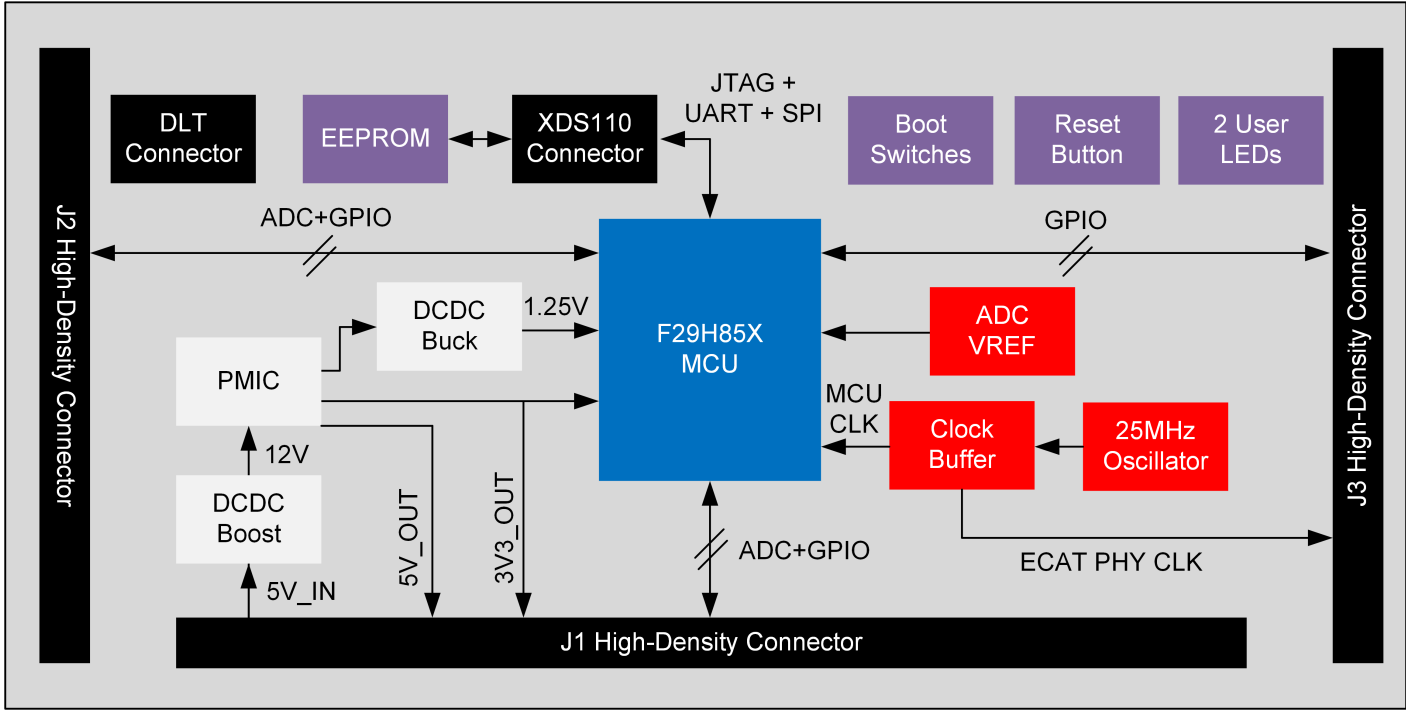


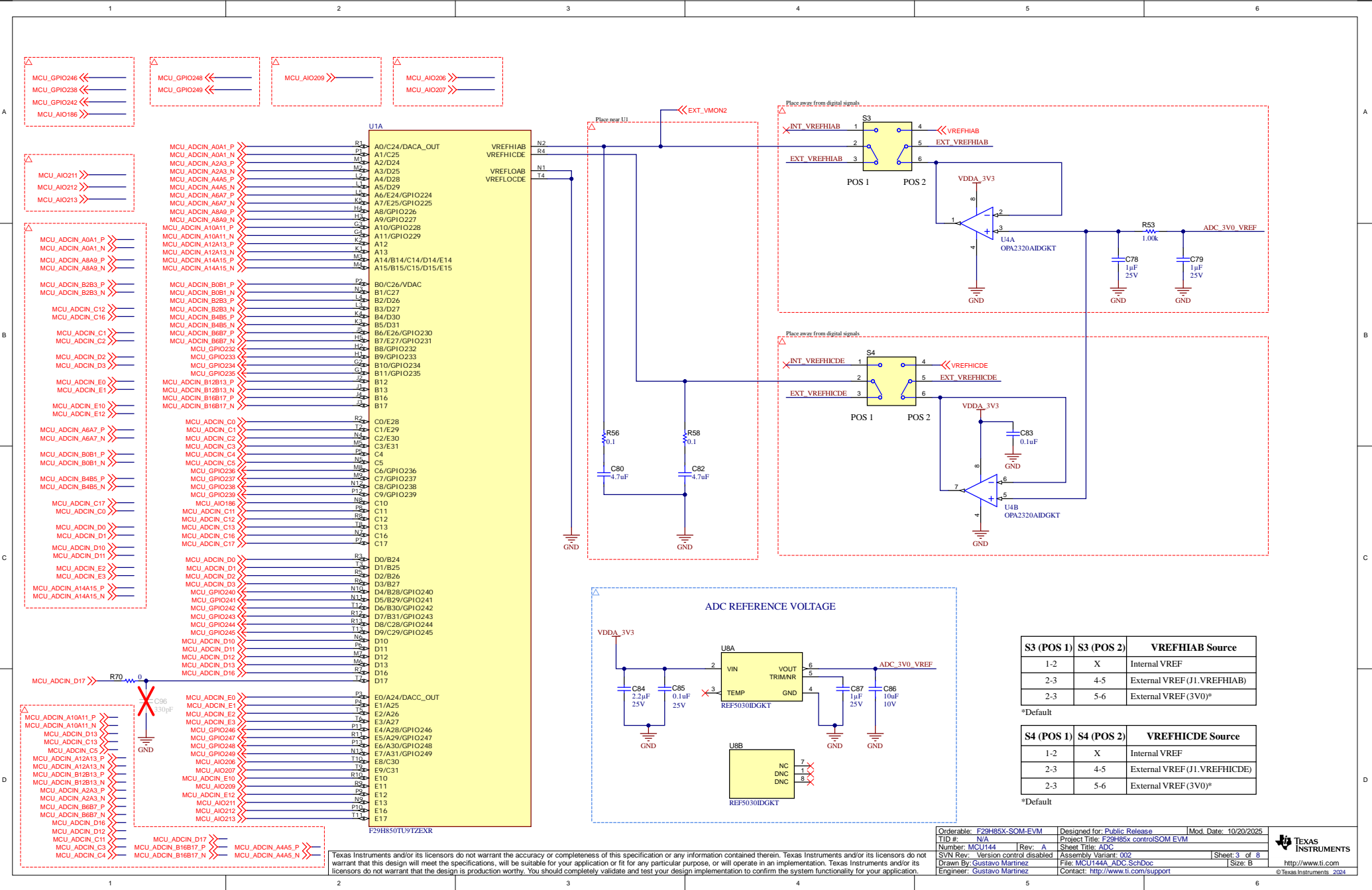
| Revision History |       |               |             |  |
|------------------|-------|---------------|-------------|--|
| Rev              | ECN # | Approved Date | Approved by | Notes  |
| E1               | N/A   | N/A           | GM          | Original engineering release.  |
| A                | N/A   | Oct. 17, 2024 | GM          | - Changed default boot mode to 11b<br>- Changed C97 part number<br>- Changed internal VREF connection on S3/S4<br>- Changed FSI connections on J5<br>- Removed tracking feature from U7<br>- Added soft start capacitor to U7<br>- Changed filtering scheme for ADC external reference |
| A                | N/A   | Oct. 20, 2025 | GM          | Updated notes in SOM power schematic; no functional change to EVM.   |



