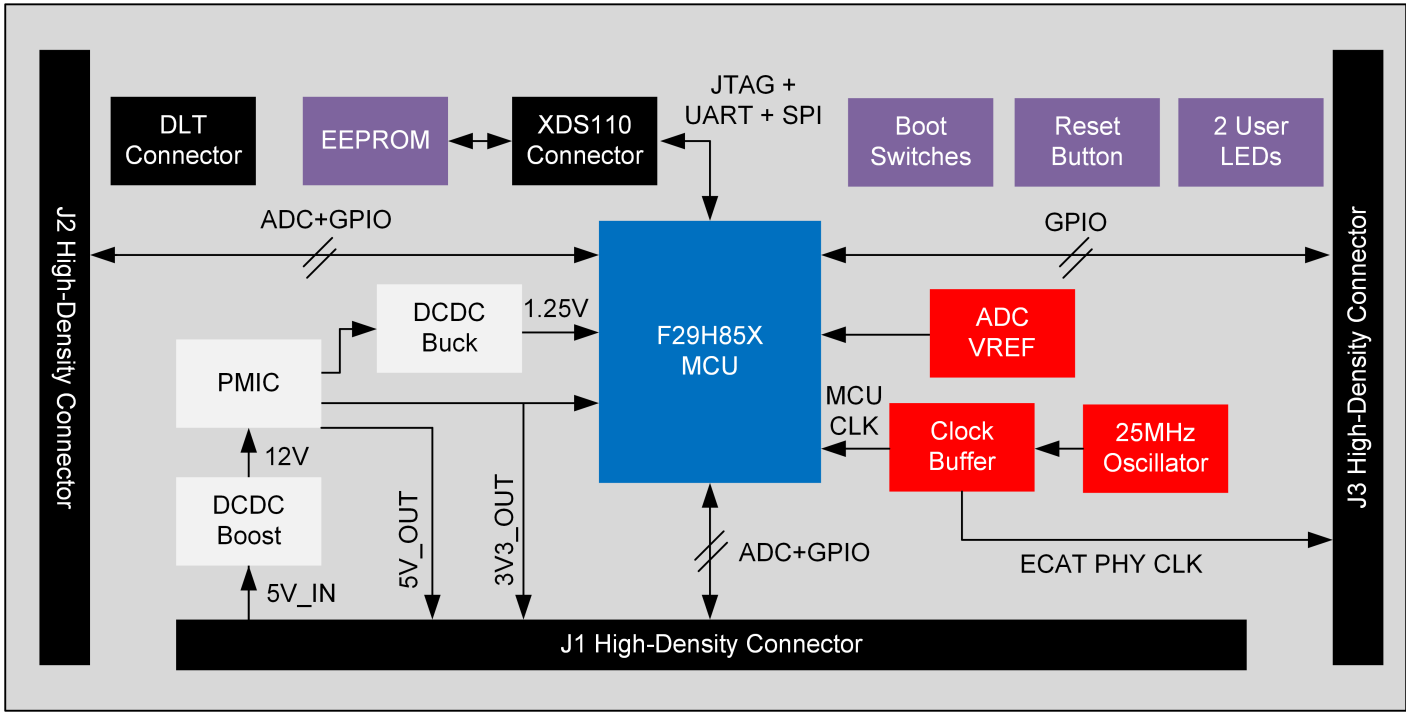
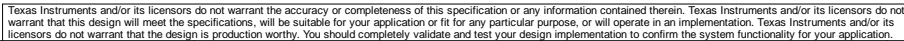


