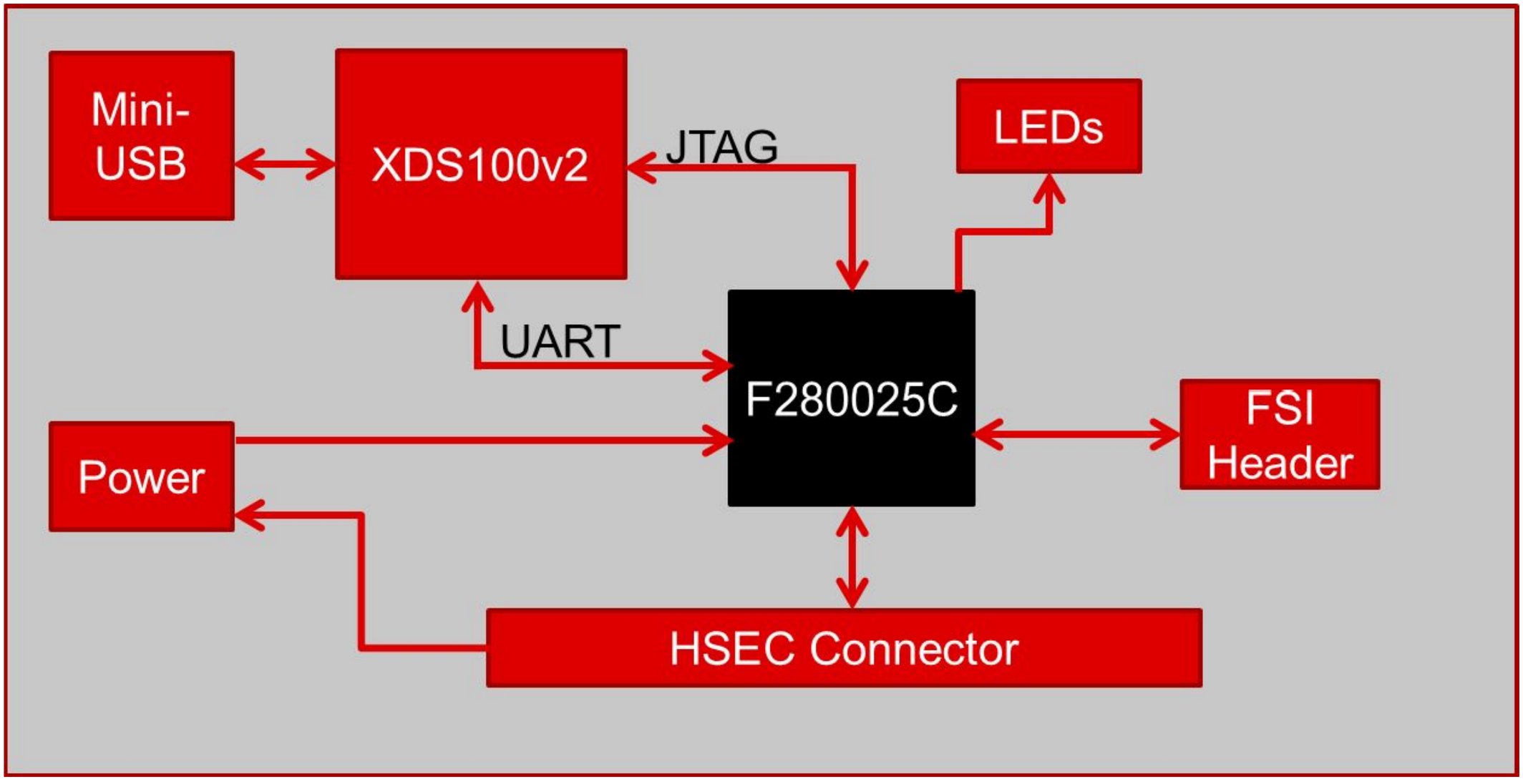
Revision History				
Rev	ECN #	Approved Date	Approved by	Notes
N/A	N/A	N/A	N/A	N/A



