REVISION RECORD				
WHO:	SCH REV:	PCB REV:	NOTES:	DATE:
TI-BL	R1.0	R1.0	Draft	05-Jun-2013
TI-BL	R1.1	R1.1	Edited SVS circuitry (U3,U4); Changed power supply (U14) resistors Changed F28377D (U1) pinout and connector pinout (J1) Changed ADC VREFHI circuitry (U17,U13) and switches (SW3, SW4)	24-Oct-2013
TI-BL	R1.1 ASSY A	R1.1	R16: 2K2 to 0R, R72: 0R0 to 100K, R74: 0R0 to 10K X1: Move to crystal with lower ESR U1: Swap VREFLOB and VREFLOD to match datasheet U1: Rename ADCINCAL0 & CAL1 to ADCIN14 & 15 Net Rename: HSEC_ADC-CAL0 & CAL1 to HSEC_ADCIN14 & 15 Net Rename: MCU_ADC-CAL0 & CAL1 to MCU_ADCIN14 & 15	09-May-2014

NOTES:

1) USB Differential Pairs - 90 Ohm

(A) USB-DM & USB-DP

(B) USB0_GPIO-42 & USB0_GPIO-43

(C) MCU_GPIO-42 & MCU_GPIO-43

2) EMIF - External Memory Interface Impedance Matching from J1 to U1

(A) MCU_GPIO-39:41, MCU_GPIO-44:52, MCU_GPIO-86:94 - Address [0:21]

(B) MCU_GPIO-85, MCU_GPIO-83:53 - Data [0:31]

(C) MCU_GPIO-30 - Clock

(D) MCU_GPIO-37, 31, 29 - Read/Write/ClkEn Pins

(E) MCU_GPIO-32, 34, 35, 28 - Chip Select Pins

3) ADC Differential Pair Impedance Matching

(A) HSEC_ADC even pins should match with HSEC_ADC + 1 pin (ie HSEC_ADC-C2 should match with HSEC_ADC-C3)

(B) MCU_ADC even pins should match with MCU_ADC + 1 pin (ie MCU_ADC-A0 should match with MCU_ADC-A1)