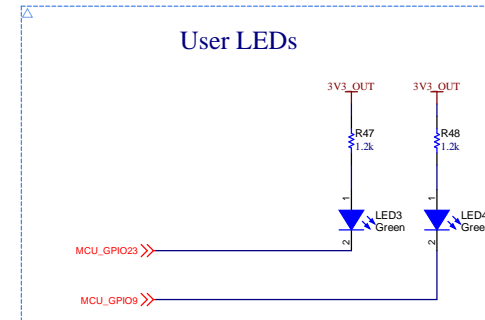
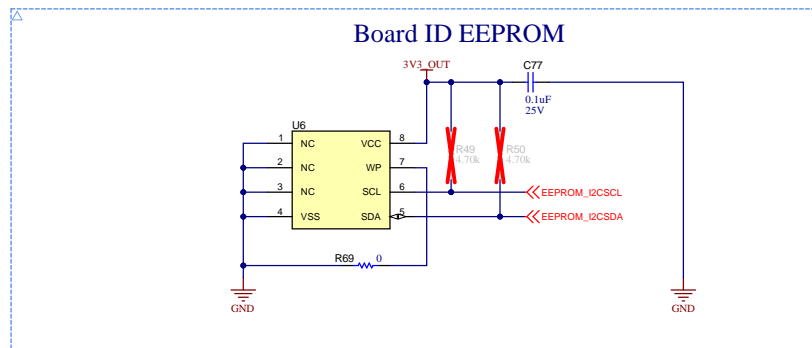
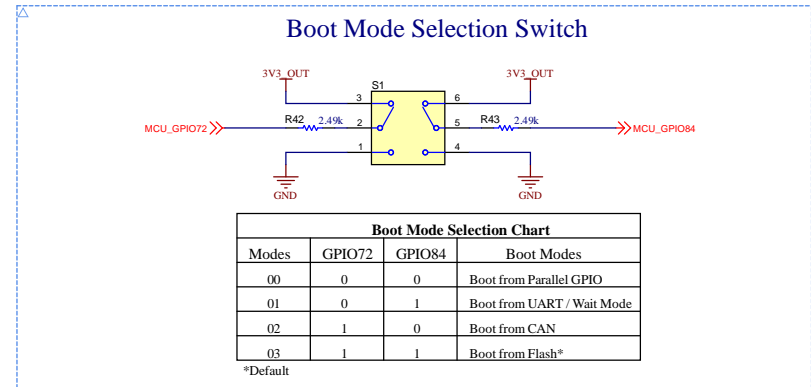
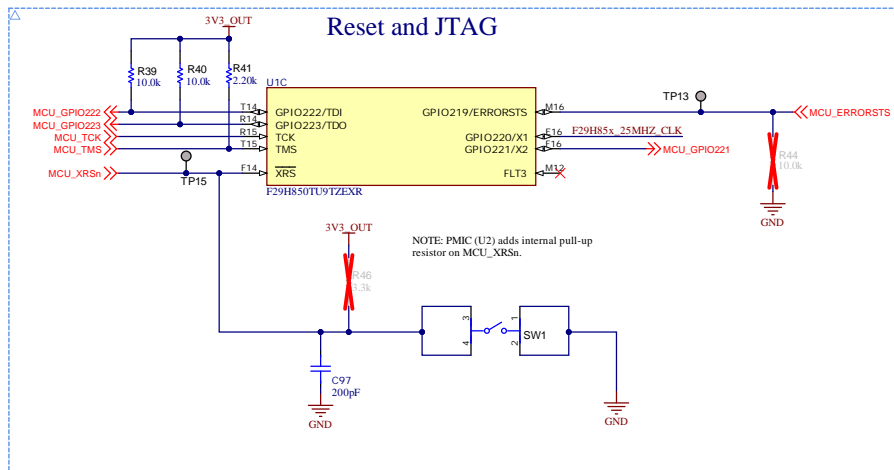
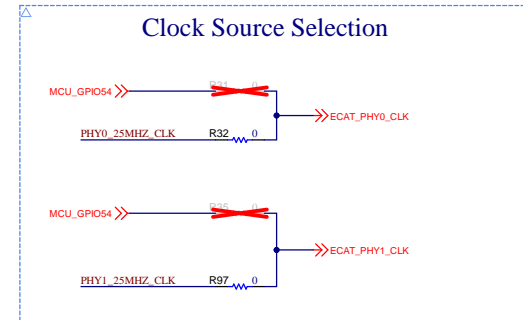
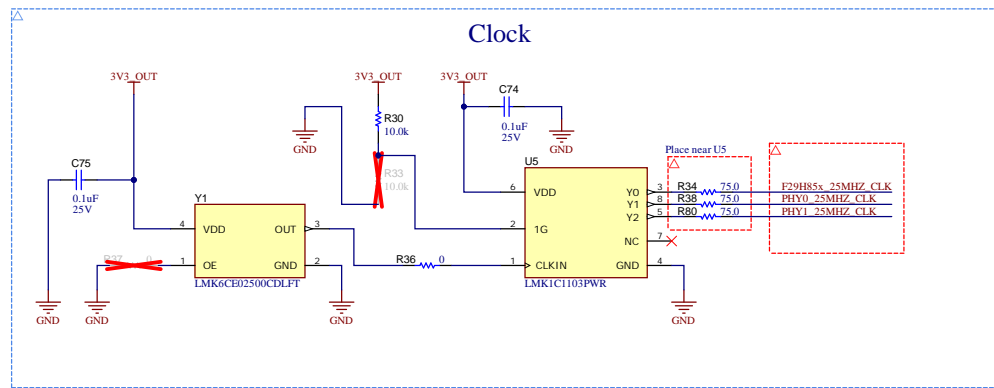
Revision History				
Rev	ECN #	Approved Date	Approved by	Notes
E1	N/A	N/A	GM	Original engineering release.
A	N/A	Oct. 17, 2024	GM	- Changed default boot mode to 11b - Changed C97 part number - Changed internal VREF connection on S3/S4 - Changed FSI connections on J5 - Removed tracking feature from U7 - 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: 1 of 8
SVN Rev: Version control disabled	Assembly Variant: 003	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

