Drawn:	JV SMITH 02/2018			
Engineer:	B. KINCAID 02/2018			

TEXAS INSTRUMENTS

Title: **SCH, TSW1418EVM**

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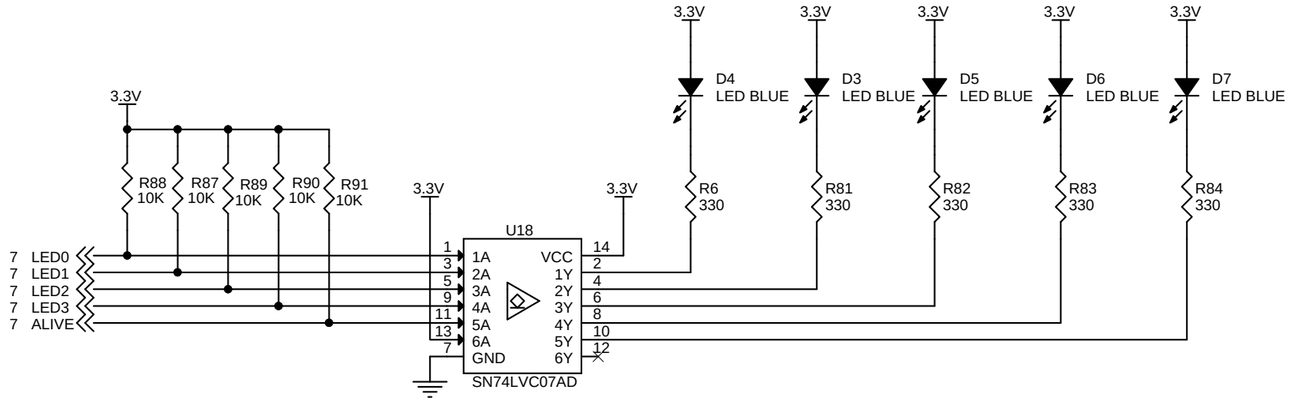

