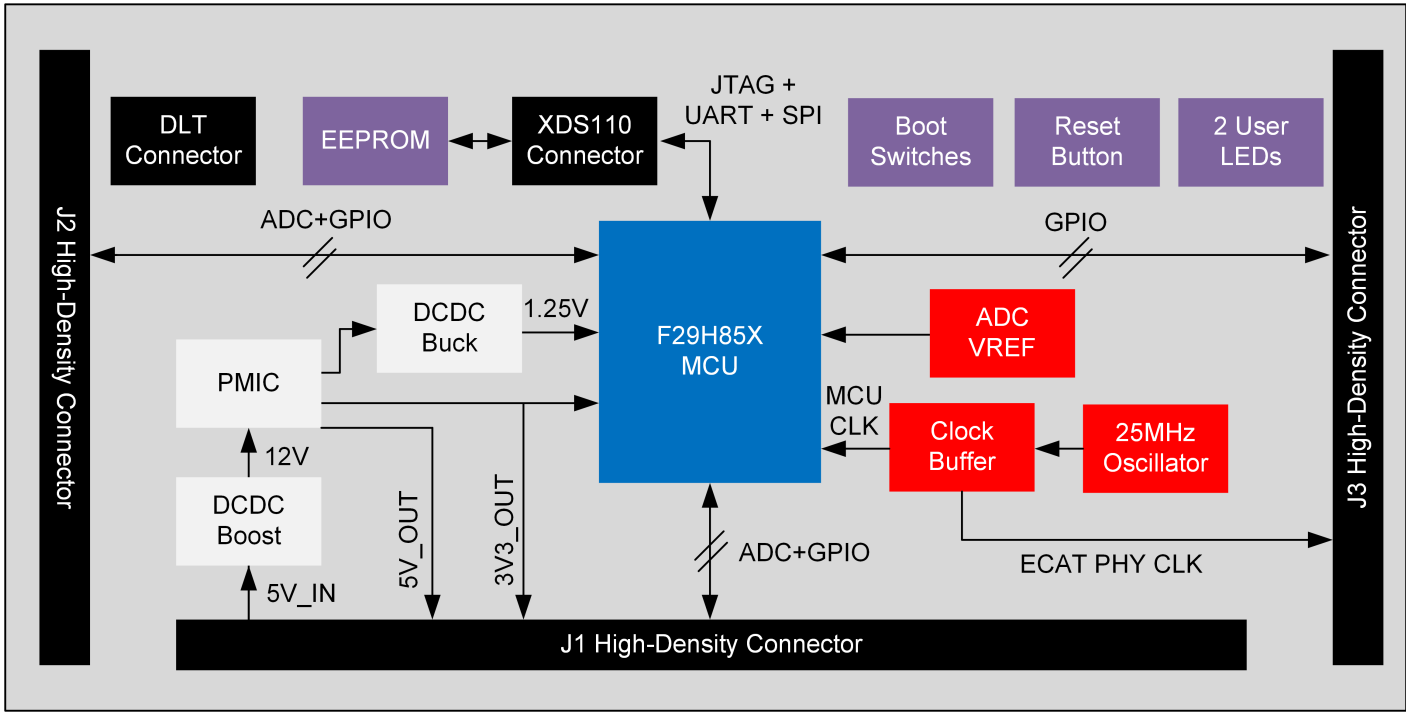
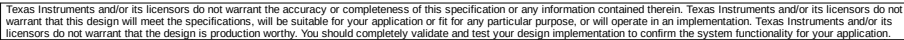