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Orderable: TMDXCNCD280025C		Designed for: Public Release	Mod. Date: 5/10/2019
TID #: N/A		Project Title: F28002x controlCARD	
Number: MCU072	Rev: A	Sheet Title:	
SVN Rev: Version control disabled		Assembly Variant: 001	Sheet: 1 of 7
Drawn By:		File: MCU072A_CoverSheet.SchDoc	Size: B
Engineer: Cody Watkins		Contact: http://www.ti.com/support	

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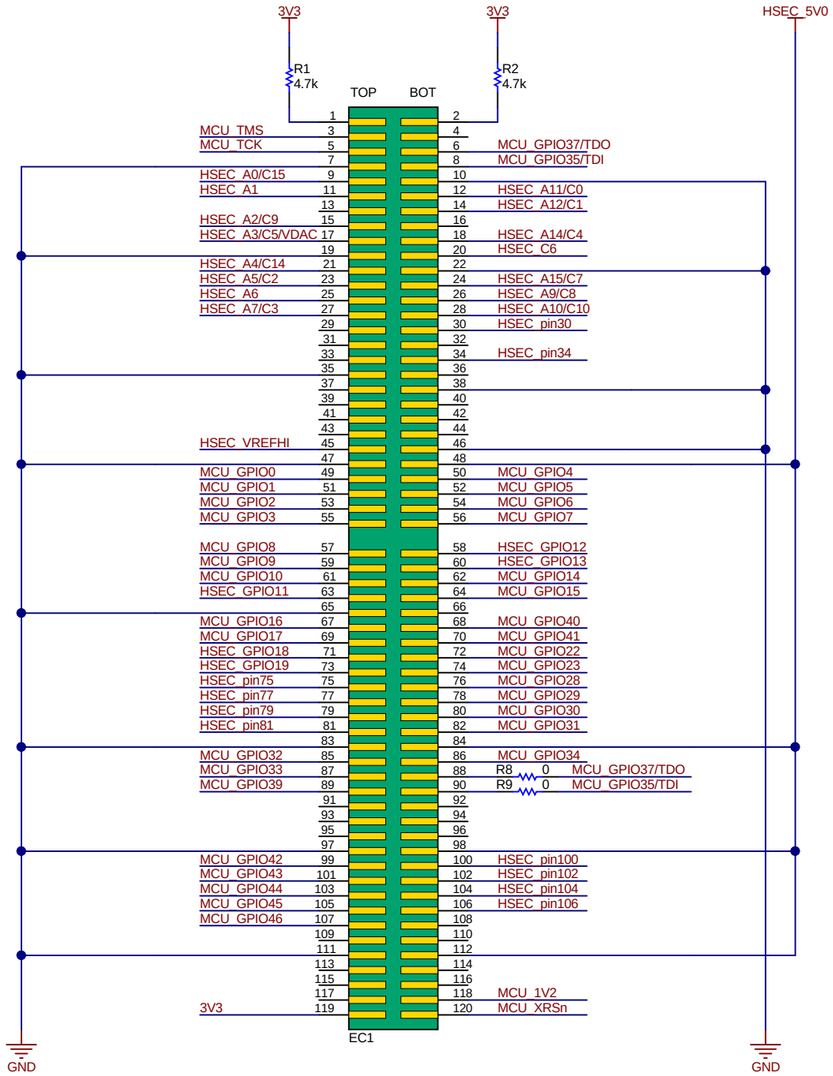
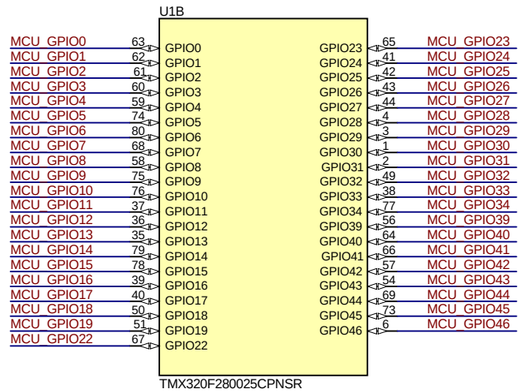
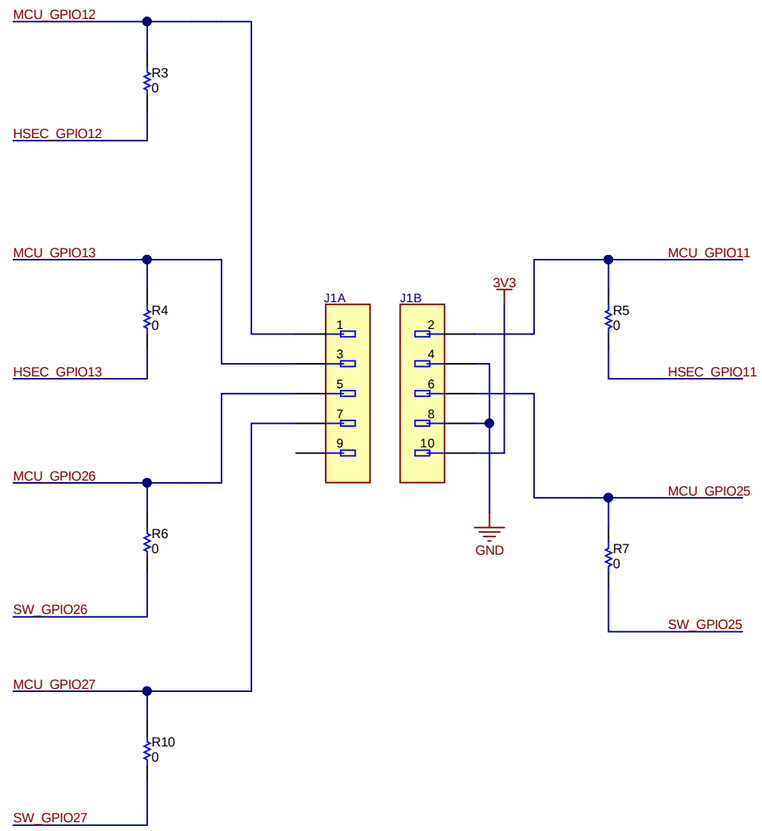
J1 has been updated over previous designs. Pins 9 and 10 were added enabling power to the connector. Additionally Pins 2 and 6, previously GND, have been repurposed to enable the full 3 pin FSI communication. The user can shunt HSEC GPIO11 and HSEC GPIO25 to ground if backwards compatibility is required.