COMPANY: Texas Instruments			
PAGE NAME: TITLE			
TITLE: F2837x controlCARD			REV: 1.1A
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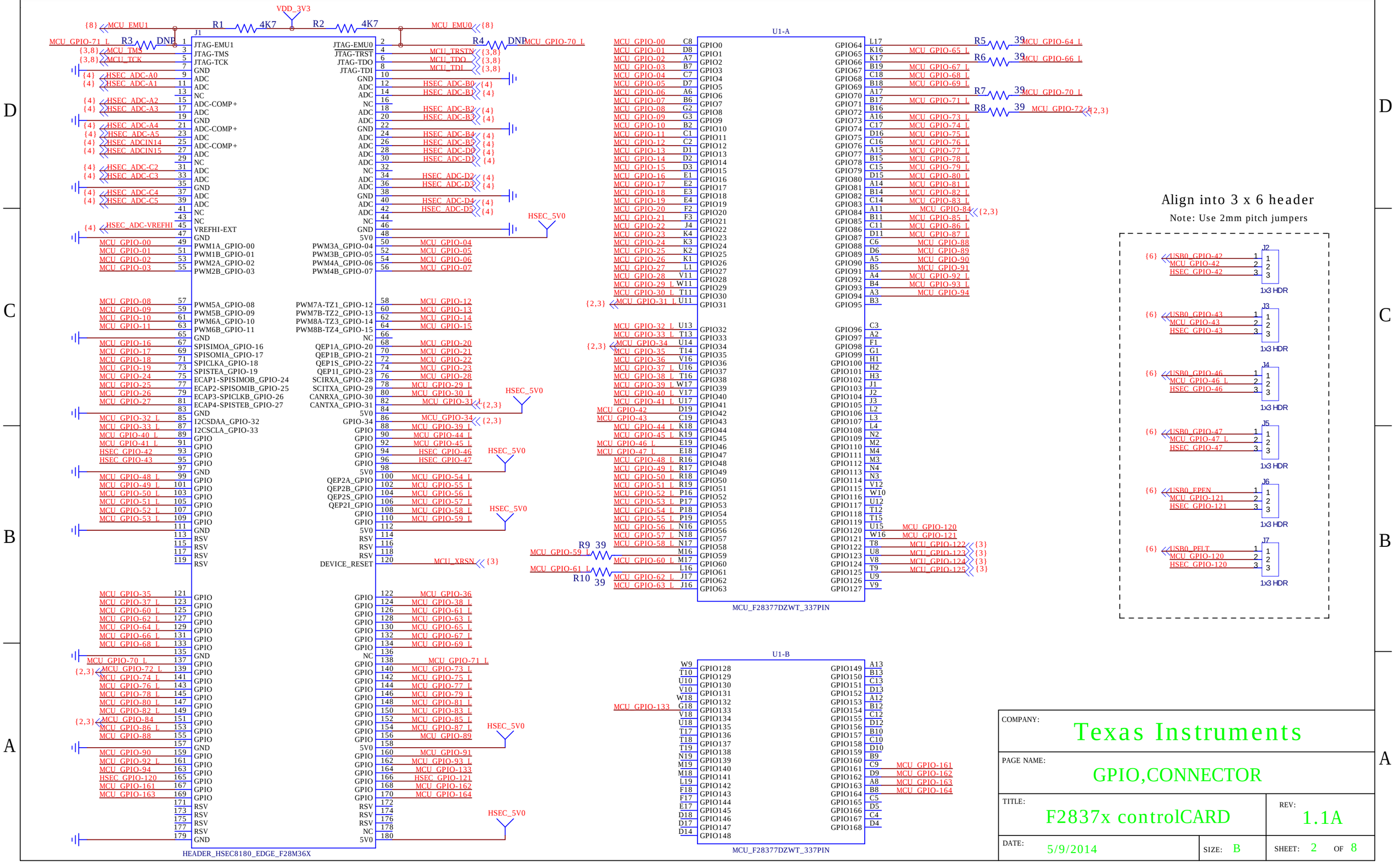
J1
JTAG-EMU1
JTAG-TMS
JTAG-TCK
GND
ADC
ADC
NC
ADC-COMP+
ADC
GND
ADC-COMP+
ADC
ADC-COMP+
ADC
NC
ADC
ADC
GND
ADC
ADC
NC
NC
VREFHI-EXT
GND
PWM1A_GPIO-00
PWM1B_GPIO-01
PWM2A_GPIO-02
PWM2B_GPIO-03
PWM5A_GPIO-08
PWM5B_GPIO-09
PWM6A_GPIO-10
PWM6B_GPIO-11
GND
SPISIMOA_GPIO-16
SPISOMIA_GPIO-17
SPICLKA_GPIO-18
SPISTEA_GPIO-19
ECAP1-SPISIMOB_GPIO-24
ECAP2-SPISOMIB_GPIO-25
ECAP3-SPICLKB_GPIO-26
ECAP4-SPISTEB_GPIO-27
GND
I2CSDAA_GPIO-32
I2CSCLA_GPIO-33
GPIO
GPIO
GPIO
GPIO
GND
GPIO
GPIO
GPIO
GPIO
GPIO
GPIO
GND
RSV
RSV
RSV
RSV
GND
JTAG-EMU0
JTAG-TRST
JTAG-TDO
JTAG-TDI
GND
ADC
ADC
NC
ADC
ADC
GND
ADC
ADC
ADC
ADC
NC
ADC
ADC
GND
ADC
ADC
NC
GND
5V0
PWM3A_GPIO-04
PWM3B_GPIO-05
PWM4A_GPIO-06
PWM4B_GPIO-07
PWM7A-TZ1_GPIO-12
PWM7B-TZ2_GPIO-13
PWM8A-TZ3_GPIO-14
PWM8B-TZ4_GPIO-15
NC
QEP1A_GPIO-20
QEP1B_GPIO-21
QEP1S_GPIO-22
QEP1I_GPIO-23
SCIRXA_GPIO-28
SCITXA_GPIO-29
CANRXA_GPIO-30
CANTXA_GPIO-31
5V0
GPIO-34
GPIO
GPIO
GPIO
GPIO
GPIO
5V0
QEP2A_GPIO
QEP2B_GPIO
QEP2S_GPIO
QEP2I_GPIO
GPIO
GPIO
5V0
RSV
RSV
RSV
DEVICE_RESET
GPIO
GPIO
GPIO
GPIO
GPIO
GPIO
GPIO
GPIO
NC
GPIO
GPIO
GPIO
GPIO
GPIO
GPIO
GPIO
GPIO
GPIO
GPIO
GPIO
GPIO
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GPIO
GPIO
GPIO
GPIO
GPIO
GPIO
RSV
RSV
RSV
RSV
NC