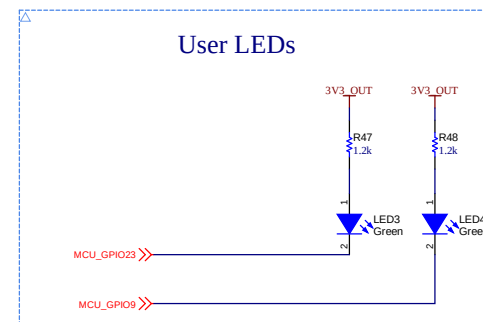
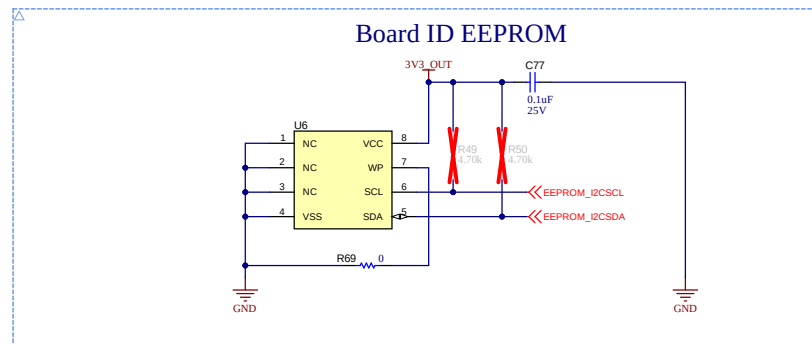
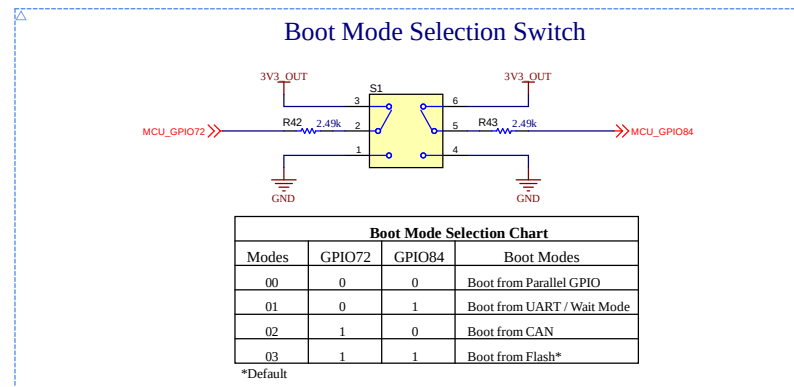
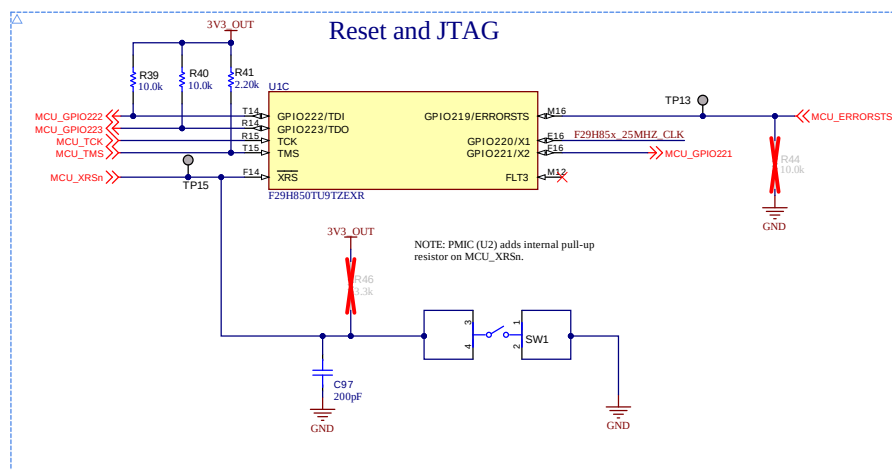
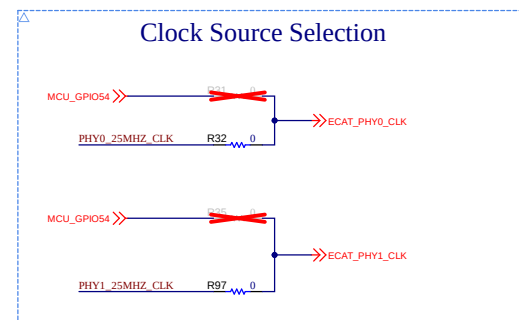
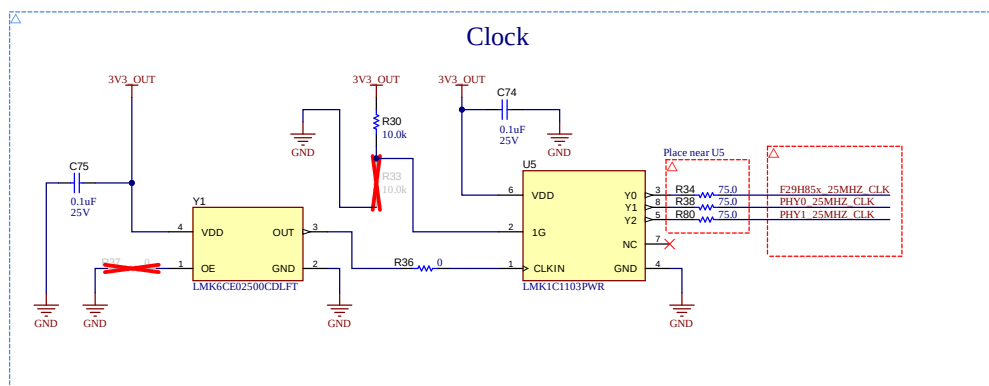
Revision History				
Rev	ECN #	Approved Date	Approved by	Notes
E1	N/A	N/A	GM	Original engineering release.
A	N/A	Oct. 17, 2024	GM	- Changed default boot mode to 11b - Changed C97 part number - Changed internal VREF connection on S3/S4 - Changed FSI connections on J5 - Removed tracking feature from U7 - Added soft start capacitor to U7 - 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.