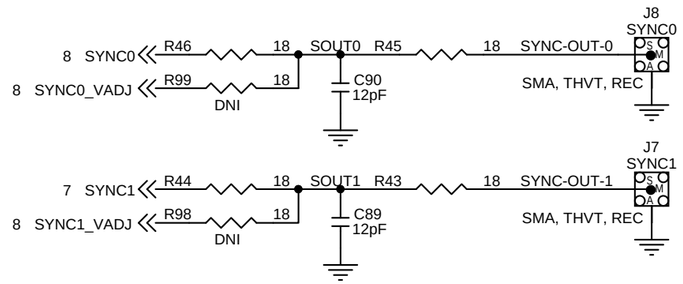

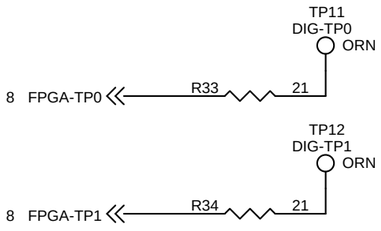

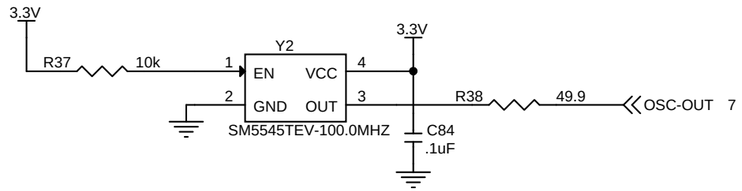

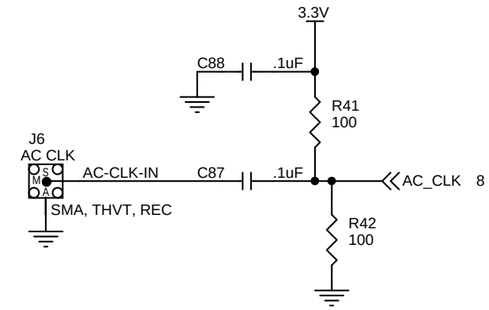

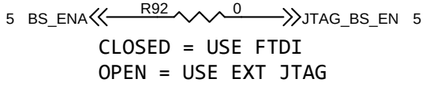

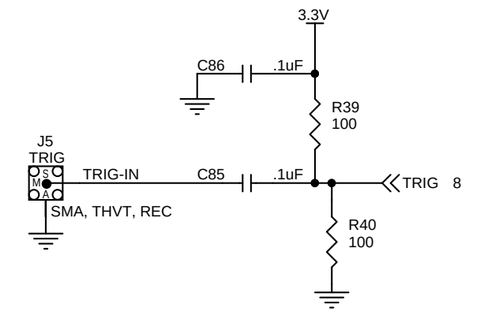

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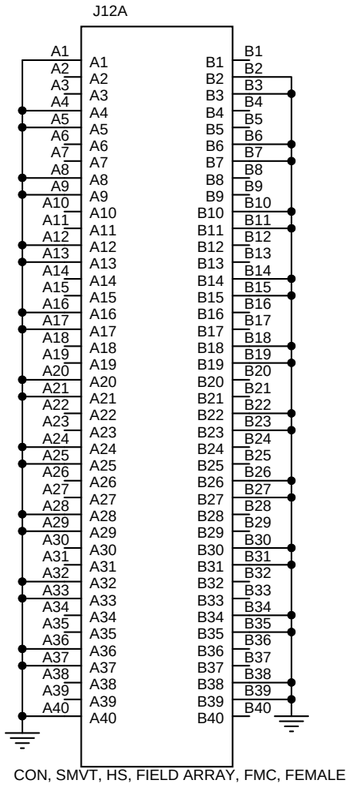
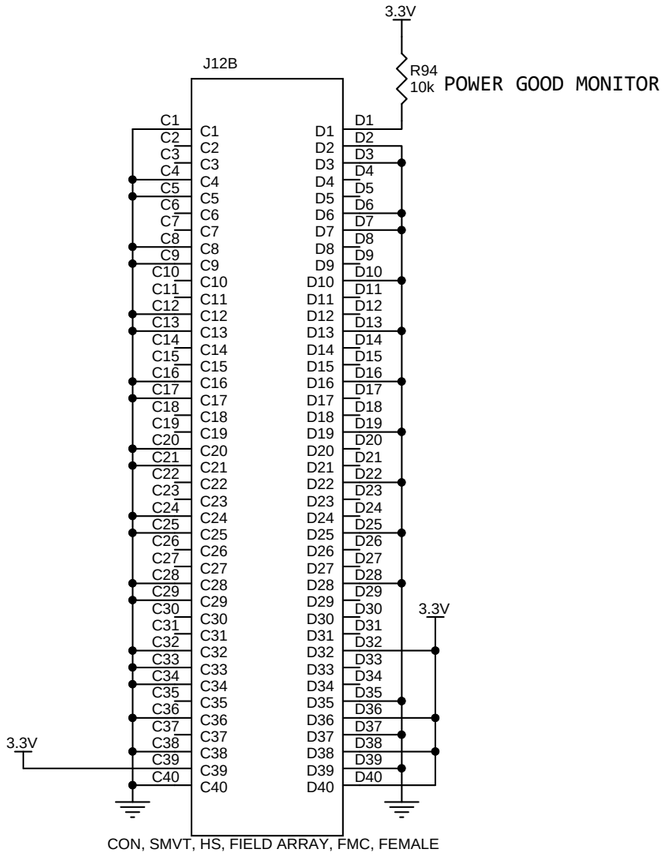
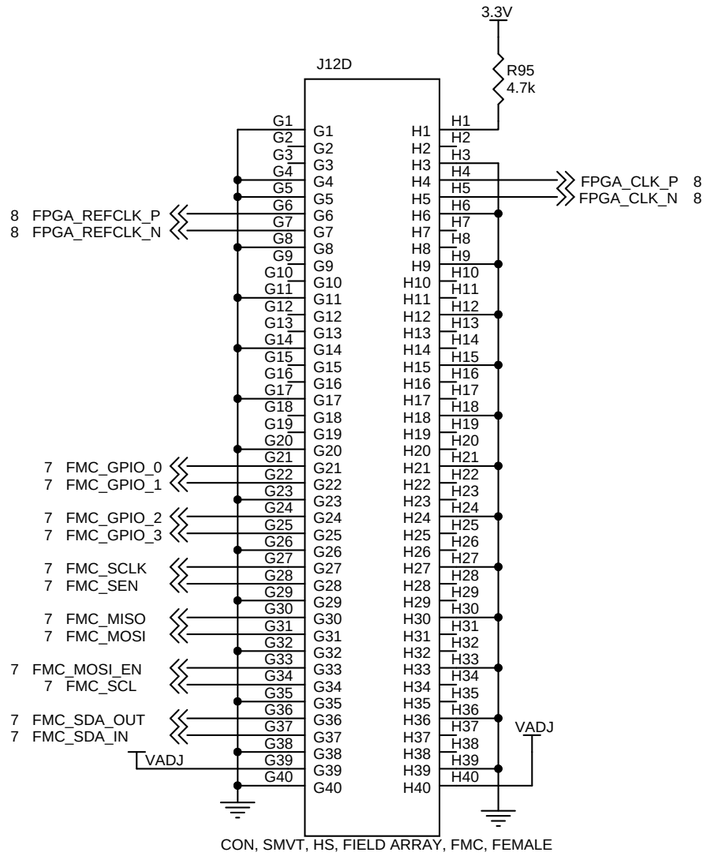
ADC Interface







3.3V available on FMC
VADJ available on FMC
All routed I/O is based on VADJ
12V not available on FMC

Mates to male bottom side FMC on the ADC35* EVMs.