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|                                   |                                       |                         |
|-----------------------------------|---------------------------------------|-------------------------|
| Orderable: F29H85X-SOM-EVM        | Designed for: Public Release          | Mod. Date: 10/20/2025   |
| TID #: N/A                        | Project Title: F29H85X controlSOM EVM |                         |
| Number: MCU144                    | Rev: A                                | Sheet: 1 of 8           |
| SVN Rev: Version control disabled | Assembly Variant: 002                 | Size: B                 |
| Drawn By: Gustavo Martinez        | File: MCU144A_Coversheet.SchDoc       | http://www.ti.com       |
| Engineer: Gustavo Martinez        | Contact: http://www.ti.com/support    | ©Texas Instruments 2024 |





| S3 (POS 1) | S3 (POS 2) | VREFHIAB Source             |
|------------|------------|-----------------------------|
| 1-2        | X          | Internal VREF               |
| 2-3        | 4-5        | External VREF (J1.VREFHIAB) |
| 2-3        | 5-6        | External VREF (3V0)*        |

\*Default

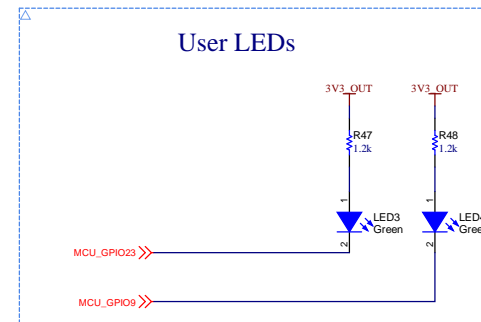
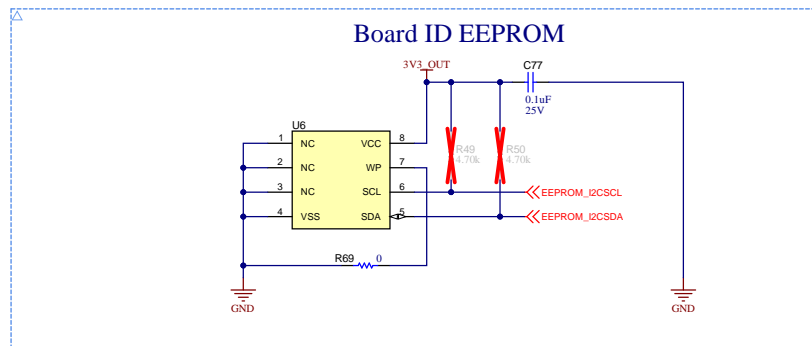