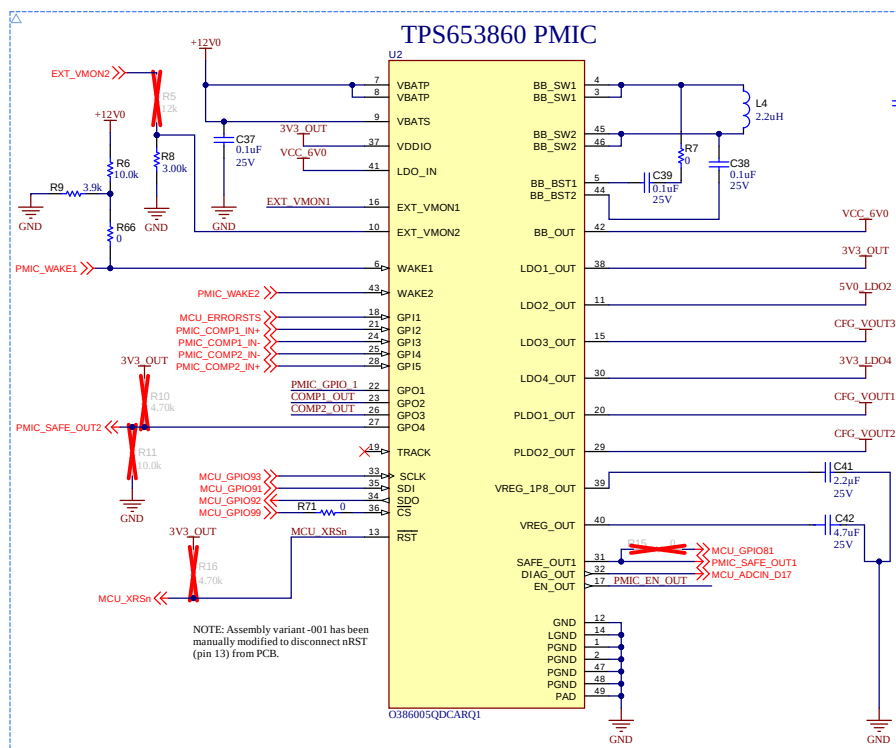
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Orderable: F29H85X-SOM-EVM	Designed for: Public Release	Mod. Date: 10/20/2025
TID #: N/A	Project Title: F29H85X controlSOM EVM	
Number: MCU144	Rev: A	Sheet Title: Block Diagram
SVN Rev: Version control disabled	Assembly Variant: 004	Sheet: 1 of 8
Drawn By: Gustavo Martinez	File: MCU144A_Coversheet.SchDoc	Size: B
Engineer: Gustavo Martinez	Contact: http://www.ti.com/support	