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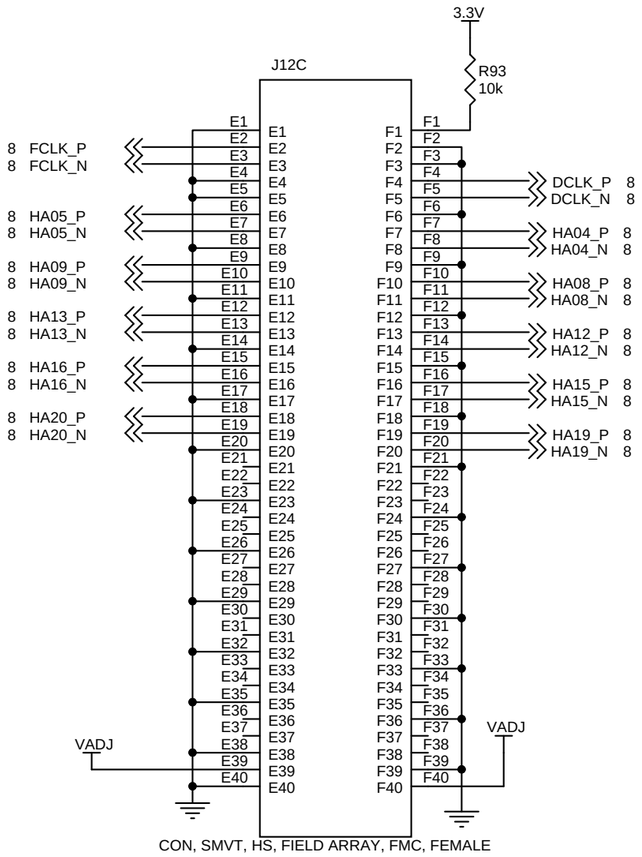
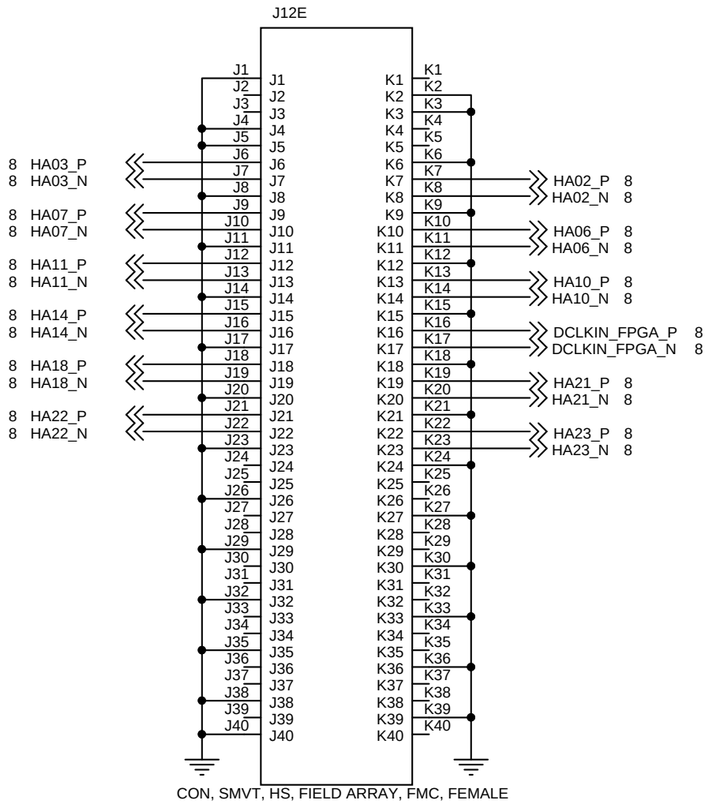
ADC Interface





Mates to male bottom side FMC on the ADC35* EVMs.

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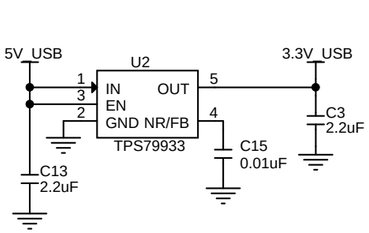
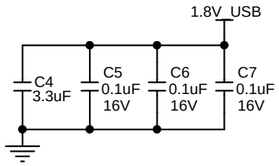
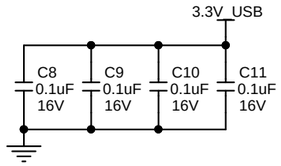
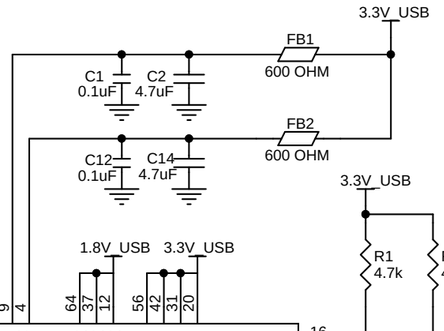
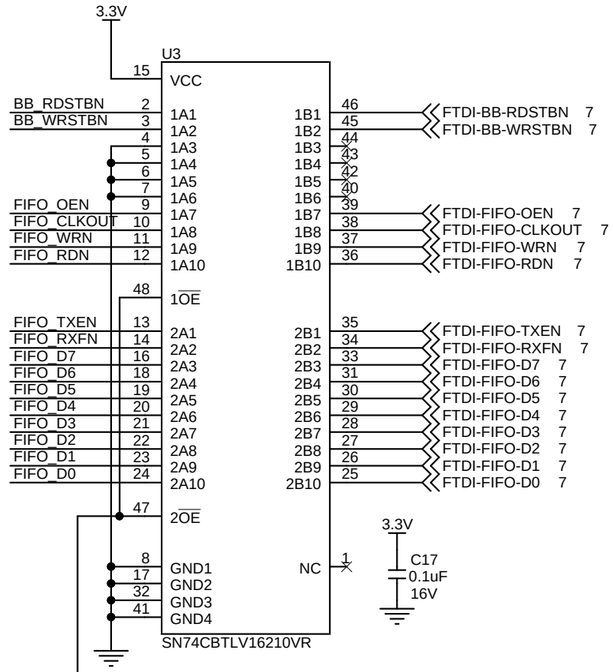
USB