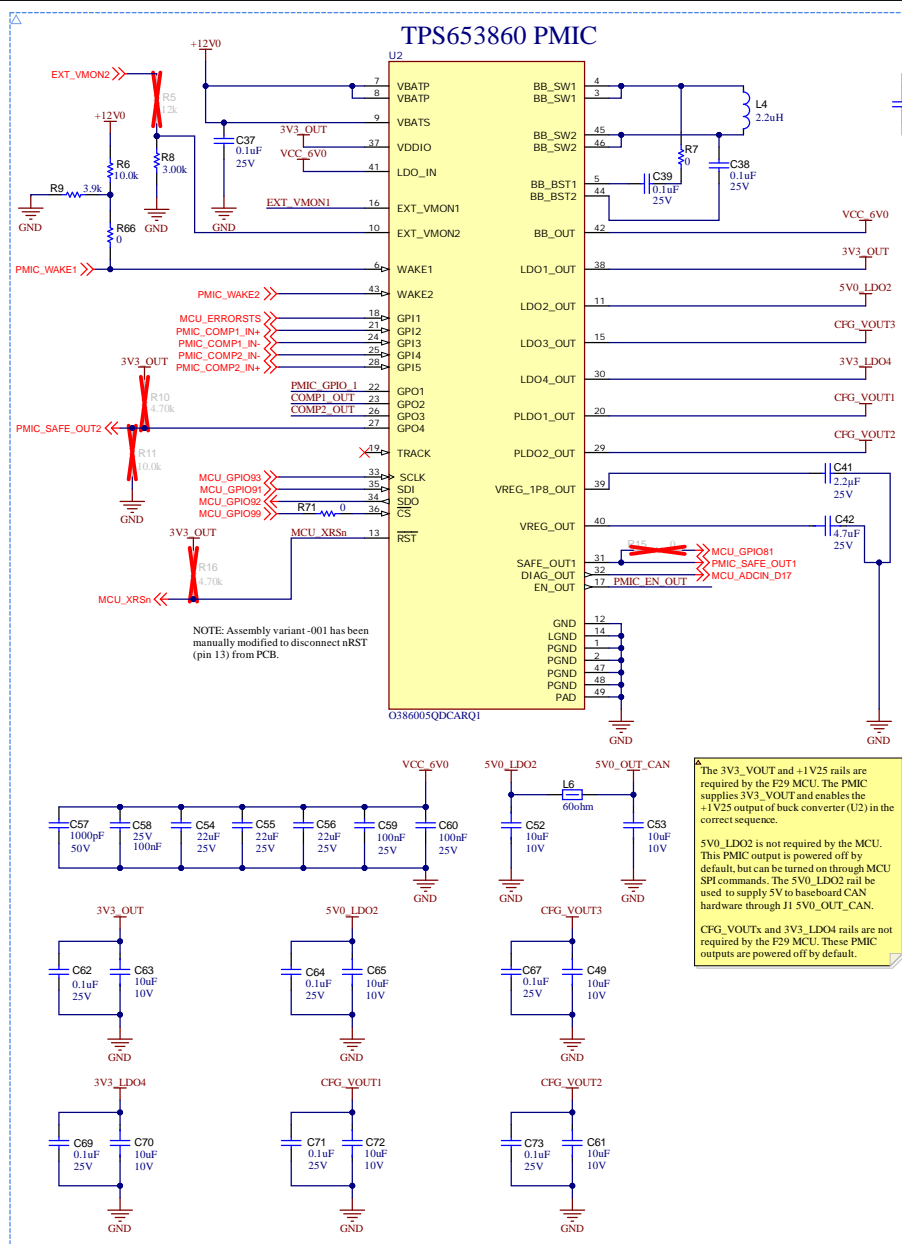




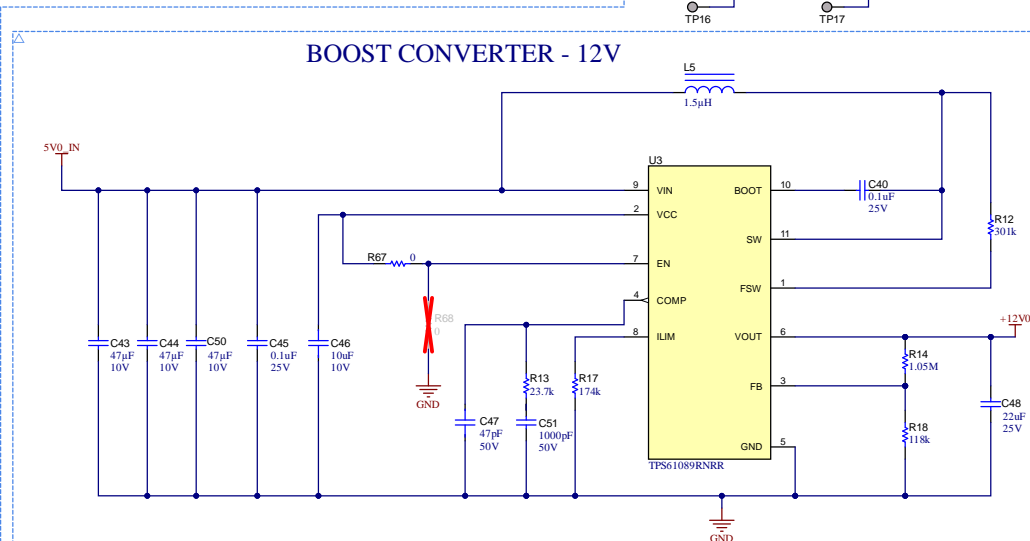
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Orderable: F29H85X-SOM-EVM	Designed for: Public Release	Mod. Date: 10/20/2025
TID #: N/A	Project Title: F29H85x control/SOM EVM	
Number: MCU144	Rev: A	Sheet Title: Clock, Reset, and Boot
SVN Rev: Version control disabled	Assembly Variant: 003	Sheet: 4 of 8
Drawn By: Gustavo Martinez	File: MCU144A_Clock_Reset_Boot_SchDoc	Size: B
Engineer: Gustavo Martinez	Contact: http://www.ti.com/support	http://www.ti.com