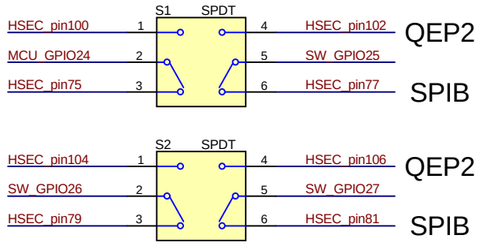
1	FSI-RX0	2	FSI-RX1/GND
3	FSI-RXCLK	4	GND
5	FSI-TX0	6	FSI-TX1/GND
7	FSI-TXCLK	8	GND
9	KEY	10	3V3







SPIB or QEP2 Selection



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TID #: N/A		Project Title: F28002x controlCARD	
Number: MCU072	Rev: A	Sheet Title:	
SVN Rev: Version control disabled		Assembly Variant: 001	Sheet: 2 of 7
Drawn By: Cody Watkins		File: MCU072A_GPIO.SchDoc	Size: B
Engineer: Cody Watkins		Contact: http://www.ti.com/support	

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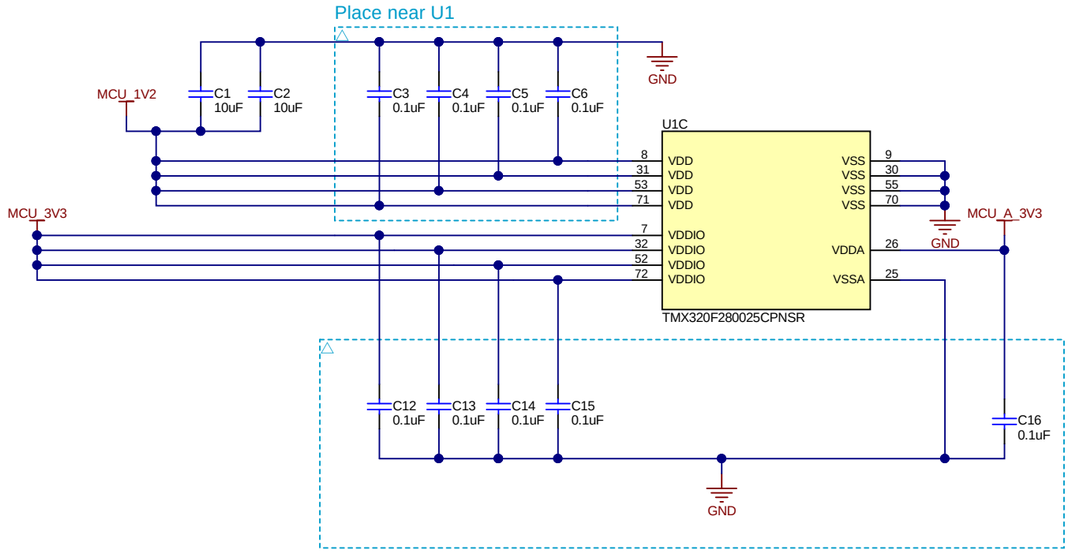
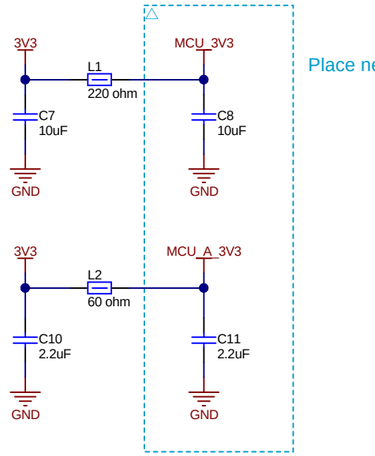
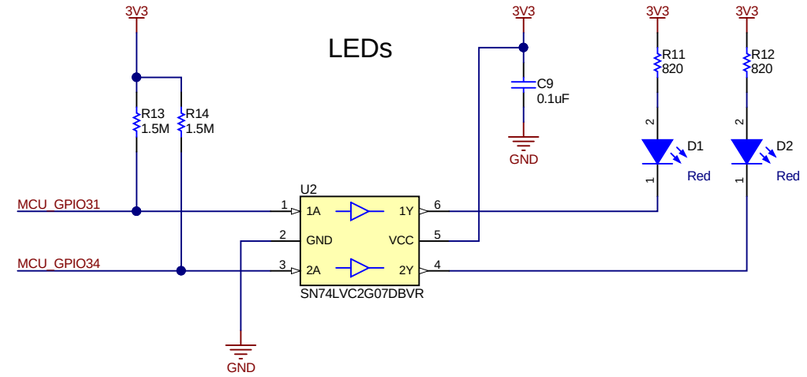
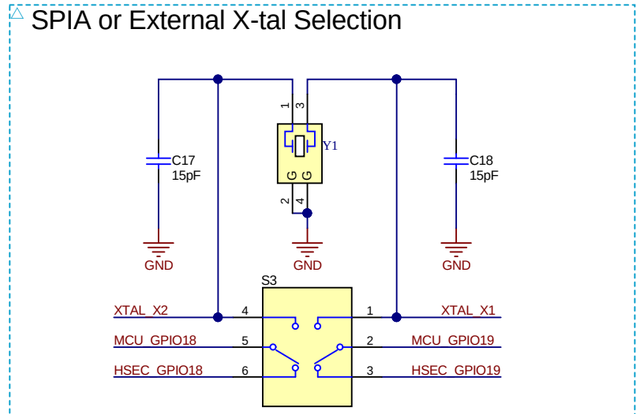