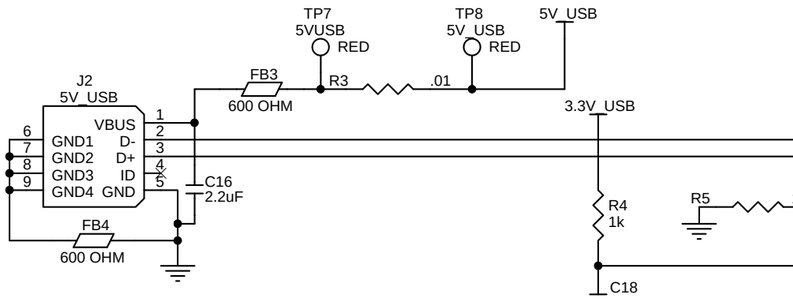


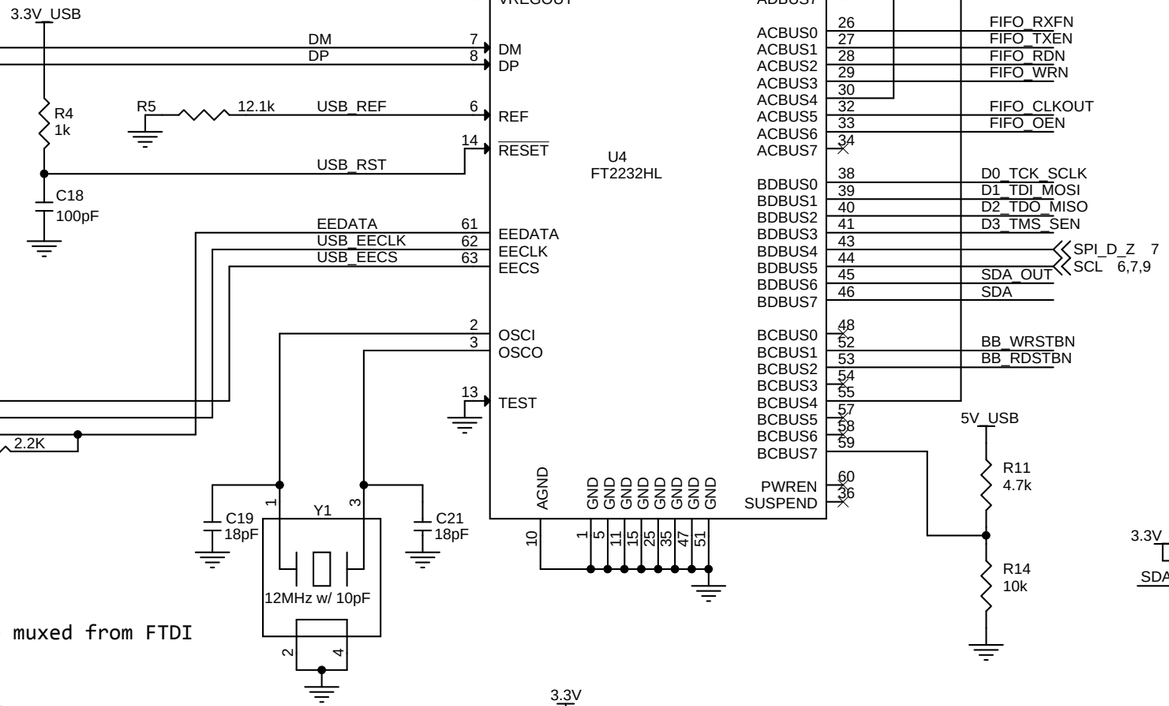


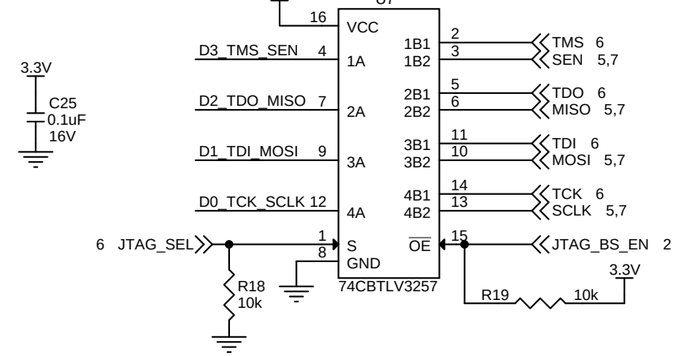


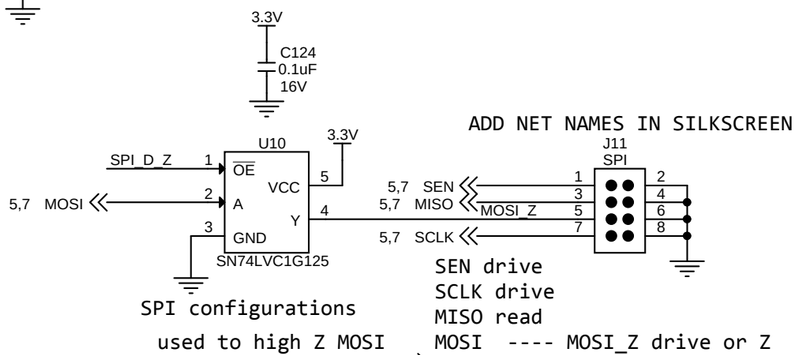


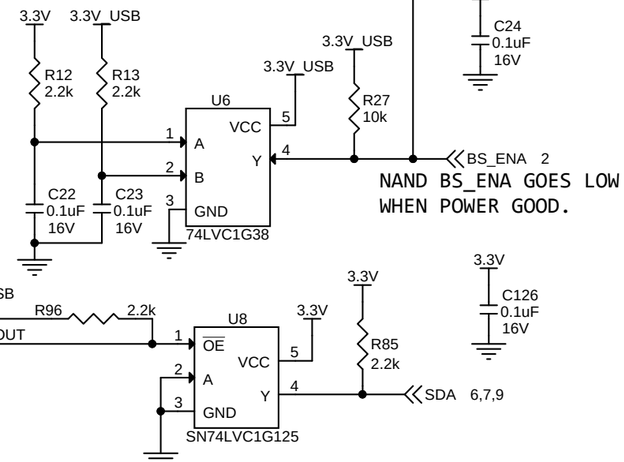


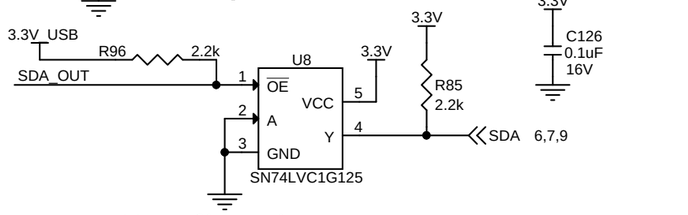












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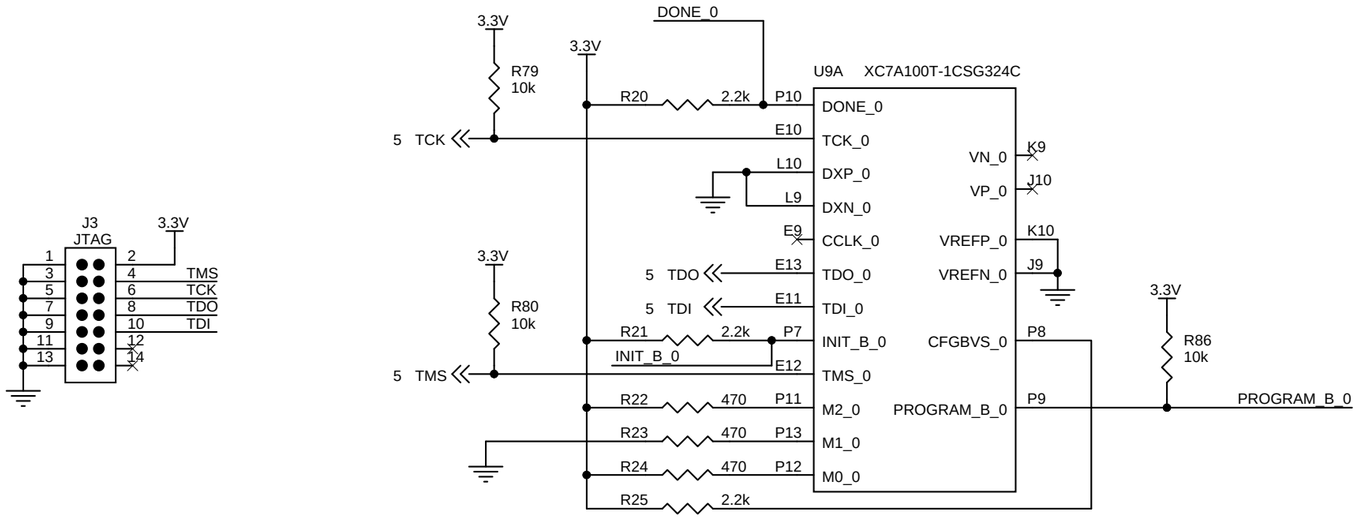
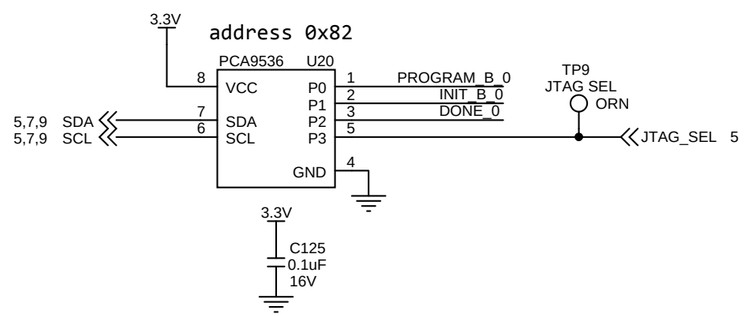
FPGA JTAG CONFIG
CFGBVS= 1(VCC_0=3.3V)
M[2:0]= 101
TCK, TMS, TDI, TDO = from FTDI device through MUX
PROGRAM_B=I2C expander P0, write, pulse low to enable configuration mode
INIT_B= I2C expander P1, read only
DONE= I2C expander P2, read only
CCLK= no connect
PUDC_B= 3.3V

PCA9536 address 0x82
- All pins input at power up
- Configure 0x03 F6 (wrrw) at startup
- Read 0x00 [JTAG_SEL DONE INIT_B PROGRAM_B]
- Write 0X01 [JTAG_SEL   X   X   PROGRAM_B]





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VADJ

VCC = VADJ

U9B XC7A100T-1CSG324C

BANK 14

R11	IO_0_14		
K17	IO_L1P_T0_D00_MOSI	IO_L13P_T2_MRCC	P15