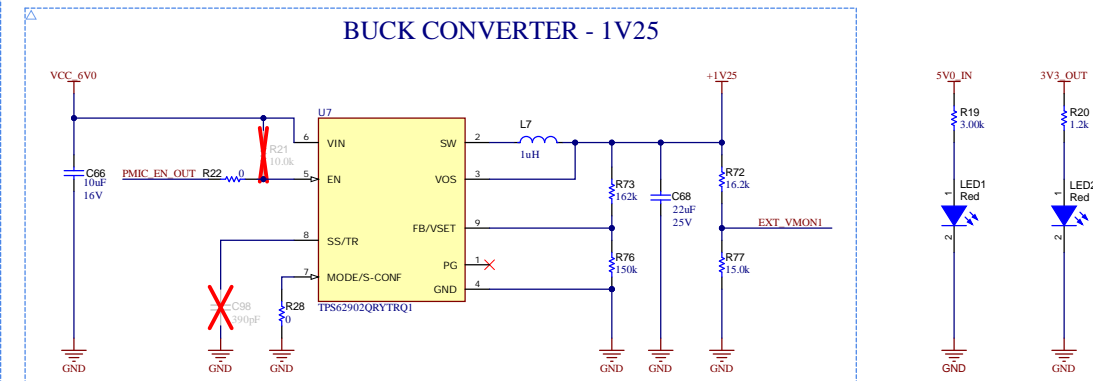
TPS653860 PMIC



BOOST CONVERTER - 12V



BUCK CONVERTER - 1V25



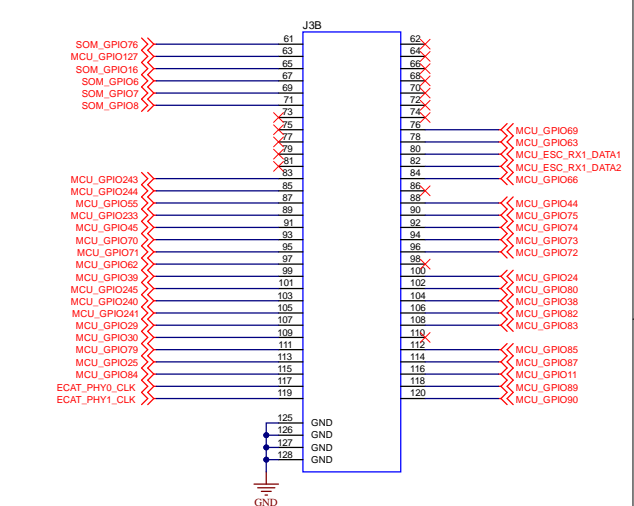
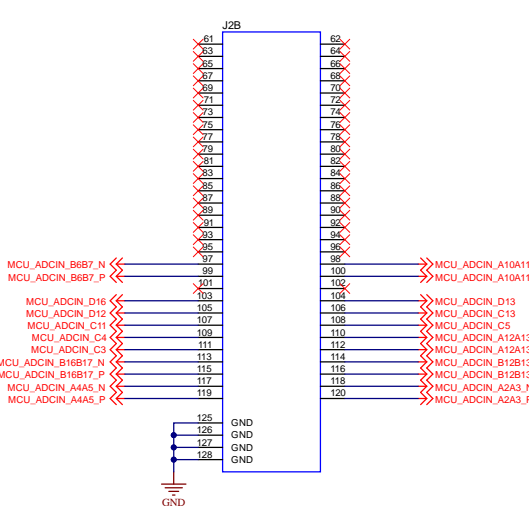
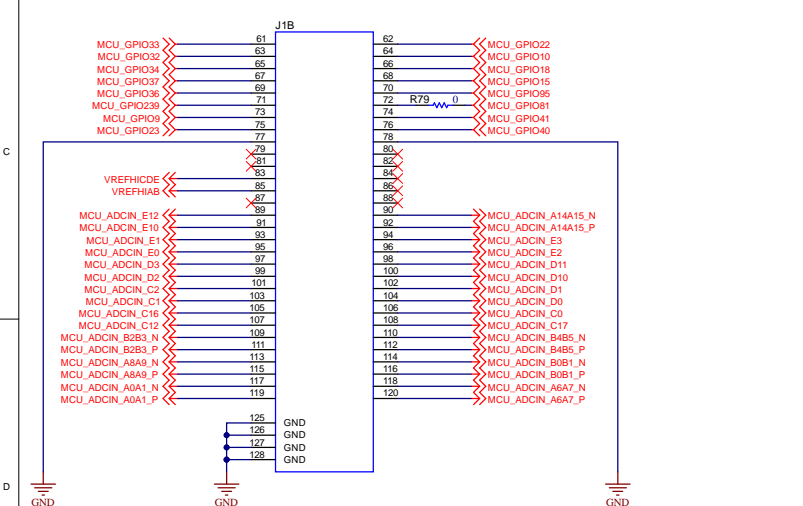
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Orderable: F29H85X-SOM-EVM	Designed for: Public Release	Mod. Date: 10/30/2025
TID #: N/A	Project Title: F29H85X controlSOM EVM	
Number: MCU144	Rev: A	Sheet Title: controlSOM Power
SVN Rev: Version control disabled	Assembly Variant: 003	Sheet: 5 of 8
Drawn By: Gustavo Martinez	File: MCU144A_SOM_Power.SchDoc	Size: B
Engineer: Gustavo Martinez	Contact: http://www.ti.com/support	