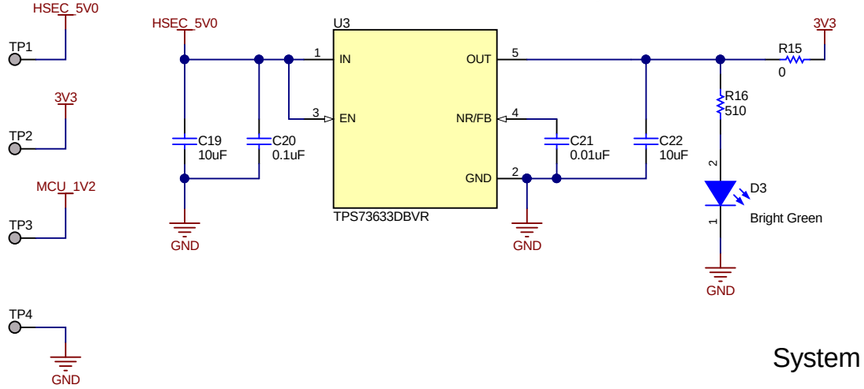


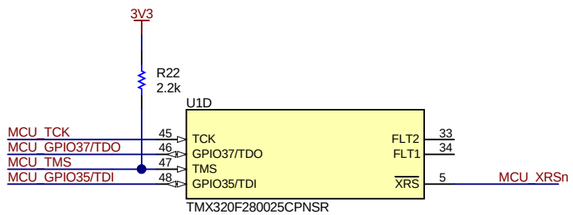
C11 is a required decoupling capacitor for VDDA

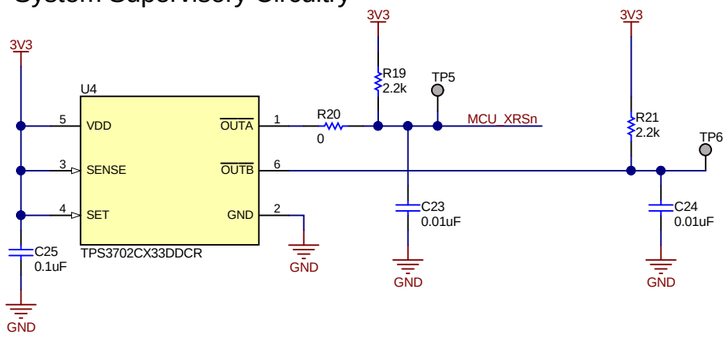


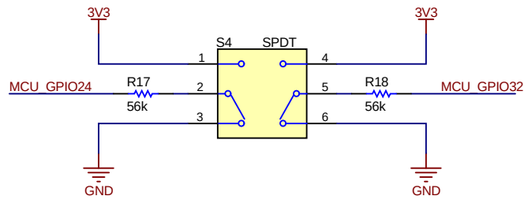


S3 enables the selection of an external crystal or the use of GPIOs.
In this controlCARD's design S3 is required to support a variety of baseboards. However, in a final system the designer should remove S3 and route these signals cleanly depending on the system's requirements.









Boot Mode Selection Chart

(S4: UP is '1', DOWN is '0')

Mode #	GPIO24	GPIO32	Boot Mode
00	0	0	Boot from Parallel GPIO
01	0	1	Boot from SCI / Wait Mode
02	1	0	Boot from CAN
03	1	1	Boot from Flash

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Orderable: TMDXCNCD280025C		Designed for: Public Release	Mod. Date: 12/10/2019
TID #: N/A		Project Title: F28002x controlCARD	
Number: MCU072	Rev: A	Sheet Title:	
SVN Rev: Version control disabled		Assembly Variant: 001	Sheet: 3 of 7
Drawn By: Cody Watkins		File: MCU072A_Power.SchDoc	Size: B
Engineer: Cody Watkins		Contact: http://www.ti.com/support	