K18	IO_L1N_T0_D01_DIN	IO_L13N_T2_MRCC	R15
L14	IO_L2P_T0_D02	IO_L14P_T2_SRCC	T14
M14	IO_L2N_T0_D03	IO_L14N_T2_SRCC	T15
L15	IO_L3P_T0_DQS_PUDC_B	IO_L15P_T2_DQS_RDWR_B	R16
L16	IO_L3N_T0_DQS_EMCCLK	IO_L15N_T2_DQS_DOUT_CSO_B	T16
L18	IO_L4P_T0_D04	IO_L16P_T2_CSI_B	V15
M18	IO_L4N_T0_D05	IO_L16N_T2_A15_D31	V16
R12	IO_L5P_T0_D06	IO_L17P_T2_A14_D30	U17
R13	IO_L5N_T0_D07	IO_L17N_T2_A13_D29	U18
L13	IO_L6P_T0_FCS_B	IO_L18P_T2_A12_D28	U16
M13	IO_L6N_T0_D08_VREF	IO_L18N_T2_A11_D27	V17
R18	IO_L7P_T1_D09	IO_L19P_T3_A10_D26	T11
T18	IO_L7N_T1_D10	IO_L19N_T3_A09_D25_VREF	U11
N14	IO_L8P_T1_D11	IO_L20P_T3_A08_D24	U12
P14	IO_L8N_T1_D12	IO_L20N_T3_A07_D23	V12
N17	IO_L9P_T1_DQS	IO_L21P_T3_DQS	V10
P18	IO_L9N_T1_DQS_D13	IO_L21N_T3_DQS_A06_D22	V11
M16	IO_L10P_T1_D14	IO_L22P_T3_A05_D21	U14
M17	IO_L10N_T1_D15	IO_L22N_T3_A04_D20	V14
N15	IO_L11P_T1_SRCC	IO_L23P_T3_A03_D19	T13
N16	IO_L11N_T1_SRCC	IO_L23N_T3_A02_D18	U13
P17	IO_L12P_T1_MRCC	IO_L24P_T3_A01_D17	T9
R17	IO_L12N_T1_MRCC	IO_L24N_T3_A00_D16	T10
		IO_25_14	R10