5V0
HEADER_HSEC8180_EDGE_F28M36X
VDD_3V3
R1 4K7
R2 4K7
R3 DNP
R4 DNP
HSEC_5V0
U1-A
GPIO0
GPIO1
GPIO2
GPIO3
GPIO4
GPIO5
GPIO6
GPIO7
GPIO8
GPIO9
GPIO10
GPIO11
GPIO12
GPIO13
GPIO14
GPIO15
GPIO16
GPIO17
GPIO18
GPIO19
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GPIO21
GPIO22
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GPIO24
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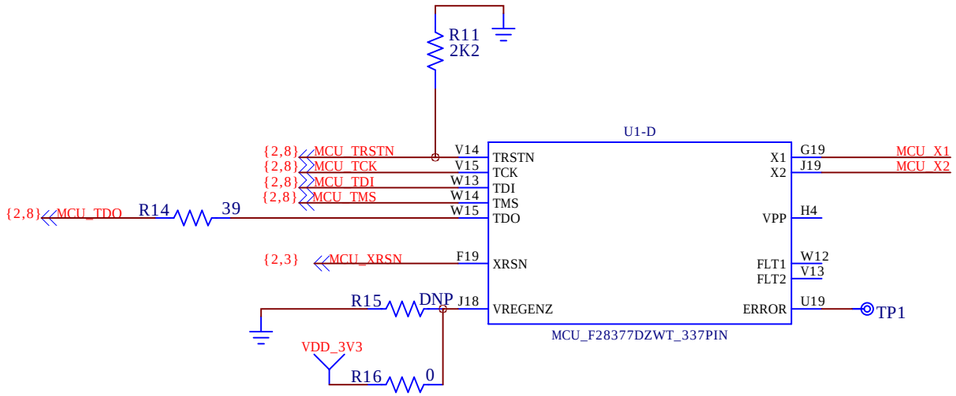
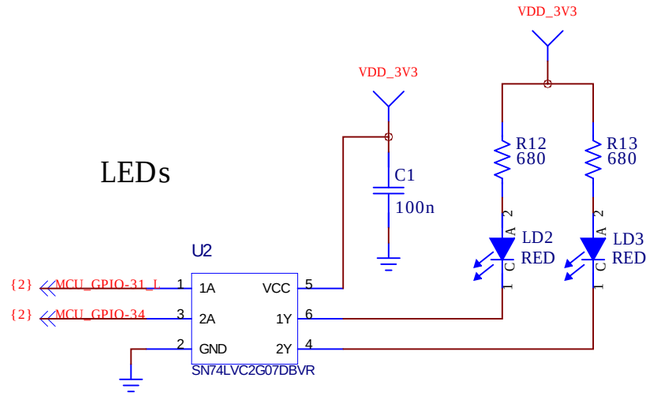
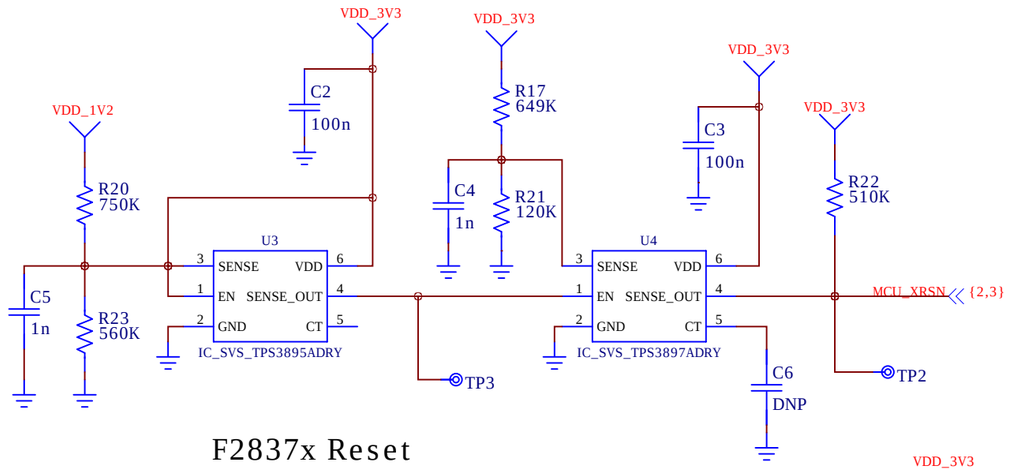
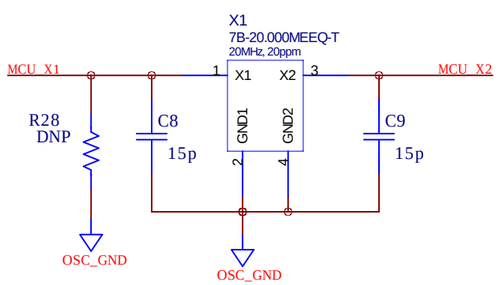
GPIO101
GPIO102
GPIO103
GPIO104
GPIO105
GPIO106
GPIO107
GPIO108
GPIO109
GPIO110
GPIO111
GPIO112
GPIO113
GPIO114
GPIO115
GPIO116
GPIO117
GPIO118
GPIO119
GPIO120
GPIO121
GPIO122
GPIO123
GPIO124
GPIO125
GPIO126
GPIO127
MCU_F28377DZWT_337PIN
R5 39
R6 39
R7 39
R8 39
R9 39
R10 39
U1-B
GPIO128
GPIO129
GPIO130
GPIO131
GPIO132
GPIO133
GPIO134
GPIO135
GPIO136
GPIO137
GPIO138
GPIO139
GPIO140
GPIO141
GPIO142
GPIO143
GPIO144
GPIO145
GPIO146
GPIO147
GPIO148
GPIO149
GPIO150
GPIO151
GPIO152
GPIO153
GPIO154
GPIO155
GPIO156
GPIO157
GPIO158
GPIO159
GPIO160
GPIO161
GPIO162
GPIO163
GPIO164
GPIO165
GPIO166
GPIO167
GPIO168
MCU_F28377DZWT_337PIN
Align into 3 x 6 header
Note: Use 2mm pitch jumpers
J2
J3
J4
J5
J6
J7
1x3 HDR
COMPANY: Texas Instruments
PAGE NAME: GPIO,CONNECTOR
TITLE: F2837x controlCARD
REV: 1.1A
DATE: 5/9/2014
SIZE: B
SHEET: 2 OF 8



