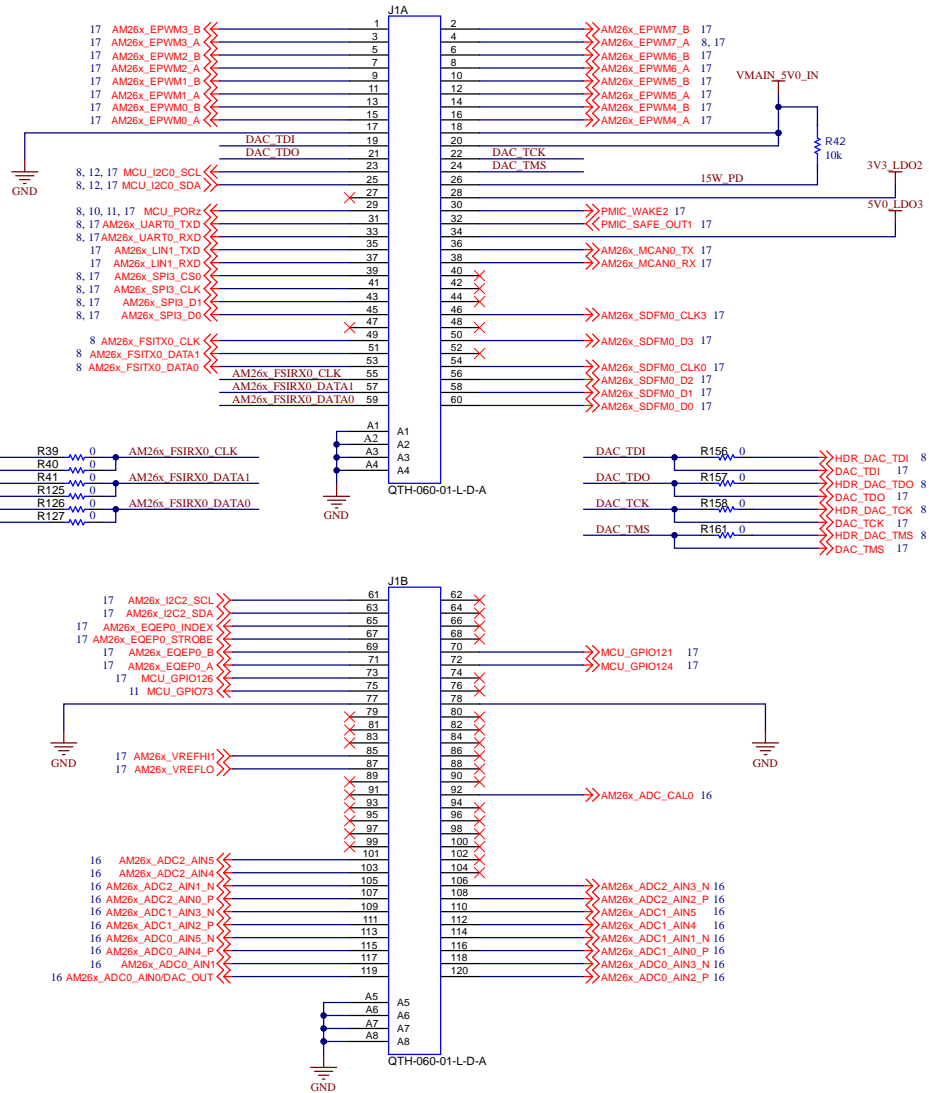
## RJ-45 Jack #2



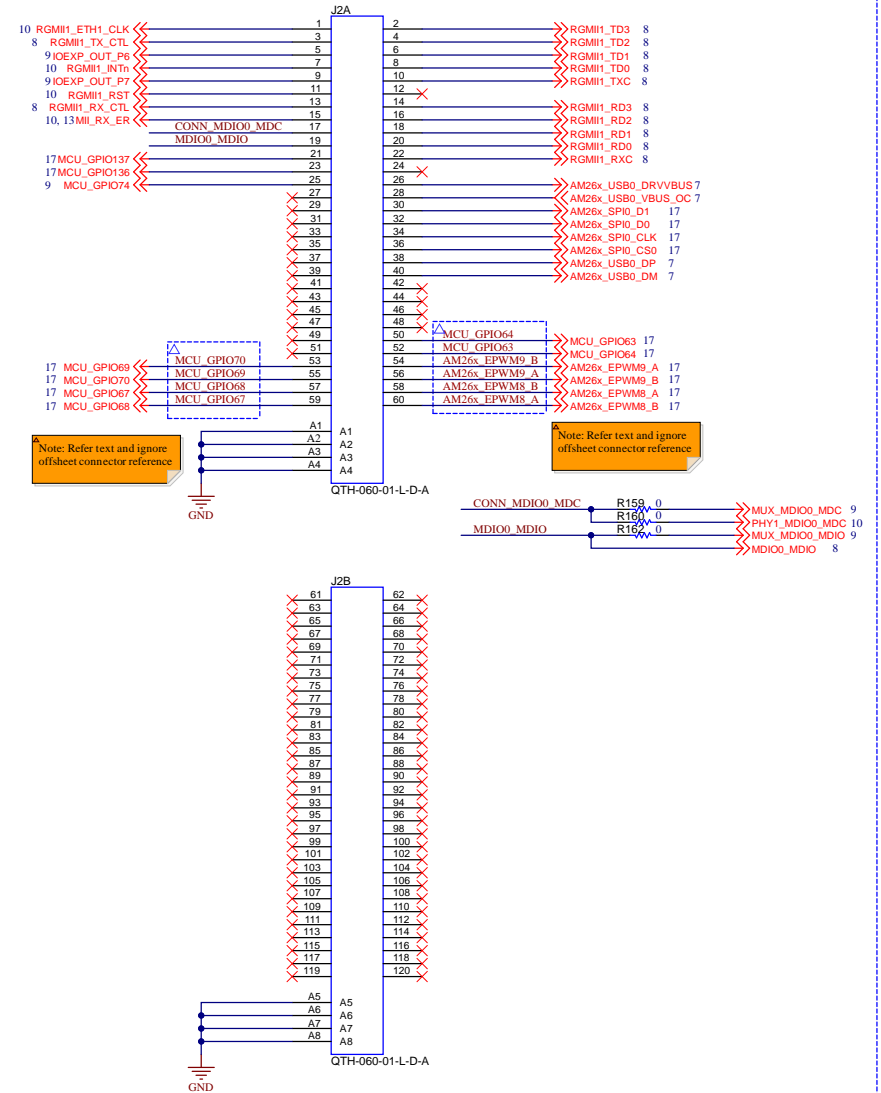
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TID #:	Project Title: AM261 HSEC Adapter Board	
Number: PROC200	Rev: E1	Sheet Title:
SVN Rev: Unknown revision	Assembly Variant: 001	Sheet: 13 of 18
Drawn By: Texas Instruments	File: PROC200_RJ45_1_2.SchDoc	Size: B
Engineer:	Contact:	