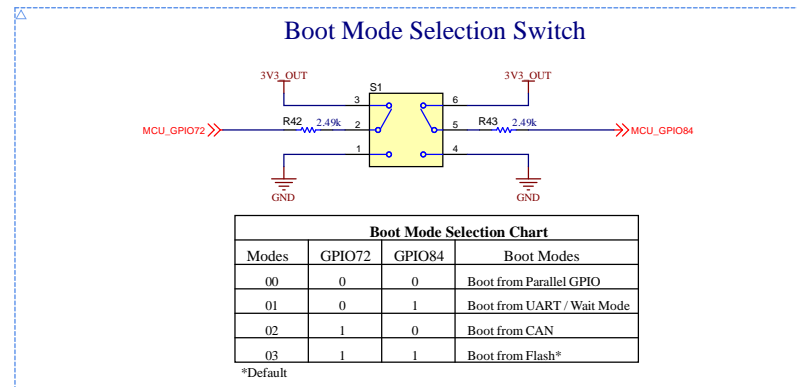
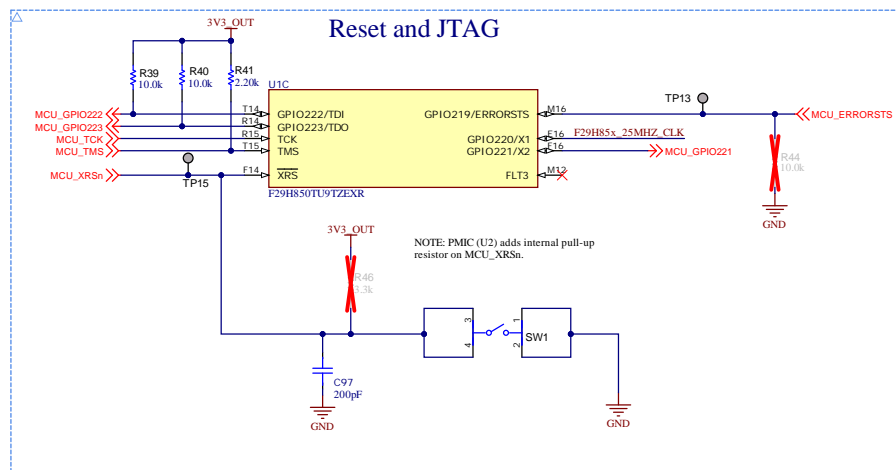
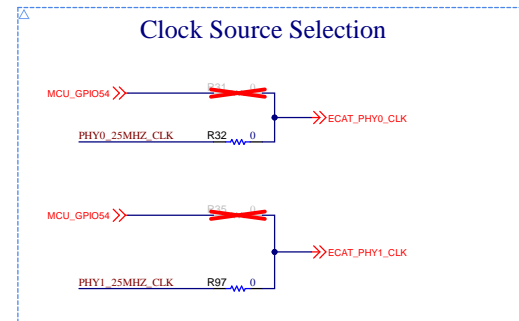
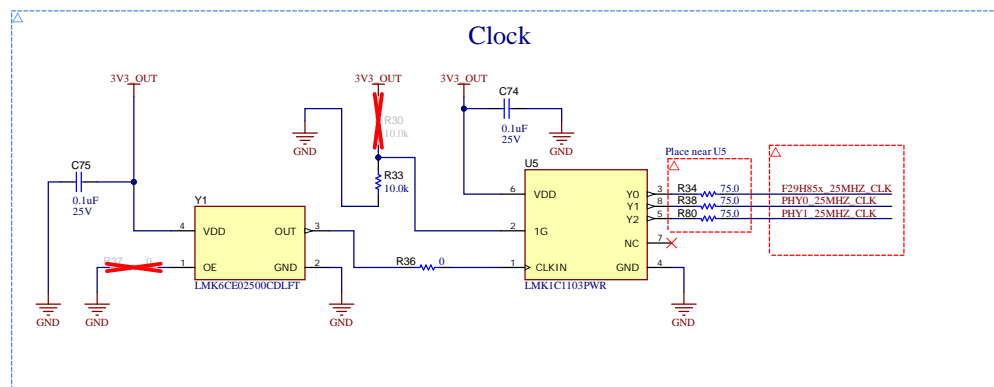
| S4 (POS 1) | S4 (POS 2) | VREFHICDE Source             |
|------------|------------|------------------------------|
| 1-2        | X          | Internal VREF                |
| 2-3        | 4-5        | External VREF (J1.VREFHICDE) |
| 2-3        | 5-6        | External VREF (3V0)*         |

\*Default

|                                   |                                       |                       |
|-----------------------------------|---------------------------------------|-----------------------|
| Orderable: F29H85X-SOM-EVM        | Designed for: Public Release          | Mod. Date: 10/20/2025 |
| TID #: N/A                        | Project Title: F29H85x controlSOM EVM |                       |
| Number: MCU144                    | Rev: A                                | Sheet Title: ADC      |
| SVN Rev: Version control disabled | Assembly Variant: 002                 | Sheet: 3 of 8         |
| Drawn By: Gustavo Martinez        | File: MCU144A_ADC_SchDoc              | Size: B               |
| Engineer: Gustavo Martinez        | Contact: http://www.ti.com/support    |                       |