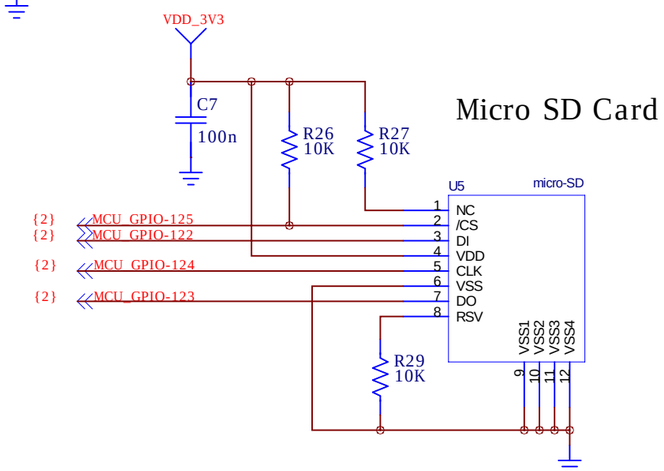




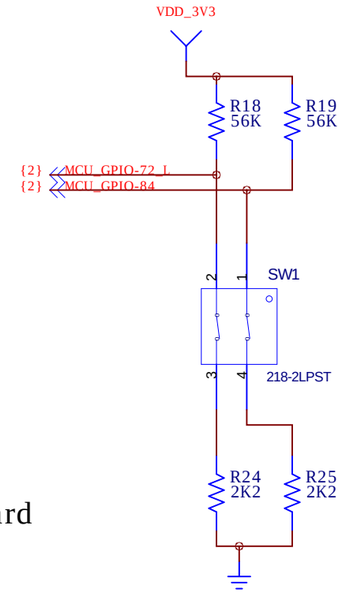
F2837x Reset



F2837x Clock



Micro SD Card



Boot Mode Selection Switch

*SW1 placed upside-down (so UP is open (1), DOWN is closed (0))