TPS653860 PMIC



NOTE: Assembly variant -001 has been manually modified to disconnect nRST (pin 13) from PCB.

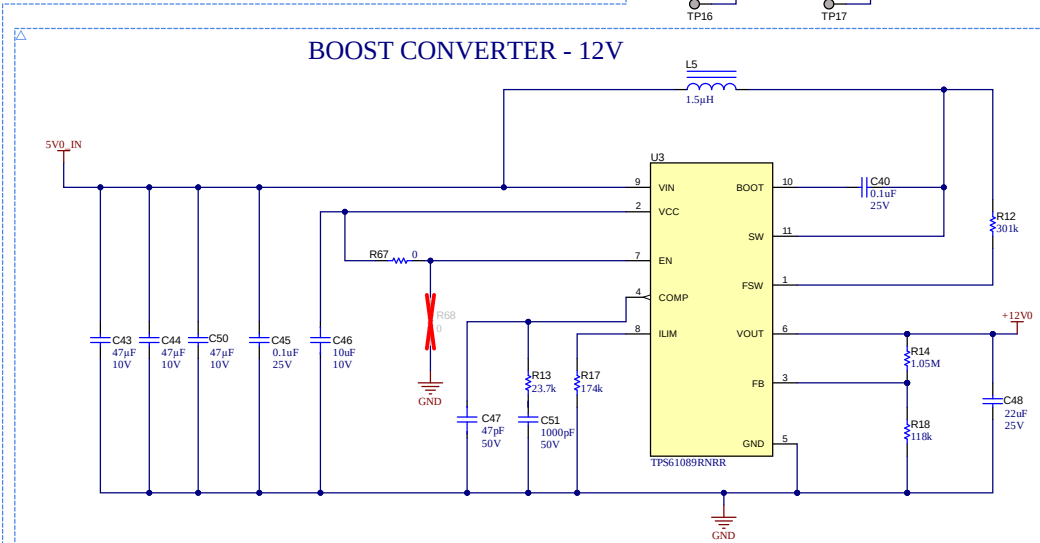
0386005QDCARQ1

The 3V3_VOUT and +1V25 rails are required by the F29 MCU. The PMIC supplies 3V3_VOUT and enables the +1V25 output of buck converter (U7) in the correct sequence.

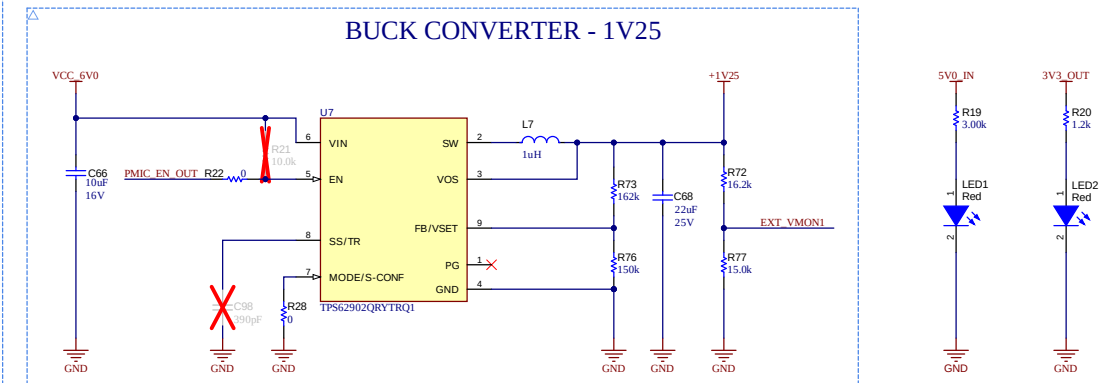
5V0_LDO2 is not required by the MCU. This PMIC output is powered off by default, but can be turned on through MCU SPI commands. The 5V0_LDO2 rail be used to supply 5V to baseboard CAN hardware through J1 5V0_OUT_CAN.