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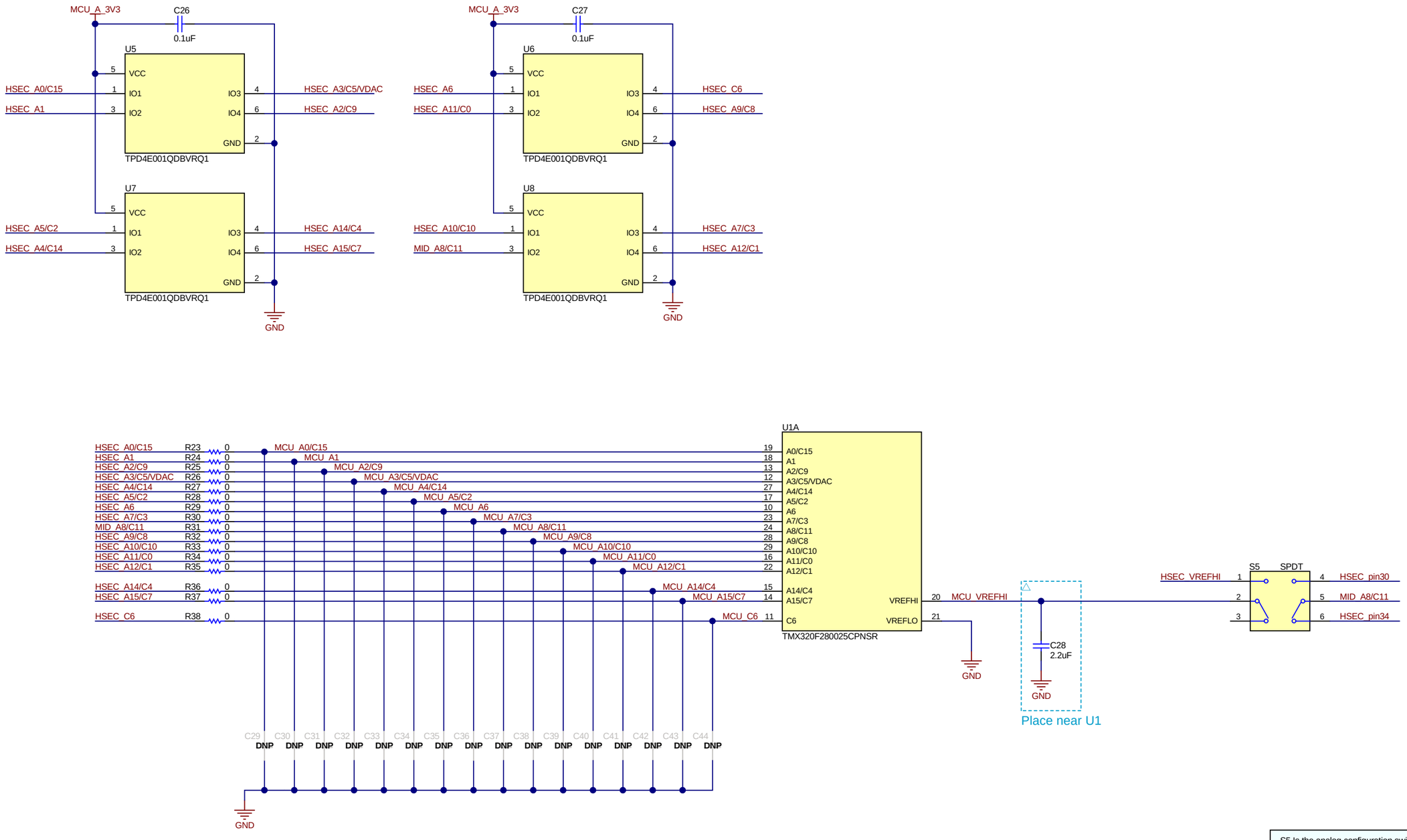

S5 Is the analog configuration switch

1- ON
- ADC should be configured to disable the internal reference and instead a reference voltage should be attached to HSEC pin 45

1-OFF
- ADC should use the internal voltage reference

2-ON
- ADC channel A8 is connected to HSEC_pin30

2-OFF
- ADC channel A8 is connected to HSEC_pin34

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Orderable: TMDXCNCD280025C		Designed for: Public Release	Mod. Date: 9/4/2019
TID #: N/A		Project Title: F28002x controlCARD	
Number: MCU072	Rev: A	Sheet Title:	
SVN Rev: Version control disabled		Assembly Variant: 001	Sheet: 4 of 7
Drawn By: Cody Watkins		File: MCU072A_ADC.SchDoc	Size: B
Engineer: Cody Watkins		Contact: http://www.ti.com/support	