Selected Boot Mode Chart

(see datasheet for other boot modes and more information)

Mode #	GPIO72	GPIO84	Boot Mode
00	0	0	Boot from Parallel GPIO
01	0	1	Boot from SCI
02	1	0	Wait Boot Mode
03	1	1	Get Mode (Flash by default)

COMPANY: Texas Instruments			
PAGE NAME: SUPPORT			
TITLE: F2837x controlCARD		REV: 1.1A	
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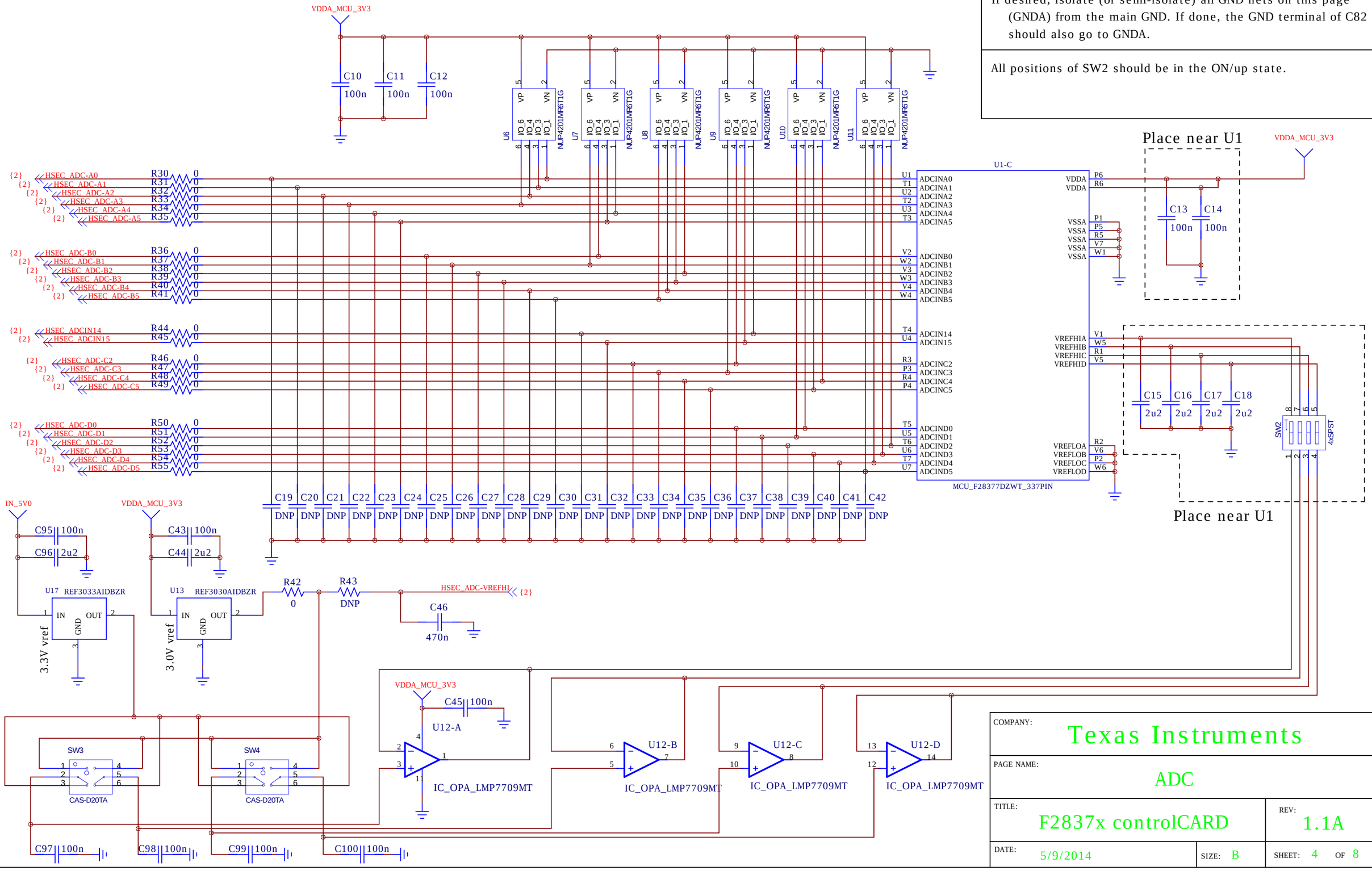
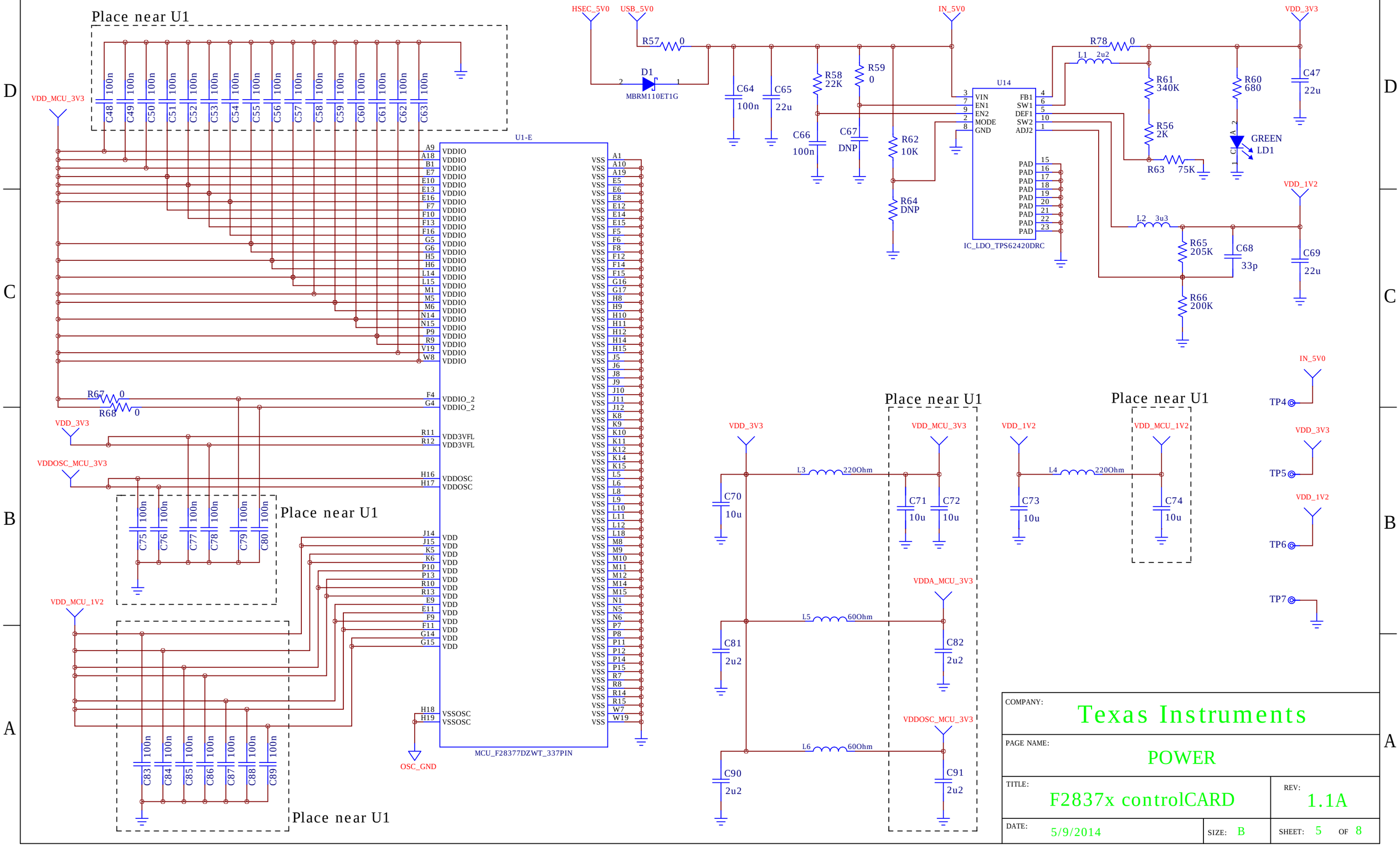
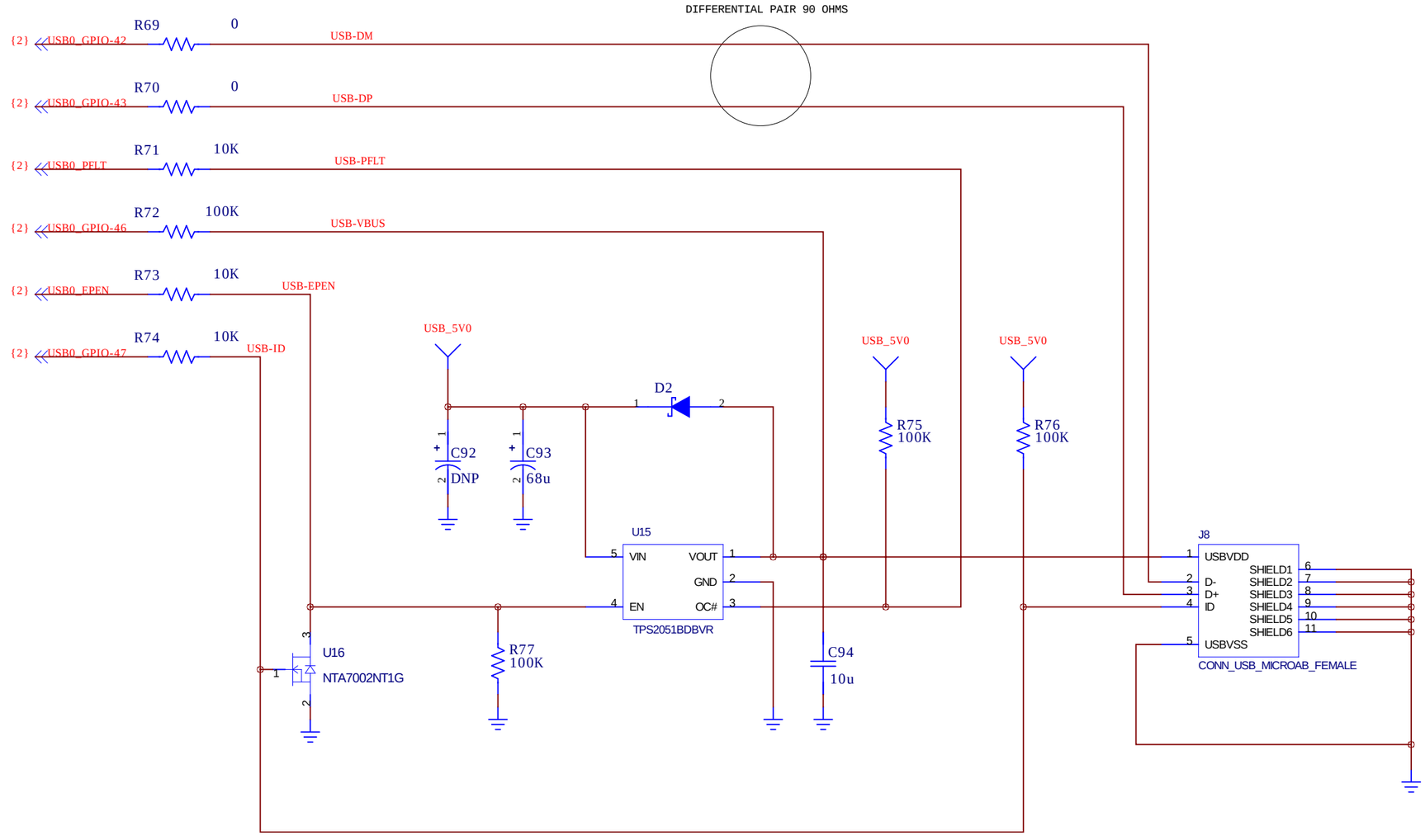
If desired, isolate (or semi-isolate) all GND nets on this page (GNDA) from the main GND. If done, the GND terminal of C82 should also go to GNDA.