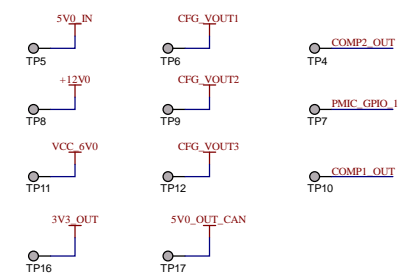
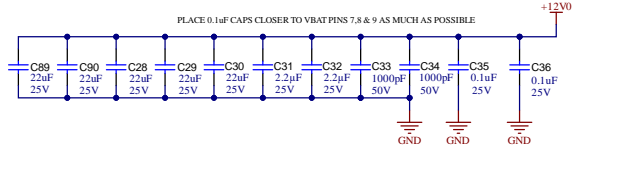
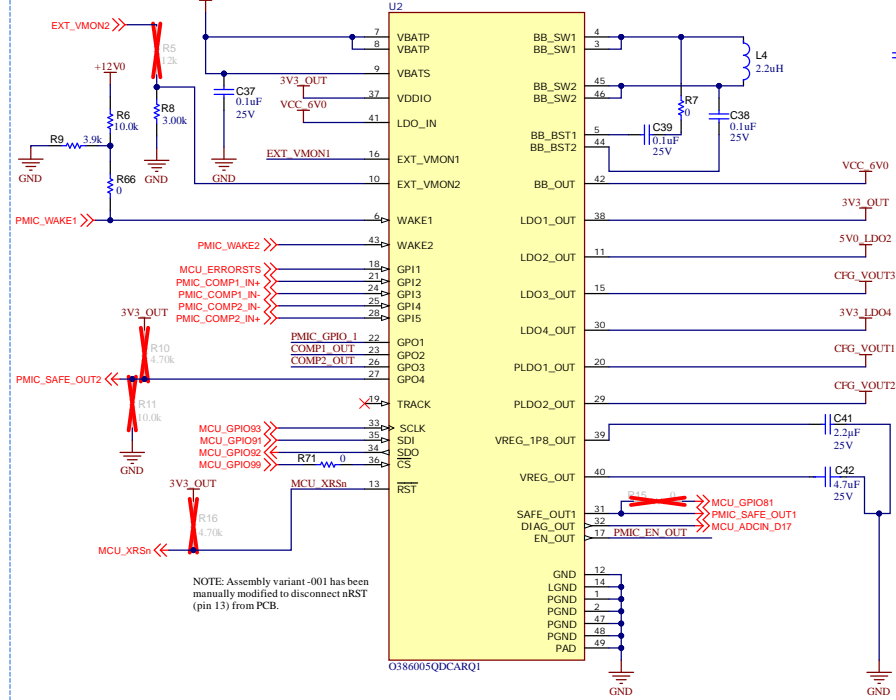