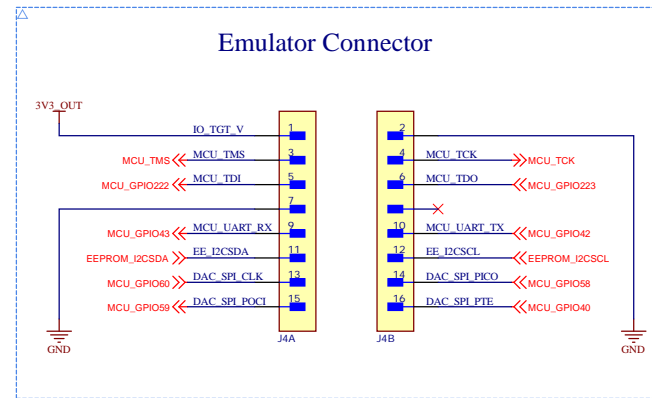
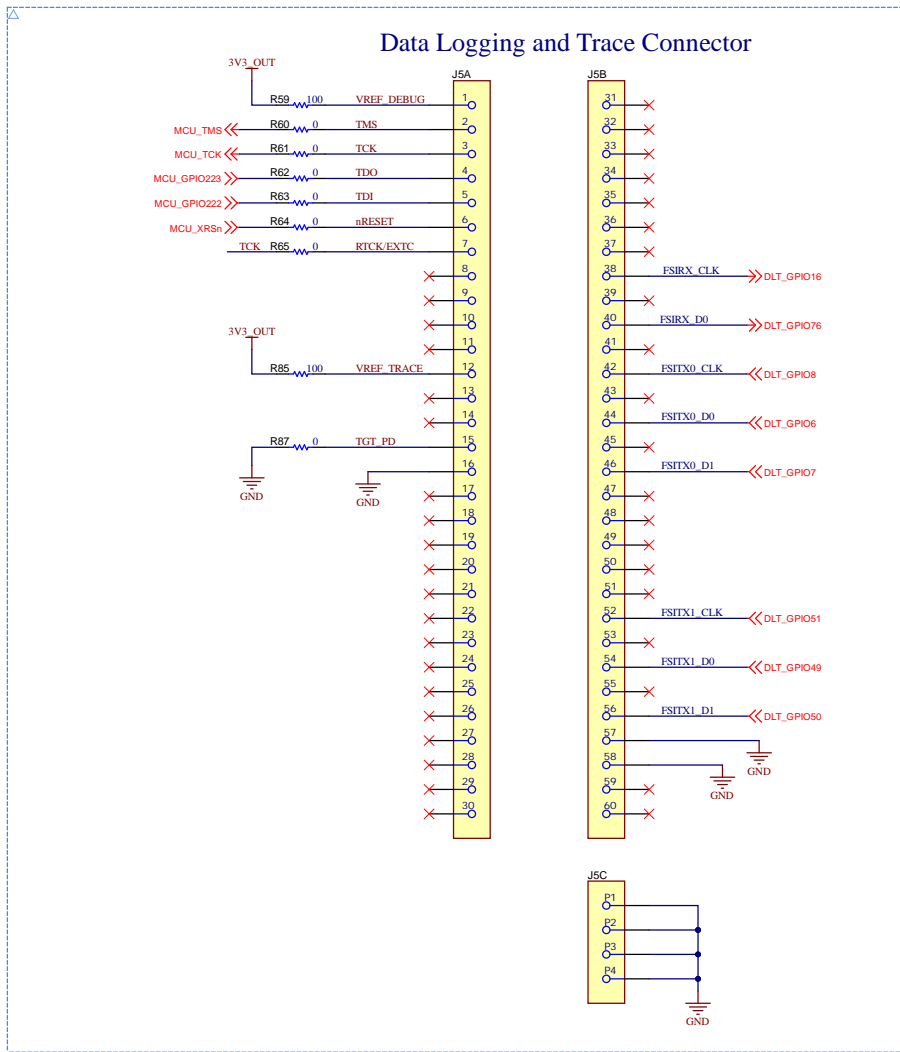
Pin-to-pin connection diagram for the J1A connector. The diagram shows two columns of pins, 1-17 on the left and 18-60 on the right. Various MCU pins (GPIOs, TCK, TMS, XRSn, CANn, SOM) are connected to specific pins on the J1A connector. Power pins (V0_IN, 3V3_OUT, 3V3_OUT_CAN, GND) are also shown. A 4.70k resistor R1 is connected between 3V3_OUT and 3V3_OUT_CAN. A 0.0k resistor R2 is connected between 3V3_OUT_CAN and GND. A 0 ohm resistor R74 is connected between pins 32 and 34.