All positions of SW2 should be in the ON/up state.

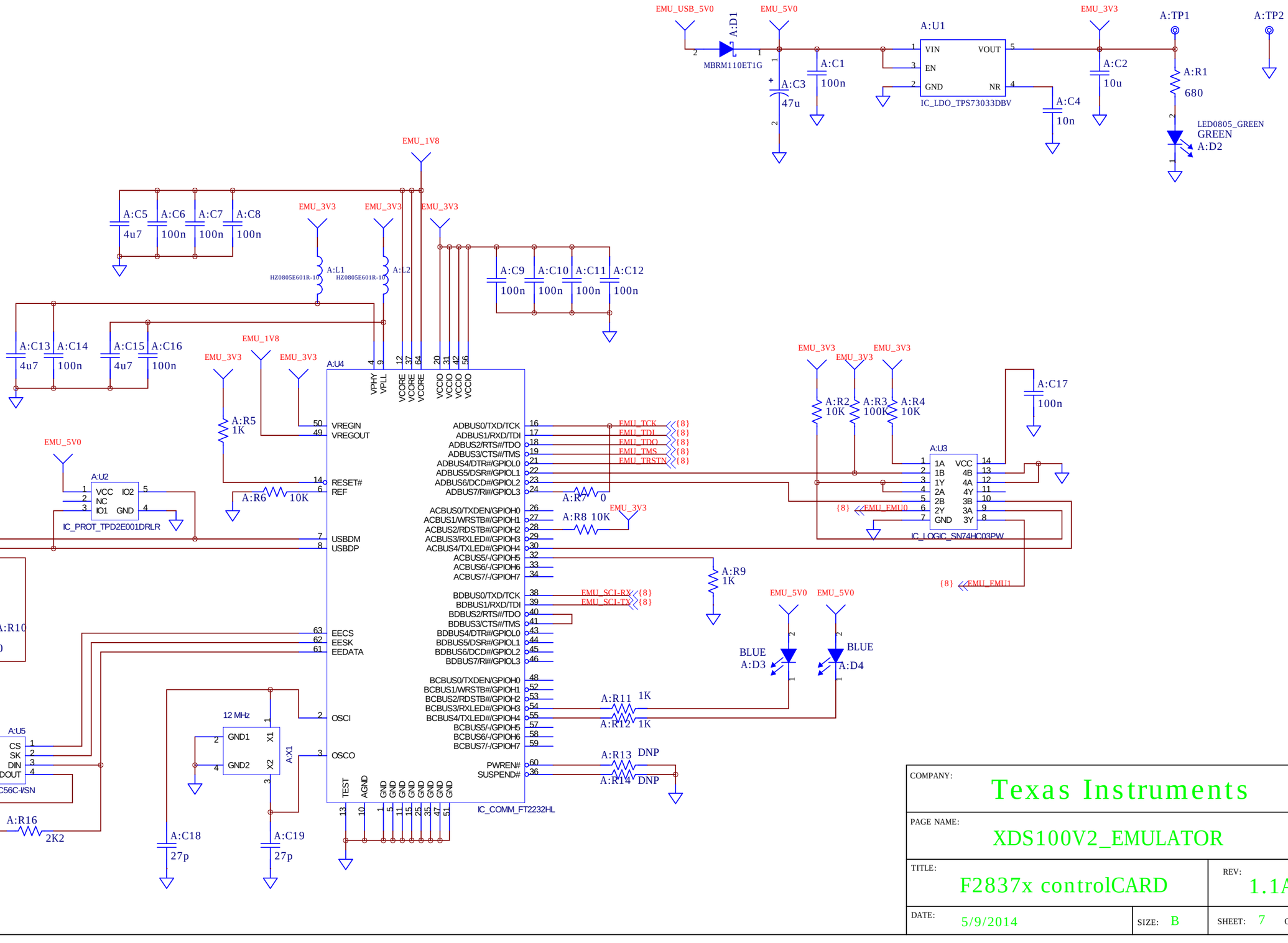


COMPANY:	Texas Instruments
PAGE NAME:	ADC
TITLE:	F2837x controlCARD
REV:	1.1A
DATE:	5/9/2014
SIZE:	B
SHEET:	4 OF 8