CFG_VOUTx and 3V3_LDO4 rails are not required by the F29 MCU. These PMIC outputs are powered off by default.

BOOST CONVERTER - 12V



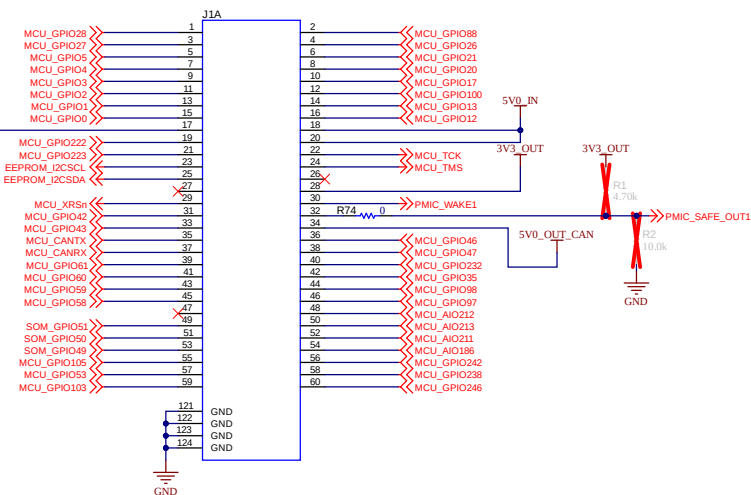
BUCK CONVERTER - 1V25



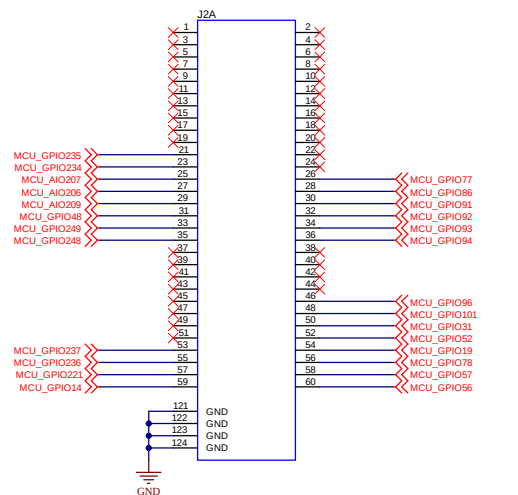
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Orderable: F29H85X-SOM-EVM	Designed for: Public Release	Mod. Date: 10/30/2025
TID #: N/A	Project Title: F29H85X controlSOM EVM	
Number: MCUI44	Rev: A	Sheet Title: controlSOM Power
SVN Rev: Version control disabled	Assembly Variant: 004	Sheet: 5 of 8
Drawn By: Gustavo Martinez	File: MCUI44A_SOM_Power_SchDoc	Size: B
Engineer: Gustavo Martinez	Contact: http://www.ti.com/support	