# HIGH\_DENSITY\_CONNECTOR 1

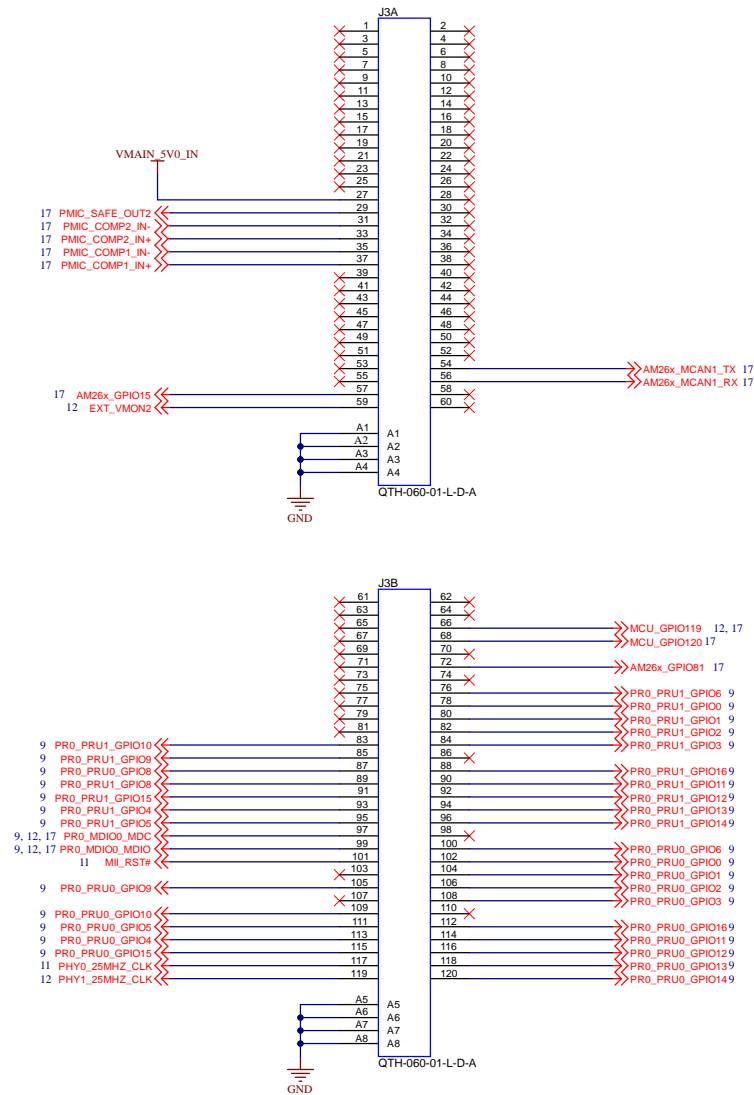


# HIGH\_DENSITY\_CONNECTOR 2



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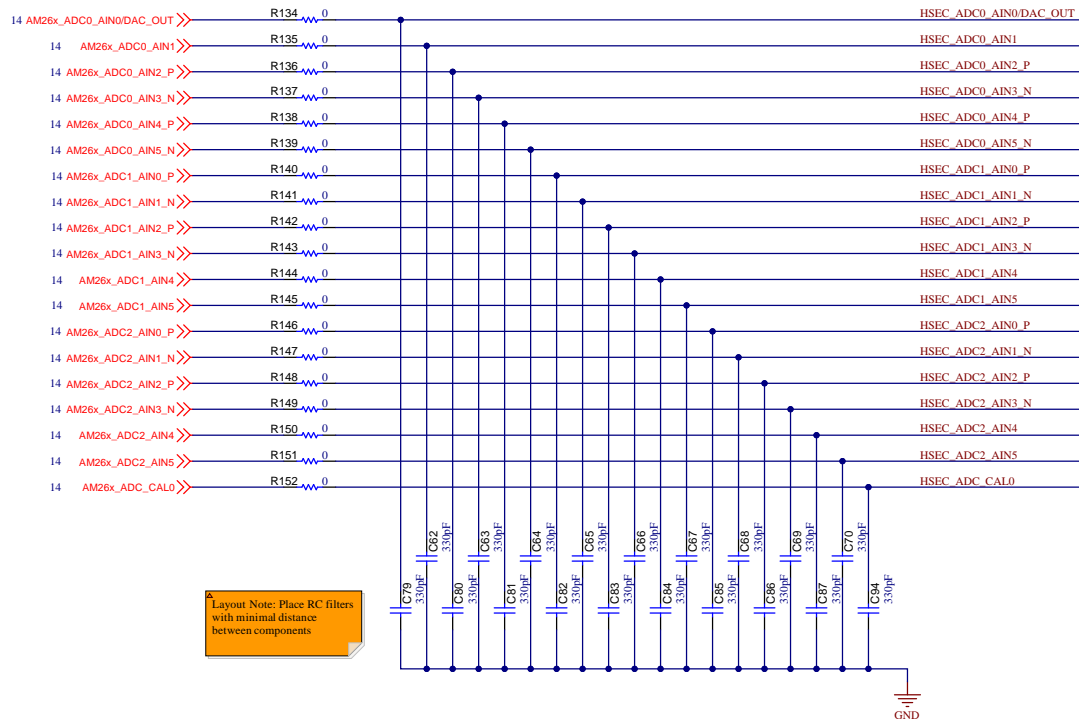
### HIGH\_DENSITY\_CONNECTOR 3