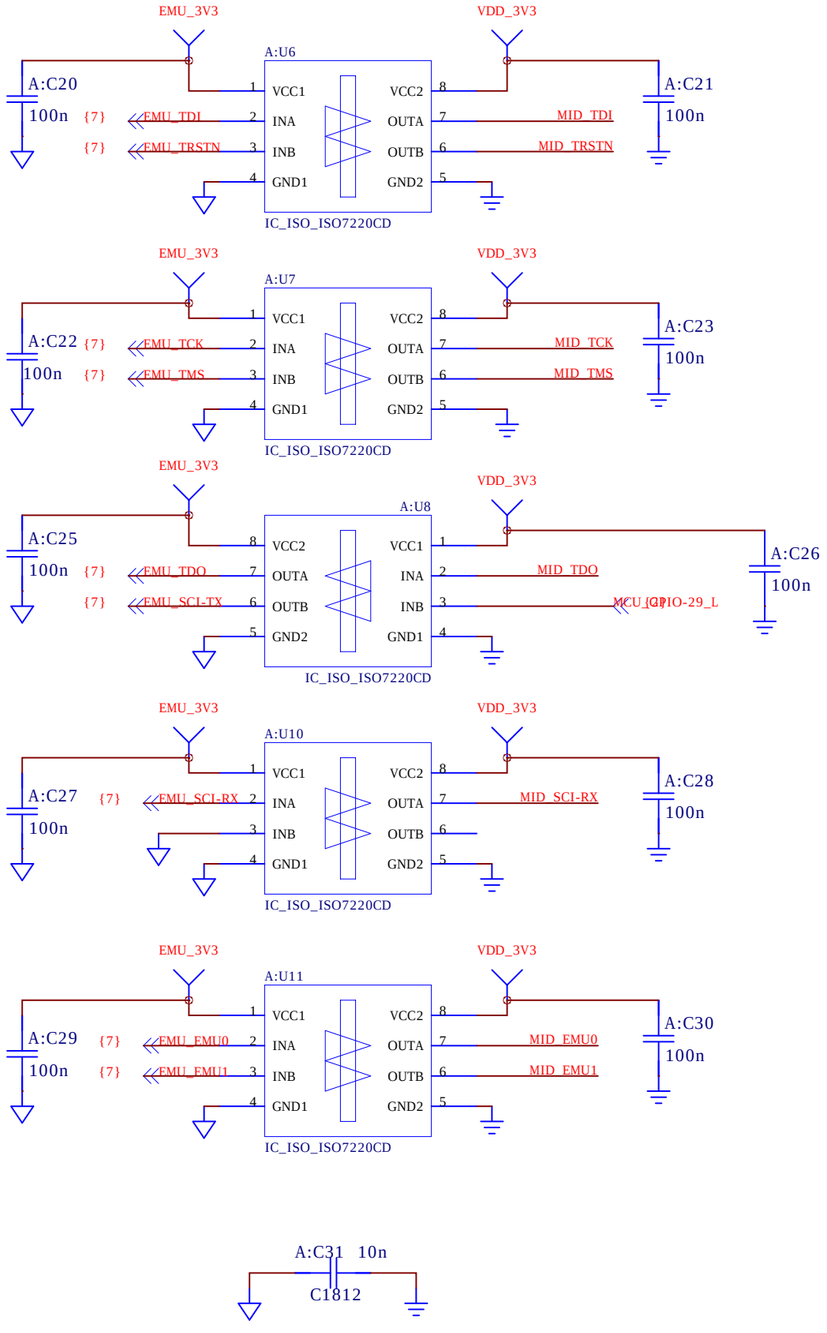

Place near U1
VDD_MCU_3V3
C48 100n
C49 100n
C50 100n
C51 100n
C52 100n
C53 100n
C54 100n
C55 100n
C56 100n
C57 100n
C58 100n
C59 100n
C60 100n
C61 100n
C62 100n
C63 100n
U1-E
A9 VDDIO
A18 VDDIO
B1 VDDIO
E7 VDDIO
E10 VDDIO
E13 VDDIO
E16 VDDIO
F7 VDDIO
F10 VDDIO
F13 VDDIO
F16 VDDIO
G5 VDDIO
G6 VDDIO
H5 VDDIO
H6 VDDIO
L14 VDDIO
L15 VDDIO
M1 VDDIO
M5 VDDIO
M6 VDDIO
N14 VDDIO
N15 VDDIO
P9 VDDIO
R9 VDDIO
V19 VDDIO
W8 VDDIO
R67 0
R68 0
F4 VDDIO_2
G4 VDDIO_2
VDD_3V3
R11 VDD3VFL
R12 VDD3VFL
VDDOSC_MCU_3V3
H16 VDDOSC
H17 VDDOSC
C75 100n
C76 100n
C77 100n
C78 100n
C79 100n
C80 100n
Place near U1
J14 VDD
J15 VDD
K5 VDD
K6 VDD
P10 VDD
P13 VDD
R10 VDD
R13 VDD
E9 VDD
E11 VDD
F9 VDD
F11 VDD
G14 VDD
G15 VDD
VDD_MCU_1V2
C83 100n
C84 100n
C85 100n
C86 100n
C87 100n
C88 100n
C89 100n
Place near U1
H18 VSSOSC
H19 VSSOSC
OSC_GND
VSS A1
VSS A10
VSS A19
VSS E5
VSS E6
VSS E8
VSS E12
VSS E14
VSS E15
VSS F5
VSS F6
VSS F8
VSS F12
VSS F14
VSS F15
VSS G16
VSS G17
VSS H8
VSS H9
VSS H10
VSS H11
VSS H12
VSS H14
VSS H15
VSS J5
VSS J6
VSS J8
VSS J9
VSS J10
VSS J11
VSS J12
VSS K8
VSS K9
VSS K10
VSS K11
VSS K12
VSS K14
VSS K15
VSS L5
VSS L6
VSS L8
VSS L9
VSS L10
VSS L11
VSS L12
VSS L18
VSS M8
VSS M9
VSS M10
VSS M11
VSS M12
VSS M14
VSS M15
VSS N1
VSS N5
VSS N6
VSS P7
VSS P8
VSS P11
VSS P12
VSS P14
VSS P15
VSS R7
VSS R8
VSS R14
VSS R15
VSS W7
VSS W19
MCU_F28377DZWT_337PIN
HSEC_5V0
USB_5V0
R57 0
D1
MBRM110ET1G
C64 100n
C65 22u
R58 22K
R59 0
C66 100n
C67 DNP
R62 10K
R64 DNP
IN_5V0
U14
VIN
EN1
EN2
MODE
GND
FB1
SW1
DEF1
SW2
ADJ2
PAD
IC_LDO_TPS62420DRC
R78 0
L1 2u2
R61 340K
R56 2K
R63 75K
R60 680
GREEN
LD1
VDD_3V3
C47 22u
VDD_1V2
L2 3u3
R65 205K
C68 33p
C69 22u
R66 200K
Place near U1
VDD_3V3
L3 220Ohm
C70 10u
VDD_MCU_3V3
C71 10u
C72 10u
VDDA_MCU_3V3
L5 60Ohm
C81 2u2
C82 2u2
VDDOSC_MCU_3V3
L6 60Ohm
C90 2u2
C91 2u2
Place near U1
VDD_1V2
L4 220Ohm
C73 10u
VDD_MCU_1V2
C74 10u
Place near U1
IN_5V0
TP4
VDD_3V3
TP5
VDD_1V2
TP6
TP7
COMPANY: Texas Instruments
PAGE NAME: POWER
TITLE: F2837x controlCARD
REV: 1.1A
DATE: 5/9/2014
SIZE: B
SHEET: 5 OF 8



COMPANY:	Texas Instruments
PAGE NAME:	USB
TITLE:	F2837x controlCARD
REV:	1.1A
DATE:	5/9/2014
SIZE:	B
SHEET:	6 OF 8

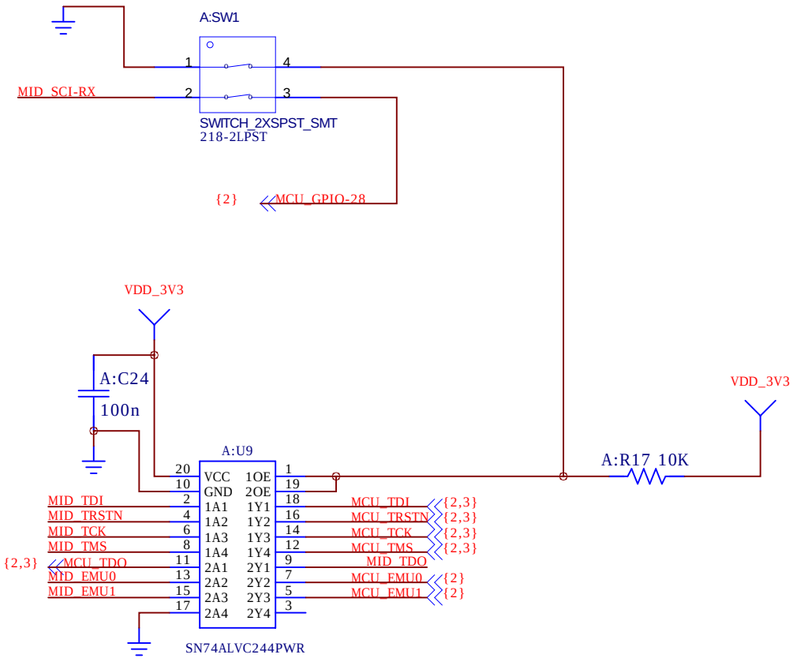


COMPANY:	Texas Instruments
PAGE NAME:	XDS100V2_EMULATOR
TITLE:	F2837x controlCARD
REV:	1.1A
DATE:	5/9/2014
SIZE:	B
SHEET:	7 OF 8



A:SW1 - 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: GPIO28 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



COMPANY: Texas Instruments		
PAGE NAME: EMULATOR_INTERFACE		
TITLE: F2837x controlCARD		REV: 1.1A
DATE: 5/9/2014	SIZE: B	SHEET: 8 OF 8