These signals are wired through FPGA to FMC

- 3 FMC_GPIO_0
- 3 FMC_GPIO_1
- 3 FMC_GPIO_2
- 3 FMC_GPIO_3
- 3 FMC_SCLK
- 3 FMC_SEN
- 3 FMC_MOSI_EN
- 3 FMC_MOSI
- 3 FMC_MISO
- 3 FMC_SCL
- 3 FMC_SDA_OUT
- 3 FMC_SDA_IN

VCC = 3.3V

U9C XC7A100T-1CSG324C

BANK 15

G13	IO_0_15		
D14	IO_L1P_T0_AD0P	IO_L13P_T2_MRCC	H16
C14	IO_L1N_T0_AD0N	IO_L13N_T2_MRCC	G16
B13	IO_L2P_T0_AD8P	IO_L14P_T2_SRCC	F15
B14	IO_L2N_T0_AD8N	IO_L14N_T2_SRCC	F16
C12	IO_L3P_T0_DQS_AD1P	IO_L15P_T2_DQS	H14
B12	IO_L3N_T0_DQS_AD1N	IO_L15N_T2_DQS_ADV_B	G14
B11	IO_L4P_T0	IO_L16P_T2_A28	E17
A11	IO_L4N_T0	IO_L16N_T2_A27	D17
F13	IO_L5P_T0_AD9P	IO_L17P_T2_A26	K13
F14	IO_L5N_T0_AD9N	IO_L17N_T2_A25	J13
D12	IO_L6P_T0	IO_L18P_T2_A24	H17
D13	IO_L6N_T0_VREF	IO_L18N_T2_A23	G17
B16	IO_L7P_T1_AD2P	IO_L19P_T3_A22	J14
B17	IO_L7N_T1_AD2N	IO_L19N_T3_A21_VREF	H15
A15	IO_L8P_T1_AD10P	IO_L20P_T3_A20	C16
A16	IO_L8N_T1_AD10N	IO_L20N_T3_A19	C17
A13	IO_L9P_T1_DQS_AD3P	IO_L21P_T3_DQS	E18
A14	IO_L9N_T1_DQS_AD3N	IO_L21N_T3_DQS_A18	D18
B18	IO_L10P_T1_AD11P	IO_L22P_T3_A17	G18
A18	IO_L10N_T1_AD11N	IO_L22N_T3_A16	F18
E15	IO_L11P_T1_SRCC	IO_L23P_T3_FOE_B	J17
E16	IO_L11N_T1_SRCC	IO_L23N_T3_FWE_B	J18
D15	IO_L12P_T1_MRCC	IO_L24P_T3_RS1	K15
C15	IO_L12N_T1_MRCC	IO_L24N_T3_RS0	J15
		IO_25_15	K16

- 5 FTDI-FIFO-D5
- 5 FTDI-FIFO-D1
- 5 FTDI-FIFO-D3
- 2 LED0
- 2 LED1
- 2 SYNC1
- 2 ALIVE
- 5 FTDI-FIFO-D7
- 5 FTDI-FIFO-TXEN
- 5 FTDI-FIFO-D4
- 5 FTDI-FIFO-D6
- 5 FTDI-FIFO-D0
- 5 FTDI-FIFO-D2
- 5 FTDI-FIFO-RDN
- 5 FTDI-FIFO-RXFN
- 5 FTDI-FIFO-CLKOUT

- OSC-OUT 2
- LED2 2
- LED3 2
- FTDI-FIFO-OEN 5
- SCLK 5
- SEN 5
- MOSI 5
- MISO 5
- FTDI-FIFO-WRN 5
- SDA 5,6,9
- SCL 5,6,9
- FTDI-BB-RDSTBN 5
- FTDI-BB-WRSTBN 5
- SPI_D_Z 5

3.3V_USB

R97 2.2k

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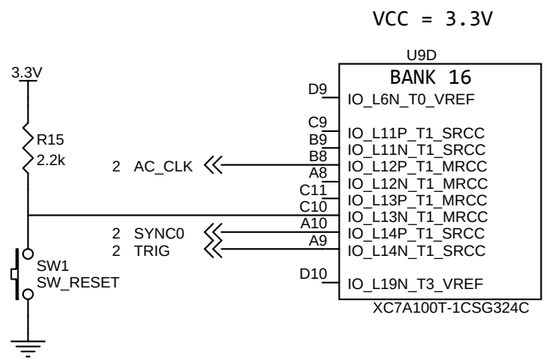