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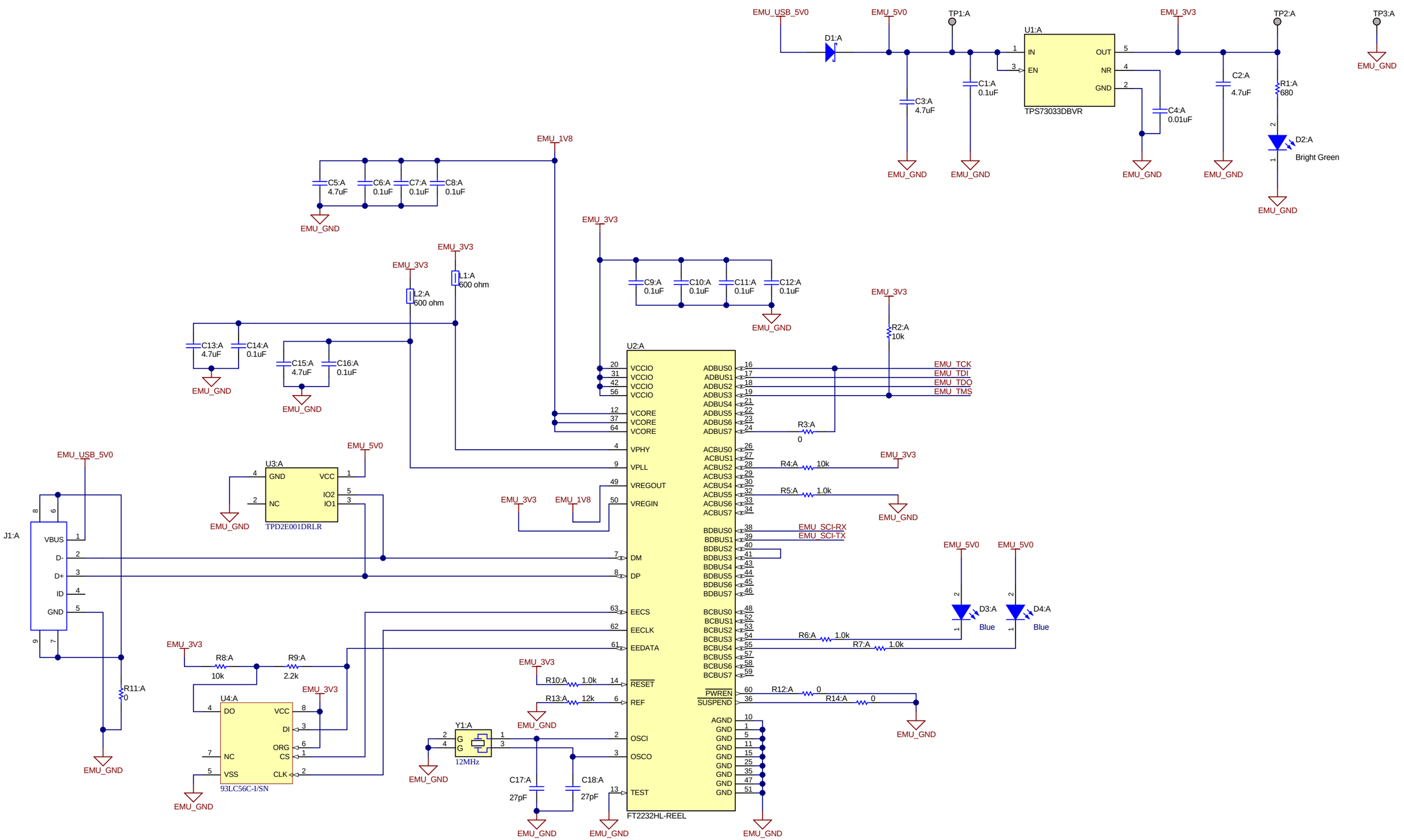

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TID #: N/A		Project Title: F28002x controlCARD	
Number: MCU072	Rev: A	Sheet Title:	
SVN Rev: Version control disabled		Assembly Variant: 001	Sheet: 5 of 7
Drawn By: Cody Watkins		File: MCU072A_Emulator_Hardware.SchDoc	Size: B
Engineer: Cody Watkins		Contact: http://www.ti.com/support	

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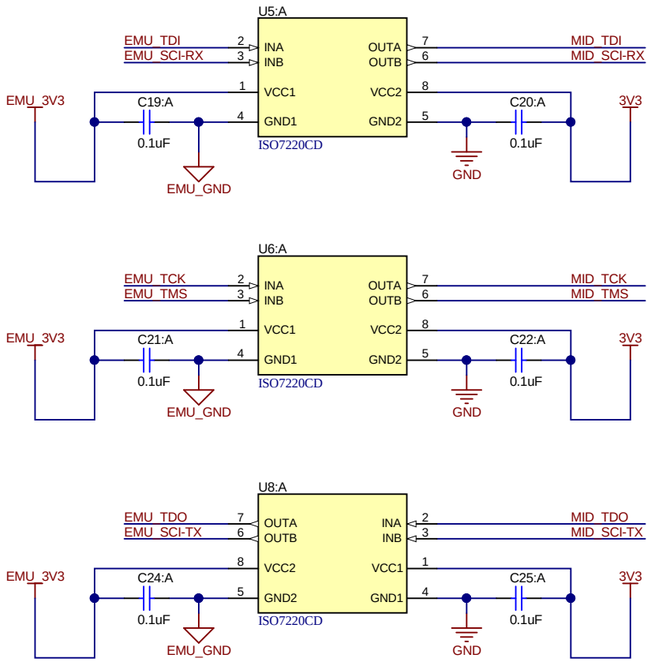