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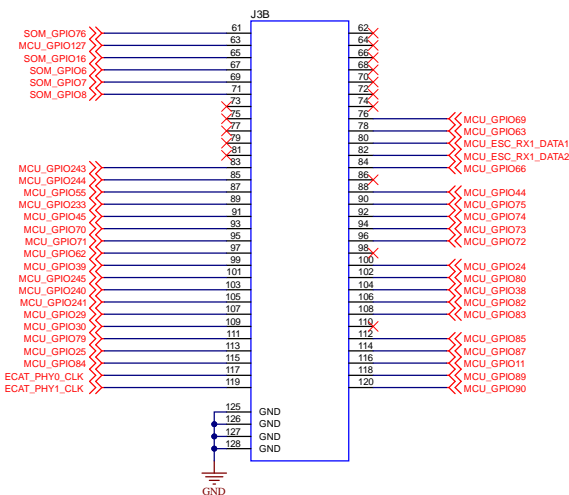
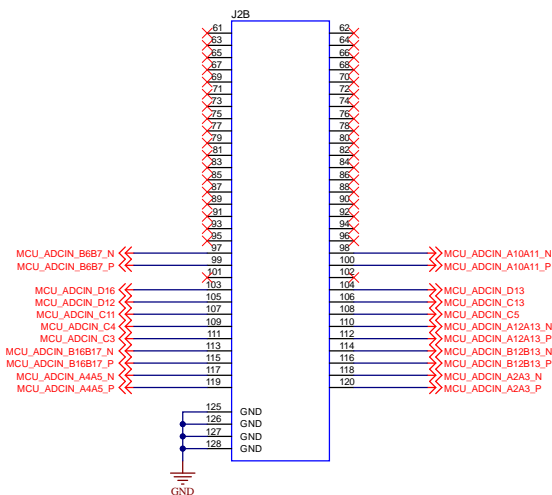
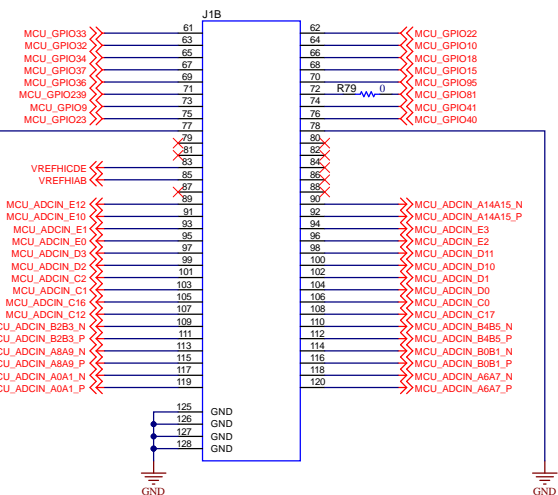
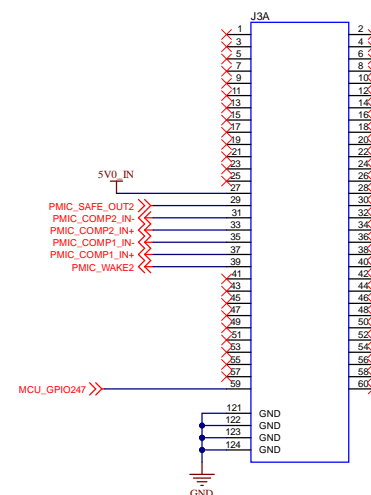
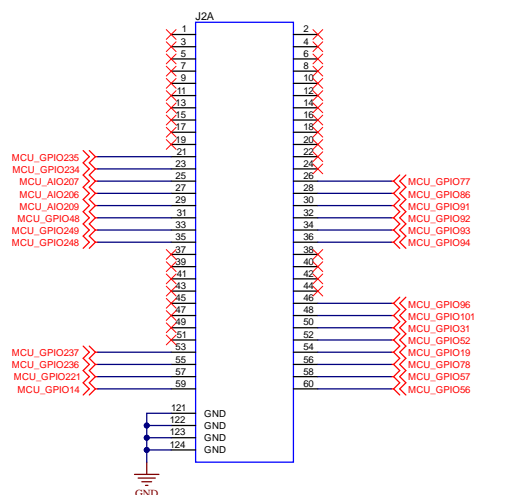
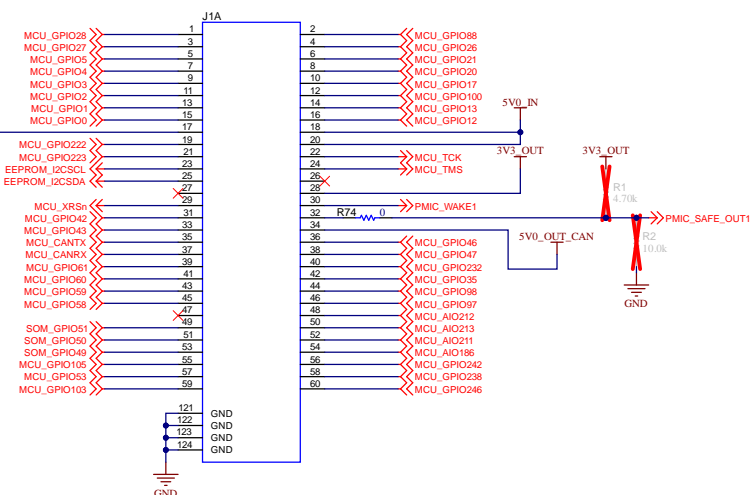
## TPS653860 PMIC