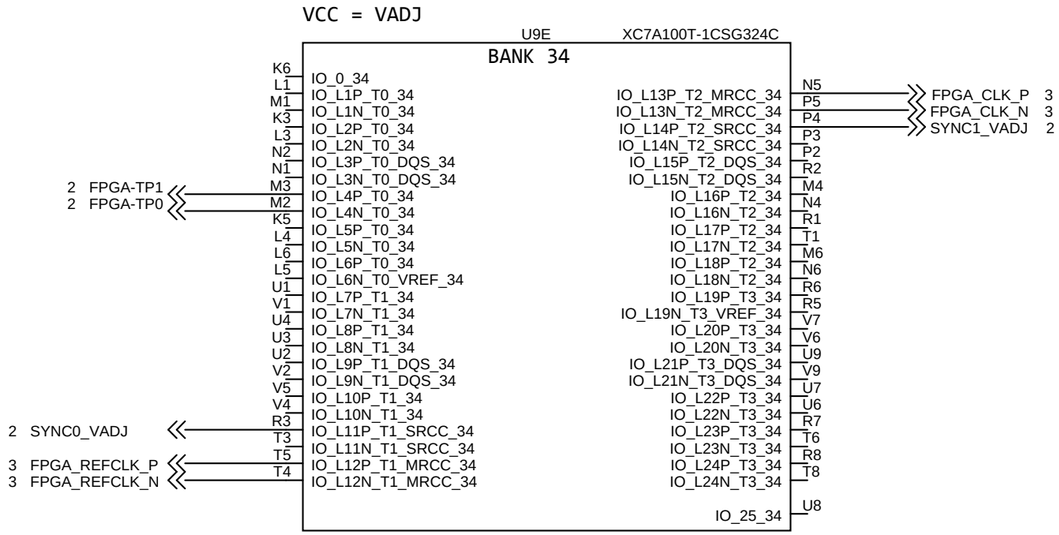

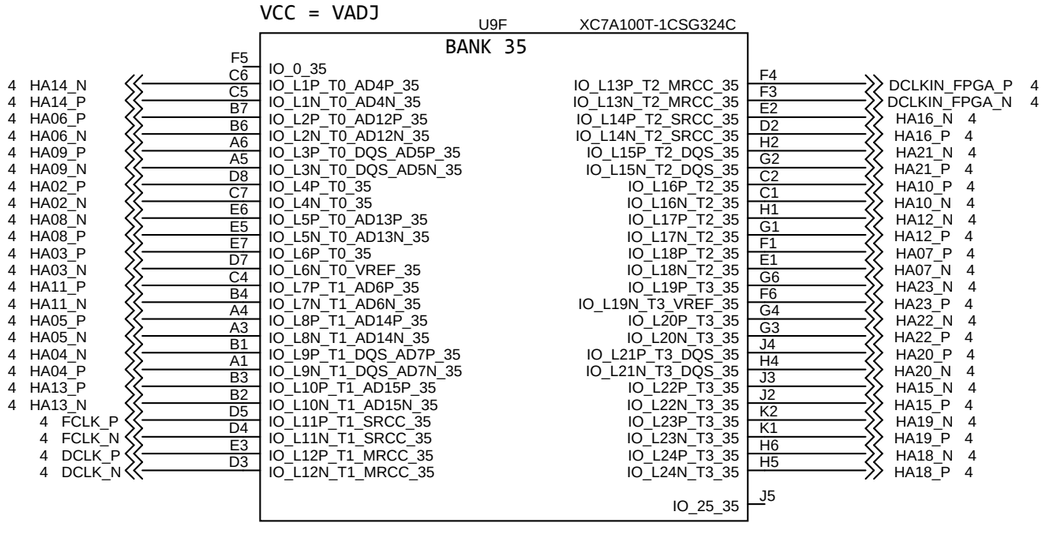

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5V DC INPUT

TP10 5V_EXT RED — 5V_EXT
J4 CONN JACK PWR DNI
TP1 GND BLK
TP2 GND BLK
TP3 GND BLK
1.8V VADJ 2.5V J13 PWR SEL2 — 2.5V VADJ, LVDS / 1.8V VADJ, CMOS
C127 1uF
ADD NAMES IN SILKSCREEN
5V_USB 5V_EXT J10 PWR SEL — EXT / USB
TP15 5V_PWR RED — 5V_PWR
C91 470uF 6.3V
R26 1k
D2 LED GREEN 5V IN

1V C98 0.1uF 16V
TP16 1V RED — 1V
U11 TPS82085 (VIN, VIN, EN, GND, GND, PWRPAD, VOUT, FB, PG)
1P0V_SHUNTN
R49 10k
C94 10uF
C92 0.1uF
R77 0
R51 24.9k
R52 100k
C95 22uF
5V_PWR
R50 10k
3.3V

1.8V C104 0.1uF 16V
TP5 1.8V RED — 1.8V
U13 TPS82085
1P8V_SHUNTN
C101 10uF
R78 0
R64 124k
R58 100k
C102 22uF
5V_PWR
R56 10k
2P5V_REG_EN
3.3V

3.3V C110 0.1uF 16V
5V_PWR
R62 10k
TP6 3.3V RED — 3.3V
U15 TPS82085
3P3V_SHUNTN
C107 10uF
R63 76.8k
R57 24.9k
C108 22uF
3.3V

3.3V C99 0.1uF 16V
5V_PWR
R53 10
R76 .1
R54 10
C96 0.1uF 16V
U12 INA226 (VBUS, VIN+, VIN-, GND, VS, SDA, SCL, ALERT, A0, A1)
1P0V_SHUNTN
SDA SCL
0x9B