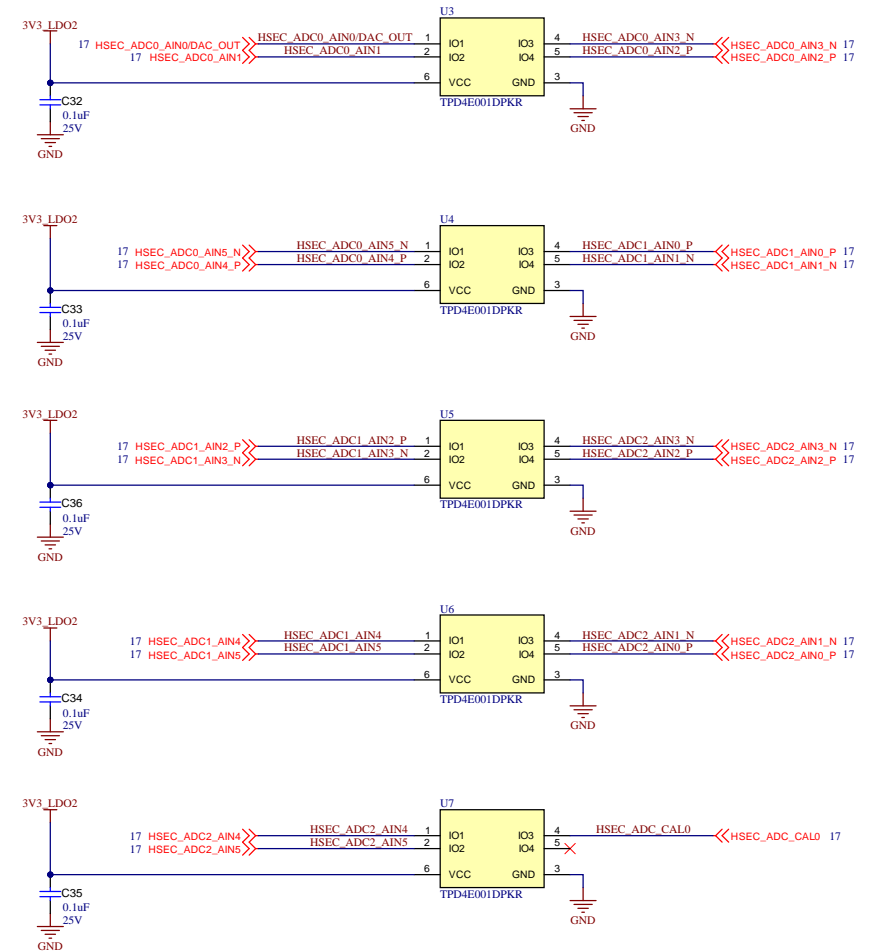
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Orderable: HSEC180ADAPEVM-AM		Designed for: Public Release		Mod. Date: 27-08-2024	
TID #:	Number: PROC200	Rev: E1	Project Title: AM261 HSEC Adapter Board	Sheet Title:	
SVN Rev: Unknown revision	Drawn By: Texas Instruments	Engineer:	Assembly Variant: 001	File: PROC200_High_Density_conn3.SchDoc	Sheet: 15 of 18
			Size: B		
			Contact:		
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## ADC FILTER