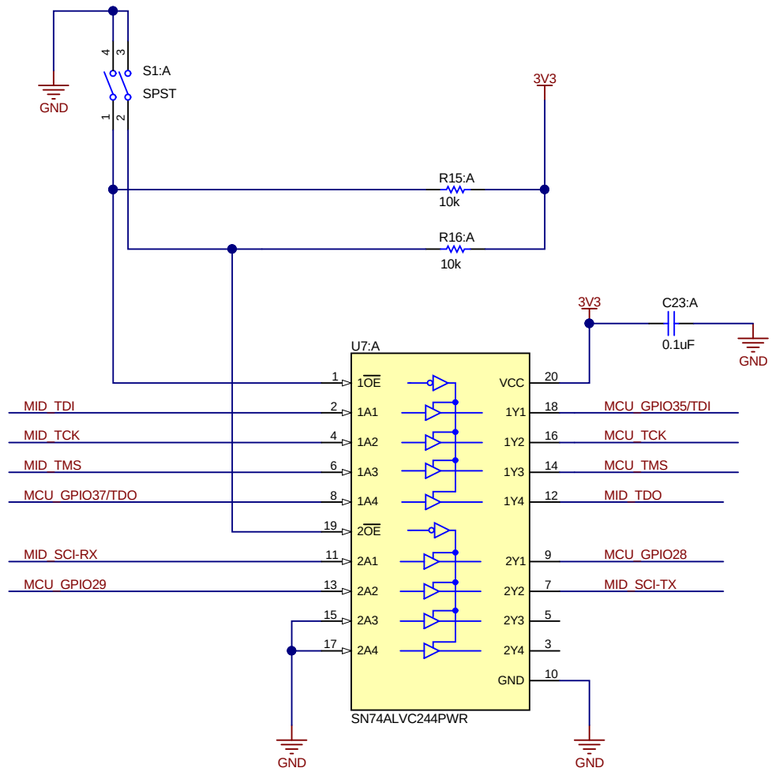
S1:A - Emulation & GPIO28 Switch

POS 1 ON: Use xds100v2 emulator that is on the cCARD

POS 1 OFF: Boot from FLASH/peripheral (see boot mode switch) OR use emulator on baseboard

POS 2 ON: GPIO-28 will be controlled by the USB-to-UART adapter on the FTDI chip

POS 2 OFF: GPIO-28 can be controlled by a pin in HSEC connector



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TID #: N/A		Project Title: F28002x controlCARD	
Number: MCU072	Rev: A	Sheet Title:	
SVN Rev: Version control disabled		Assembly Variant: 001	Sheet: 6 of 7
Drawn By: Cody Watkins		File: MCU072A_Emulator_Interface.SchDoc	Size: B
Engineer: Cody Watkins		Contact: http://www.ti.com/support	

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DNP FID1 DNP FID2 DNP FID3 DNP FID4 DNP FID5 DNP FID6

PCB Number: MCU072
PCB Rev: A

PCB LOGO
Texas Instruments

CE Mark

PCB LOGO
FCC disclaimer

PCB LOGO
WEEE logo

LBL1
PCB Label
THT-14-423-10
Size: 0.65" x 0.20 "

ZZ1
Label Assembly Note
This Assembly Note is for PCB labels only

Variant/Label Table	
Variant	Label Text
001	TMDXCNCD280025C
002	TMDSCNCD280025C

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.

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SVN Rev: Version control disabled		Assembly Variant: 001	Sheet: 7 of 7
Drawn By: Cody Watkins		File: MCU072A_Hardware.SchDoc	Size: B
Engineer: Cody Watkins		Contact: http://www.ti.com/support	

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