Pinout diagram for the J2A connector. The connector has 60 pins. Pins 1-10, 12-19, 21-26, 28-36, 38-46, 48-54, 56-60 are marked with a red 'X' and are not connected. Pins 11, 20, 27, 37, 47, 55, 57, 59 are connected to various MCU GPIO pins. Pins 121-124 are connected to GND.

Pin	Signal
1	X
2	X
3	X
4	X
5	X
6	X
7	X
8	X
9	X
10	X
11	MCU_GPIO235
12	X
13	X
14	X
15	X
16	X
17	X
18	X
19	X
20	MCU_GPIO236
21	X
22	X
23	MCU_GPIO237
24	X
25	MCU_GPIO238
26	X
27	MCU_AIO207
28	X
29	MCU_AIO208
30	X
31	MCU_AIO209
32	X
33	MCU_GPIO48
34	X
35	MCU_GPIO249
36	X
37	MCU_GPIO248
38	X
39	X
40	X
41	X
42	X
43	X
44	X
45	X
46	X
47	MCU_GPIO237
48	MCU_GPIO236
49	MCU_GPIO235
50	MCU_GPIO234
51	MCU_GPIO233
52	MCU_GPIO232
53	MCU_GPIO231
54	MCU_GPIO230
55	MCU_GPIO229
56	MCU_GPIO228
57	MCU_GPIO227
58	MCU_GPIO226
59	MCU_GPIO225
60	MCU_GPIO224
121	GND
122	GND
123	GND
124	GND



Orderable: F29H85X-SOM-EVM		Designed for: Public Release		Mod. Date: 7/1/2024			
TID: N/A		Project: F29H85X-controlSOM-EVM		 TEXAS INSTRUMENTS			
Number: MCU144		Rev: A				Sheet: Baseboard Connectors	
SVN Rev: Version control disabled		Assembly Variant: 003				Sheet: 6 of 8	
Drawn By: Gustavo Martinez		File: MCU144A Baseboard Connectors_SchDoc				Size: B	
Engineer: Gustavo Martinez		Contact: http://www.ti.com/support		http://www.ti.com © Texas Instruments 2024			



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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: 003	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

PCB
LOGO
Texas Instruments

PCB
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

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	 TEXAS INSTRUMENTS
TID #:	Project Title: F29H85X-controlSOM EVM		
Number: MCU144	Rev.: A	Assembly Title: EVM Hardware	
SVN Rev: Version control disabled	Sheet Number: 003	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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