3.3V C105 0.1uF 16V
5V_PWR
R59 10
R74 .1
R60 10
C103 0.1uF 16V
U14 INA226
1P8V_SHUNTN
SDA SCL
0x9A

3.3V C111 0.1uF 16V
5V_PWR
R65 10
R73 .1
R66 10
C109 0.1uF 16V
U16 INA226
3P3V_SHUNTN
SDA SCL
0x9C

2.5V C118 0.1uF 16V
TP4 2.5V RED — 2.5V
U1 TPS73625 (IN, EN, GND, OUT, NR)
2P5V_SHUNTN
2P5V_REG_EN
C121 0.1uF 16V
C123 0.01uF
C122 0.1uF 16V

3.3V C120 0.1uF 16V
5V_PWR
R71 10
R75 .1
R72 10
C119 0.1uF 16V
U17 INA226
2P5V_SHUNTN
SDA 5..7
SCL 5..7
0x9E

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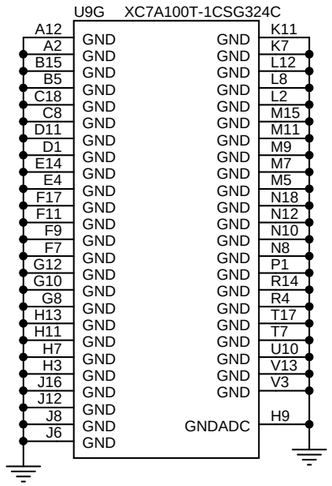

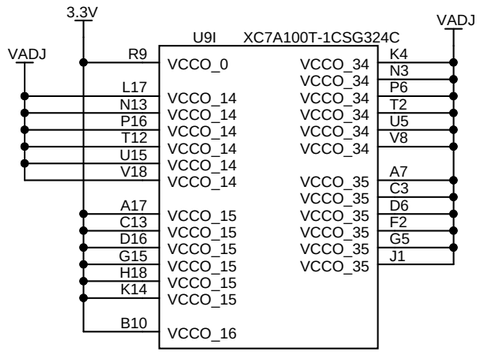

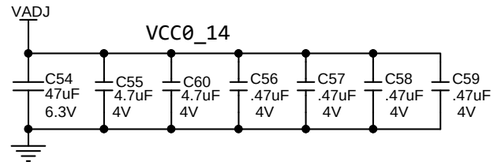

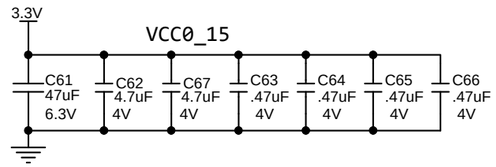

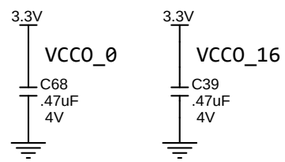

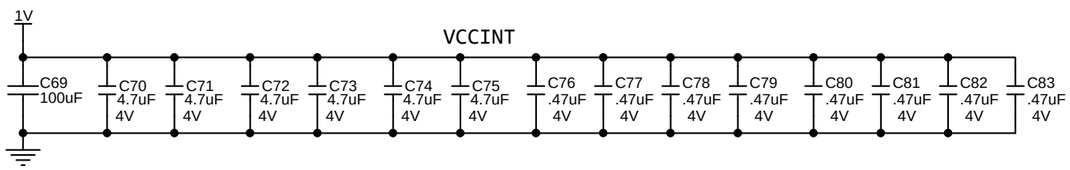

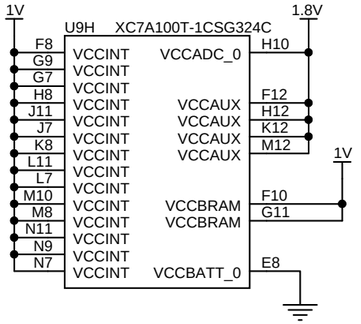

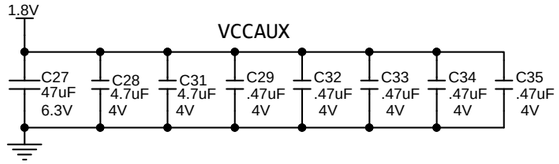

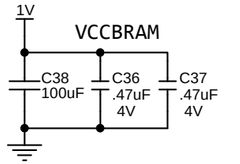

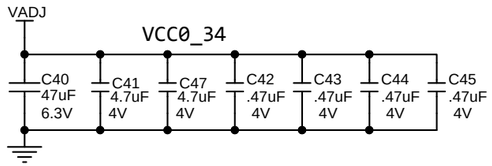

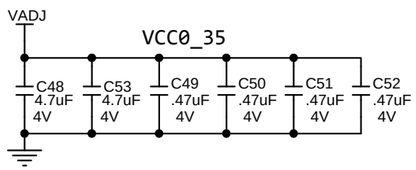

TEXAS INSTRUMENTS

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MECHANICAL PARTS

BARE BOARD, TSW1418

MT1

STANDOFF, FEMALE, 4-40 X 1 3/16"

MT2

STANDOFF, FEMALE, 4-40 X 1 3/16"

MT3

STANDOFF, FEMALE, 4-40 X 1 3/16"

MT4

STANDOFF, FEMALE, 4-40 X 1 3/16"

SCREW PANHEAD 4-40 x 3/8"

SCREW PANHEAD 4-40 x 3/8"

SCREW PANHEAD 4-40 x 3/8"

SCREW PANHEAD 4-40 x 3/8"

TEXAS INSTRUMENTS

Title	*SCH, TSW1418EVM*	
Size: B	Document Number: DC0??	Rev: E2
Date: Thursday, July 12, 2018	Sheet 11 of 11	