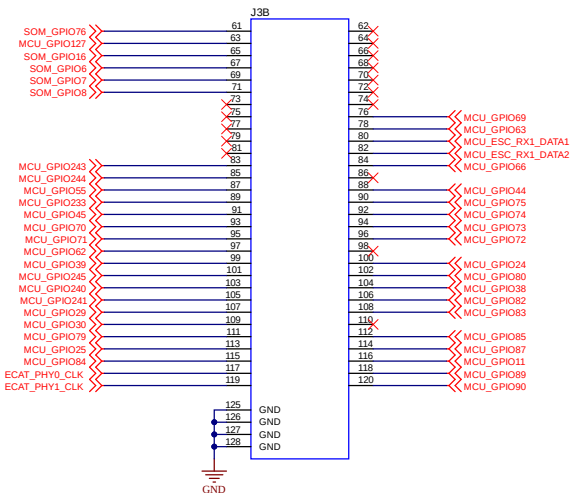
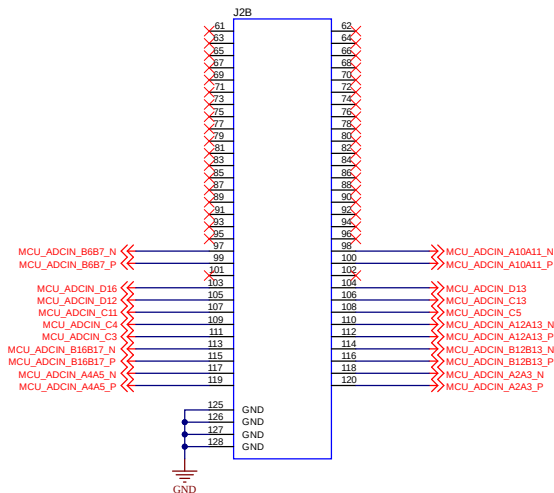
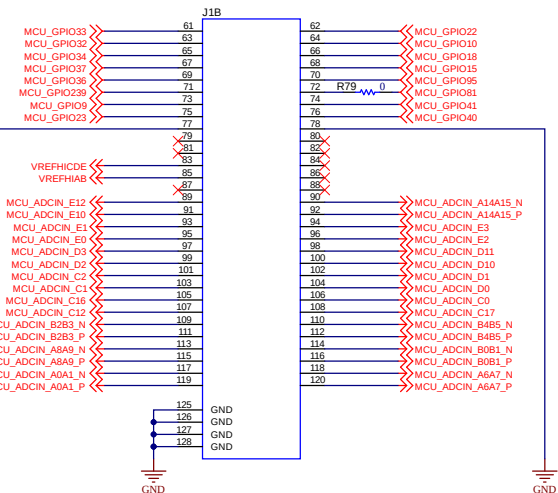
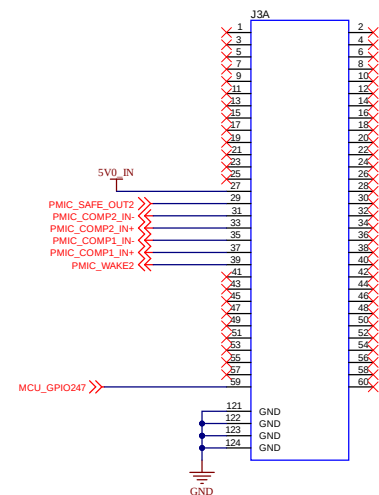
High Density Connector J1