## ESD DIODES



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Orderable: HSEC180ADAPEVM-AM		Designed for: Public Release		Mod. Date: 14-08-2024	
TID #:	Number: PROC200	Rev: E1	Project Title: AM261 HSEC Adapter Board	Sheet Title:	
SVN Rev: Unknown revision	Drawn By: Texas Instruments	Engineer:	Assembly Variant: 001	File: PROC200_HSEC_ADC.SchDoc	Sheet: 16 of 18
				Contact:	Size: B
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### 180 PIN HSEC\_CONNECTOR

The diagram illustrates the 180-pin HSEC connector with the following connections:

- EC1 TOP:** Pins 1-119. Signals include DAC\_TMS, DAC\_TCK, HSEC\_ADC0\_AIN0/DAC\_OUT, HSEC\_ADC0\_AIN1\_N, HSEC\_ADC0\_AIN2\_P, HSEC\_ADC0\_AIN2\_N, HSEC\_ADC0\_AIN4\_P, HSEC\_ADC0\_AIN5\_N, HSEC\_ADC2\_AIN1\_N, HSEC\_ADC2\_AIN2\_P, HSEC\_ADC2\_AIN3\_N, HSEC\_ADC2\_AIN4, HSEC\_ADC2\_AIN5, AM26x\_VREFLO, HSEC\_VREFH1\_3V3, AM26x\_EPWM0\_A, AM26x\_EPWM0\_B, AM26x\_EPWM1\_A, AM26x\_EPWM1\_B, AM26x\_EPWM4\_A, AM26x\_EPWM4\_B, AM26x\_EPWM5\_A, AM26x\_EPWM5\_B, AM26x\_SPI0\_D1, AM26x\_SPI0\_D0, AM26x\_SPI0\_CLK, AM26x\_SPI0\_CS0, HSEC\_FSIRX0\_DATA0, HSEC\_FSIRX0\_DATA1, HSEC\_FSIRX0\_DATA2, AM26x\_GPIO15, AM26x\_I2C2\_SDA, AM26x\_I2C2\_SCL, PR0\_MDIO0\_MDC, AM26x\_SDFM0\_D0, AM26x\_SDFM0\_D1, AM26x\_SDFM0\_D2, AM26x\_SDFM0\_D3, AM26x\_SDFM0\_CLK, 3V3\_LDO2, 5V0\_LDO3, PMIC\_SAFE\_OUT2, and PMIC\_WAKE2.
- EC1 BOT:** Pins 1-119. Signals include DAC\_TDO, DAC\_TDI, HSEC\_ADC1\_AIN0\_P, HSEC\_ADC1\_AIN1\_N, HSEC\_ADC1\_AIN2\_P, HSEC\_ADC1\_AIN3\_N, HSEC\_ADC1\_AIN4, HSEC\_ADC1\_AIN5, HSEC\_ADC\_CALD, AM26x\_EPWM2\_A, AM26x\_EPWM2\_B, AM26x\_EPWM3\_A, AM26x\_EPWM3\_B, AM26x\_EPWM6\_A, AM26x\_EPWM6\_B, AM26x\_EPWM7\_A, AM26x\_EPWM7\_B, MCU\_GPIO119, MCU\_GPIO120, AM26x\_SDFM0\_CLK0, MCU\_GPIO121, AM26x\_LIN1\_RXD, AM26x\_LIN1\_TXD, AM26x\_MCAN0\_RX, AM26x\_MCAN0\_TX, AM26x\_UART0\_RXD, AM26x\_UART0\_TXD, PR0\_MDIO0\_MDC, MCU\_I2C0\_SDA, MCU\_I2C0\_SCL, AM26x\_MCAN1\_RX, AM26x\_MCAN1\_TX, AM26x\_EQEP0\_A, AM26x\_EQEP0\_B, AM26x\_EQEP0\_STROBE, AM26x\_EQEP0\_INDEX, HSEC\_ICSSM\_MIO\_RXER, HSEC\_ICSSM\_MIO\_COL, and MCU\_POR2.