## High Density Connector J1

## High Density Connector J2

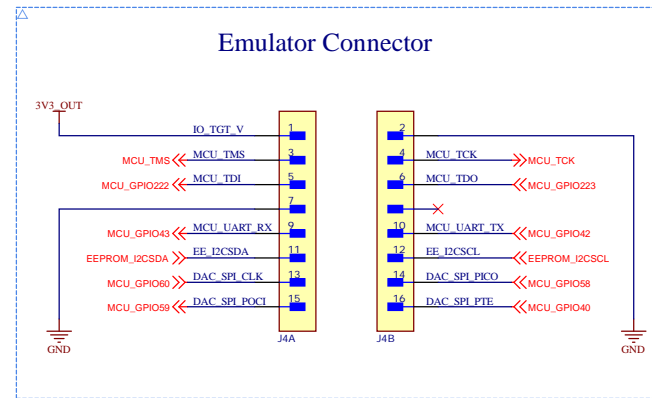
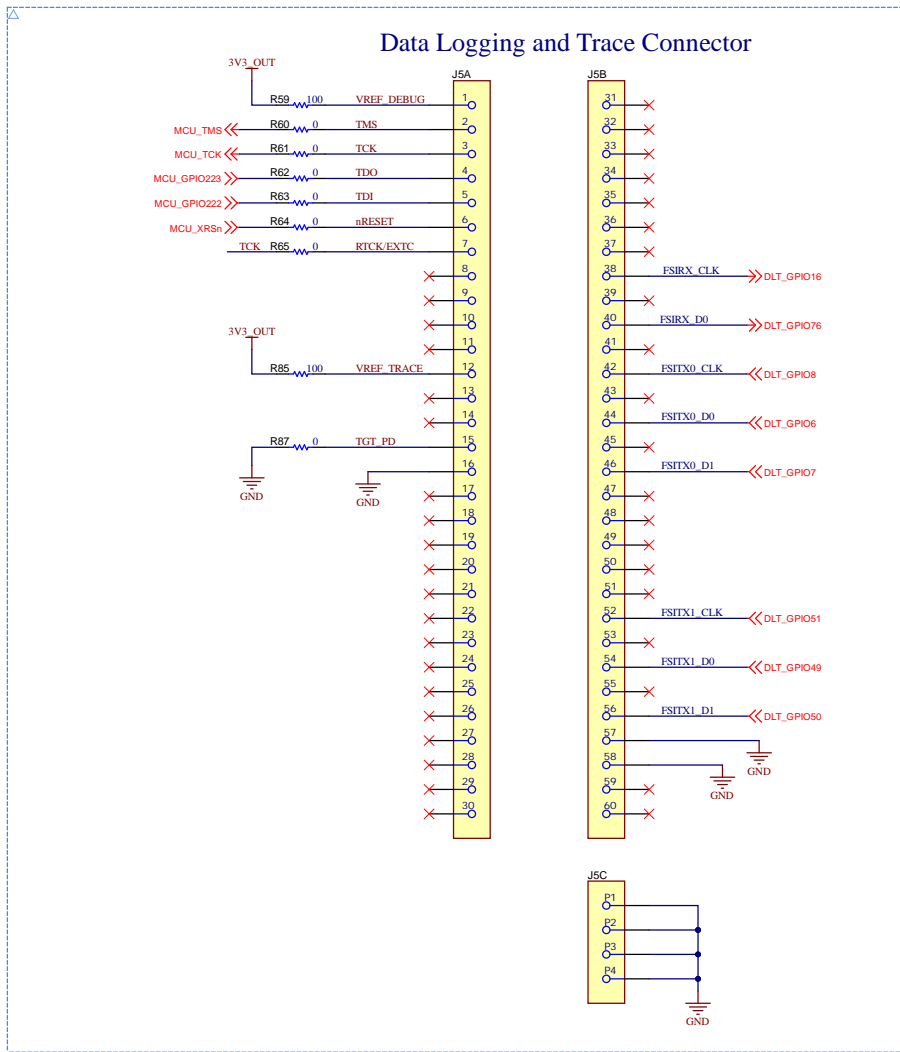
## High Density Connector J3