High Density Connector J2



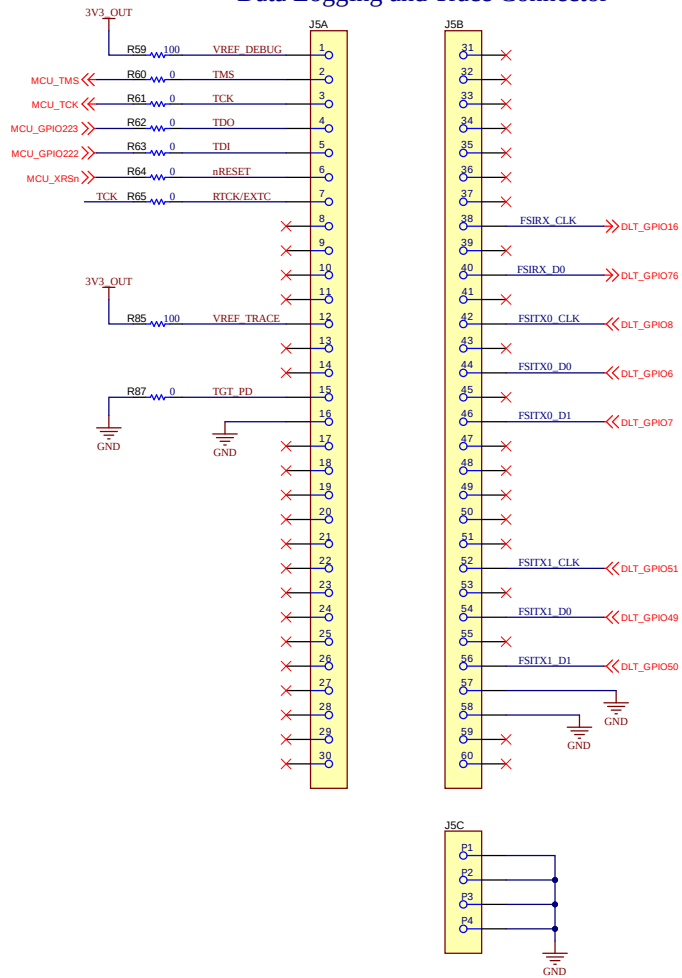
High Density Connector J3



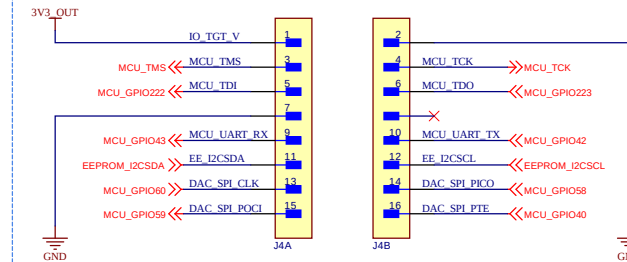
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Order Number: F29H85X-SOM-EVM		Designed for: Public Release		Mod. Date: 7/1/2024	
TID #: N/A		Project Title: F29H85X controlSOM EVM		 TEXAS INSTRUMENTS	
Model #: MC1J44A		Rev.: A			
S/N: Rev. 1.00		Rev. 1.00			
S/N: Rev. 1.00		Rev. 1.00			
Drawn by: Gustavo Martinez		File: MC1J44A Baseboard Connectors_SchDoc		Sheet: 6 of 8	
Engineer: Gustavo Martinez		Contact: http://www.ti.com/support		Size: B	
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Data Logging and Trace Connector



Emulator Connector



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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: 004	Sheet: 7 of 8
Drawn By: Gustavo Martinez	File: MCU144A_Emulation Connectors.SchDoc	Size: B
Engineer: Gustavo Martinez	Contact: http://www.ti.com/support	



PCB Number: MCU144
PCB Rev: A

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LOGO
Texas Instruments



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LOGO
FCC disclaimer

PCB
LOGO
WEEE logo



MTG NoPads



MTG NoPads



MTG NoPads



MTG NoPads

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
004	Full-feature with L1 alternate part

ZZ1

221

Label Assembly Note

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

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: 10/8/2026	 TEXAS INSTRUMENTS
TID #: N/A	Project Title: F29H85X-CC-TOISOM EVM		
Number: MCU144	Rev: A	Sheet Title: EVM Hardware	
SVN Rev: Version control disabled	Assembly Variant: 004	Sheet: 8 of 8	
Drawn By: Gustavo Martinez	File: MCU144A EVM Hardware_SchDoc	Size: B	
Engineer: Gustavo Martinez	Contact: http://www.ti.com/support		http://www.ti.com © Texas Instruments 2024

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