- EC2 TOP:** Pins 121-180. Signals include HSEC\_ICSSM\_MIO\_CRS, HSEC\_ICSSM\_MIO\_RXCLK, HSEC\_ICSSM\_MIO\_RXD0, HSEC\_ICSSM\_MIO\_RXD1, HSEC\_ICSSM\_MIO\_TXCLK, HSEC\_ICSSM\_MIO\_TXD0, HSEC\_ICSSM\_MIO\_TXD1, HSEC\_ICSSM\_MIO\_TXD2, HSEC\_ICSSM\_MIO\_TXD3, HSEC\_ICSSM\_MII\_RXER, HSEC\_ICSSM\_MII\_CRS, HSEC\_ICSSM\_MII\_RXCLK, HSEC\_ICSSM\_MII\_RXD0, HSEC\_ICSSM\_MII\_RXD1, HSEC\_ICSSM\_MII\_TXCLK, HSEC\_ICSSM\_MII\_TXD0, HSEC\_ICSSM\_MII\_TXD1, HSEC\_ICSSM\_MII\_TXD2, HSEC\_ICSSM\_MII\_TXD3, HSEC\_ICSSM\_MII\_COL, HSEC\_ICSSM\_MII\_RXLINK, HSEC\_ICSSM\_MII\_RX\_DV, HSEC\_ICSSM\_MII\_RXD1, HSEC\_ICSSM\_MII\_RXD3, HSEC\_ICSSM\_MII\_TXEN, HSEC\_ICSSM\_MII\_TXD1, HSEC\_ICSSM\_MII\_TXD3, MCU\_GPIO68, MCU\_GPIO67, VMAIN\_5V0\_IN, MCU\_GPIO69, MCU\_GPIO70, AM26x\_SPI3\_D0, AM26x\_SPI3\_D1, AM26x\_SPI3\_CLK, AM26x\_SPI3\_CS0, PMIC\_COMP2\_IN, PMIC\_COMP1\_IN, PMIC\_SAFE\_OUT1, and PMIC\_WAKE2.
- EC2 BOT:** Pins 121-180. Signals include HSEC\_ICSSM\_MIO\_CRS, HSEC\_ICSSM\_MIO\_RXCLK, HSEC\_ICSSM\_MIO\_RXD0, HSEC\_ICSSM\_MIO\_RXD1, HSEC\_ICSSM\_MIO\_TXCLK, HSEC\_ICSSM\_MIO\_TXD0, HSEC\_ICSSM\_MIO\_TXD1, HSEC\_ICSSM\_MIO\_TXD2, HSEC\_ICSSM\_MIO\_TXD3, HSEC\_ICSSM\_MII\_RXER, HSEC\_ICSSM\_MII\_CRS, HSEC\_ICSSM\_MII\_RXCLK, HSEC\_ICSSM\_MII\_RXD0, HSEC\_ICSSM\_MII\_RXD1, HSEC\_ICSSM\_MII\_TXCLK, HSEC\_ICSSM\_MII\_TXD0, HSEC\_ICSSM\_MII\_TXD1, HSEC\_ICSSM\_MII\_TXD2, HSEC\_ICSSM\_MII\_TXD3, HSEC\_ICSSM\_MII\_COL, HSEC\_ICSSM\_MII\_RXLINK, HSEC\_ICSSM\_MII\_RX\_DV, HSEC\_ICSSM\_MII\_RXD1, HSEC\_ICSSM\_MII\_RXD3, HSEC\_ICSSM\_MII\_TXEN, HSEC\_ICSSM\_MII\_TXD1, HSEC\_ICSSM\_MII\_TXD3, MCU\_GPIO68, MCU\_GPIO67, VMAIN\_5V0\_IN, MCU\_GPIO69, MCU\_GPIO70, AM26x\_SPI3\_D0, AM26x\_SPI3\_D1, AM26x\_SPI3\_CLK, AM26x\_SPI3\_CS0, PMIC\_COMP2\_IN, PMIC\_COMP1\_IN, PMIC\_SAFE\_OUT1, and PMIC\_WAKE2.
- BOT:** Pins 1-119. Signals include DAC\_TMS, DAC\_TCK, HSEC\_ADC0\_AIN0/DAC\_OUT, HSEC\_ADC0\_AIN1\_N, HSEC\_ADC0\_AIN2\_P, HSEC\_ADC0\_AIN2\_N, HSEC\_ADC0\_AIN4\_P, HSEC\_ADC0\_AIN5\_N, HSEC\_ADC2\_AIN1\_N, HSEC\_ADC2\_AIN2\_P, HSEC\_ADC2\_AIN3\_N, HSEC\_ADC2\_AIN4, HSEC\_ADC2\_AIN5, AM26x\_VREFLO, HSEC\_VREFH1\_3V3, AM26x\_EPWM0\_A, AM26x\_EPWM0\_B, AM26x\_EPWM1\_A, AM26x\_EPWM1\_B, AM26x\_EPWM4\_A, AM26x\_EPWM4\_B, AM26x\_EPWM5\_A, AM26x\_EPWM5\_B, AM26x\_SPI0\_D1, AM26x\_SPI0\_D0, AM26x\_SPI0\_CLK, AM26x\_SPI0\_CS0, HSEC\_FSIRX0\_DATA0, HSEC\_FSIRX0\_DATA1, HSEC\_FSIRX0\_DATA2, AM26x\_GPIO15, AM26x\_I2C2\_SDA, AM26x\_I2C2\_SCL, PR0\_MDIO0\_MDC, AM26x\_SDFM0\_D0, AM26x\_SDFM0\_D1, AM26x\_SDFM0\_D2, AM26x\_SDFM0\_D3, AM26x\_SDFM0\_CLK, 3V3\_LDO2, 5V0\_LDO3, PMIC\_SAFE\_OUT2, and PMIC\_WAKE2.