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|                                   |  |                                   |
|-----------------------------------|--|-----------------------------------|
| Orderable: F29H85X-SOM-EVM        | Designed for: Public Release   | Mod. Date: 7/1/2024               |
| TID #: N/A                        | Project Title: F29H85X controlSOM EVM                                      |                                   |
| Number: MCU144                    | Rev: A   | Sheet Title: Baseboard Connectors |
| SVN Rev: Version control disabled | Assembly Variant: 002  | Sheet: 6 of 8                     |
| Drawn By: Gustavo Martinez        | File: MCU144A_Baseboard_Connectors_SchDoc                                  | Size: B                           |
| Engineer: Gustavo Martinez        | Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a> |                                   |





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|                                   |  |                                   |
|-----------------------------------|--|-----------------------------------|
| Orderable: F29H85X-SOM-EVM        | Designed for: Public Release   | Mod. Date: 10/23/2024             |
| TID #: N/A                        | Project Title: F29H85X controlSOM EVM                                      |                                   |
| Number: MCU144                    | Rev: A   | Sheet Title: Emulation Connectors |
| SVN Rev: Version control disabled | Assembly Variant: 002  | Sheet: 7 of 8                     |
| Drawn By: Gustavo Martinez        | File: MCU144A_Emulation_Connectors.SchDoc                                  | Size: B                           |
| Engineer: Gustavo Martinez        | Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a> |                                   |



PCB Number: MCU144  
PCB Rev: A

PCB  
LOGO  
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PCB  
LOGO  
FCC disclaimer

PCB  
LOGO  
WEEE logo



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| Variant/Label Table |  |
|---------------------|--|
| Variant             | Variant Description  |
| 001                 | 25-MHz clock disabled; U2 NRST read-back disabled; see user guide for details. |
| 002                 | 25-MHz clock disabled; see user guide for details.                             |
| 003                 | Full-feature   |

ZZ1

Label Assembly Note

**Label Assembly Note**  
This Assembly Note is for PCB labels only

ZZ2

Assembly Note

**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: F29H85X-SOM-EVM        | Designed for: Public Release   | Mod. Date: 12/31/2024  |
| TID #: N/A                        | Project Title: F29H85X-core-iSOM EVM                                       |  <b>TEXAS<br/>INSTRUMENTS</b> |
| Number: MCU144 Rev: A             | Sheet Title: EVM Hardware  |  |
| SVN Rev: Version control disabled | Assembly Name: 002   | Sheet: 8 of 8  |
| Drawn By: Gustavo Martinez        | File: MCU144A EVM Hardware_SchDoc  | Size: B  |
| Engineer: Gustavo Martinez        | Contact: <a href="http://www.ti.com/support">http://www.ti.com/support</a> | <a href="http://www.ti.com">http://www.ti.com</a><br>© Texas Instruments 2024                                      |

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