Note: Refer text and ignore off-sheet connector reference.

FID1

FID2

FID3

FID4

FID5

FID6

PCB Number: PROC200  
PCB Rev: E1

PCB LOGO  
Texas Instruments

CE Mark

PCB LOGO  
FCC disclaimer

PCB LOGO  
WEEE logo

MH1

MTG\_NoPads

MH2

MTG\_NoPads

MH3

MTG\_NoPads

MH4

MTG\_NoPads

LBL1

PCB Label

TH1-14-423-10  
Size: 0.65" x 0.20"

ZZ1

Label Assembly Note

This Assembly Note is for PCB labels only

ZZ2

Assembly Note

These assemblies are ESD sensitive, ESD precautions shall be observed.

ZZ3

Assembly Note

These assemblies must be clean and free from flux and all contaminants. Use of no clean flux is not acceptable.

ZZ4

Assembly Note

These assemblies must comply with workmanship standards IPC-A-610 Class 2, unless otherwise specified.

Orderable: HSEC180ADAPEVM-AM

Designed for: Public Release

Mod. Date: 08-07-2024

TID #:

Number: PROC200

SVN Rev: Unknown revision

Drawn By: Texas Instruments

Engineer:

Project Title: AM261 HSEC Adapter Board

Sheet Title:

Assembly Variant: 001


File: PROC200\_EVM\_Hardware.SchDoc

Contact:

Sheet: 18 of 18

Size: B

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TEXAS  
INSTRUMENTS

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