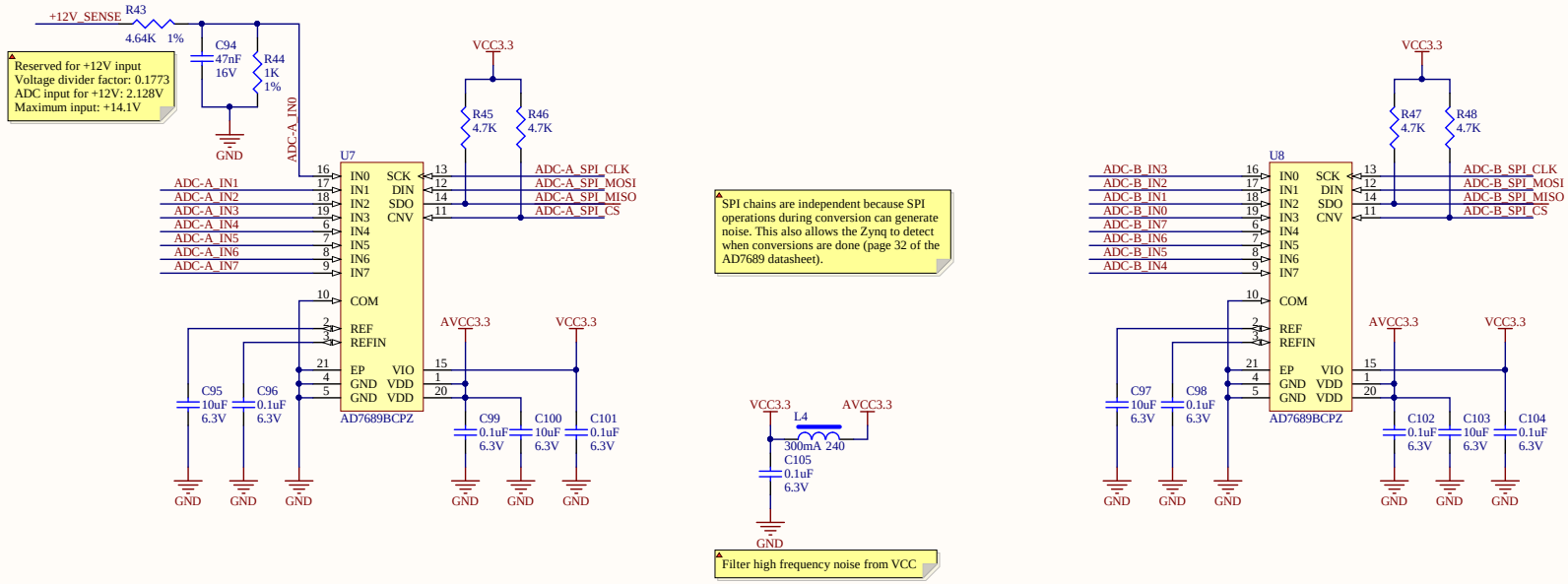
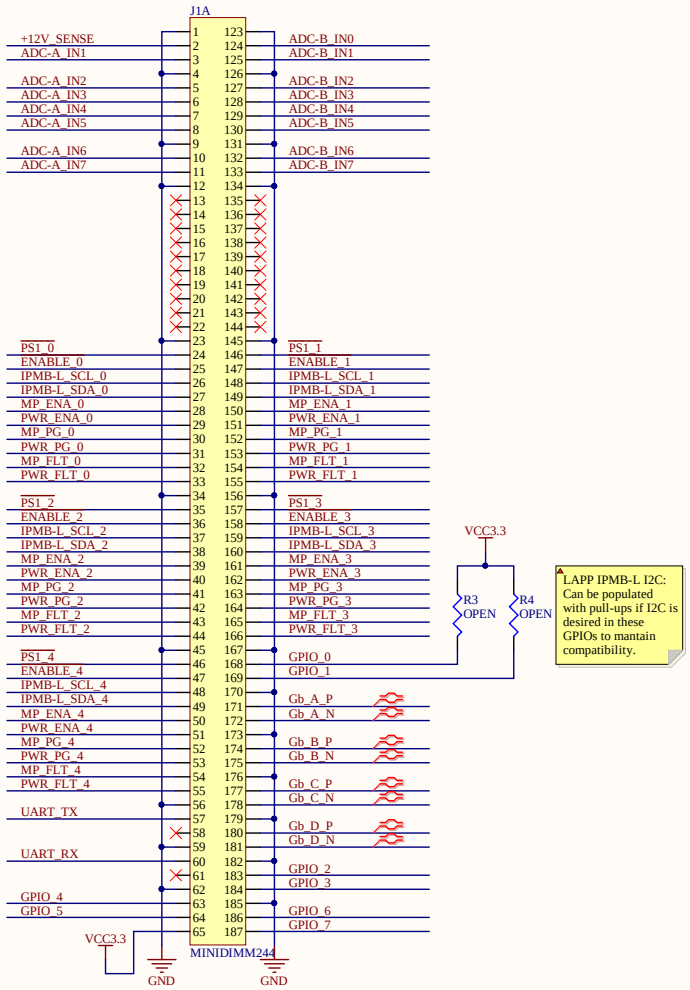
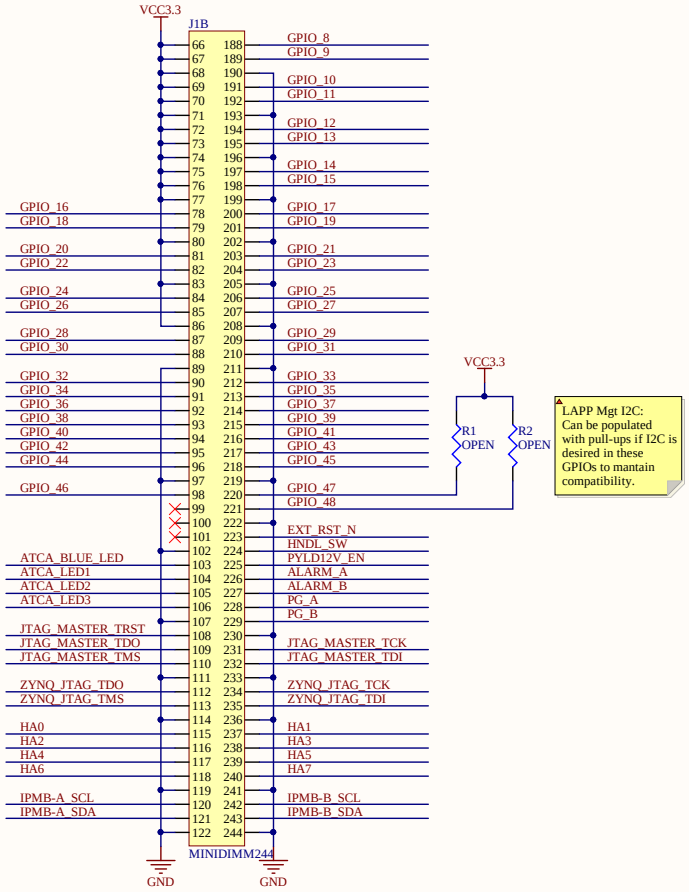
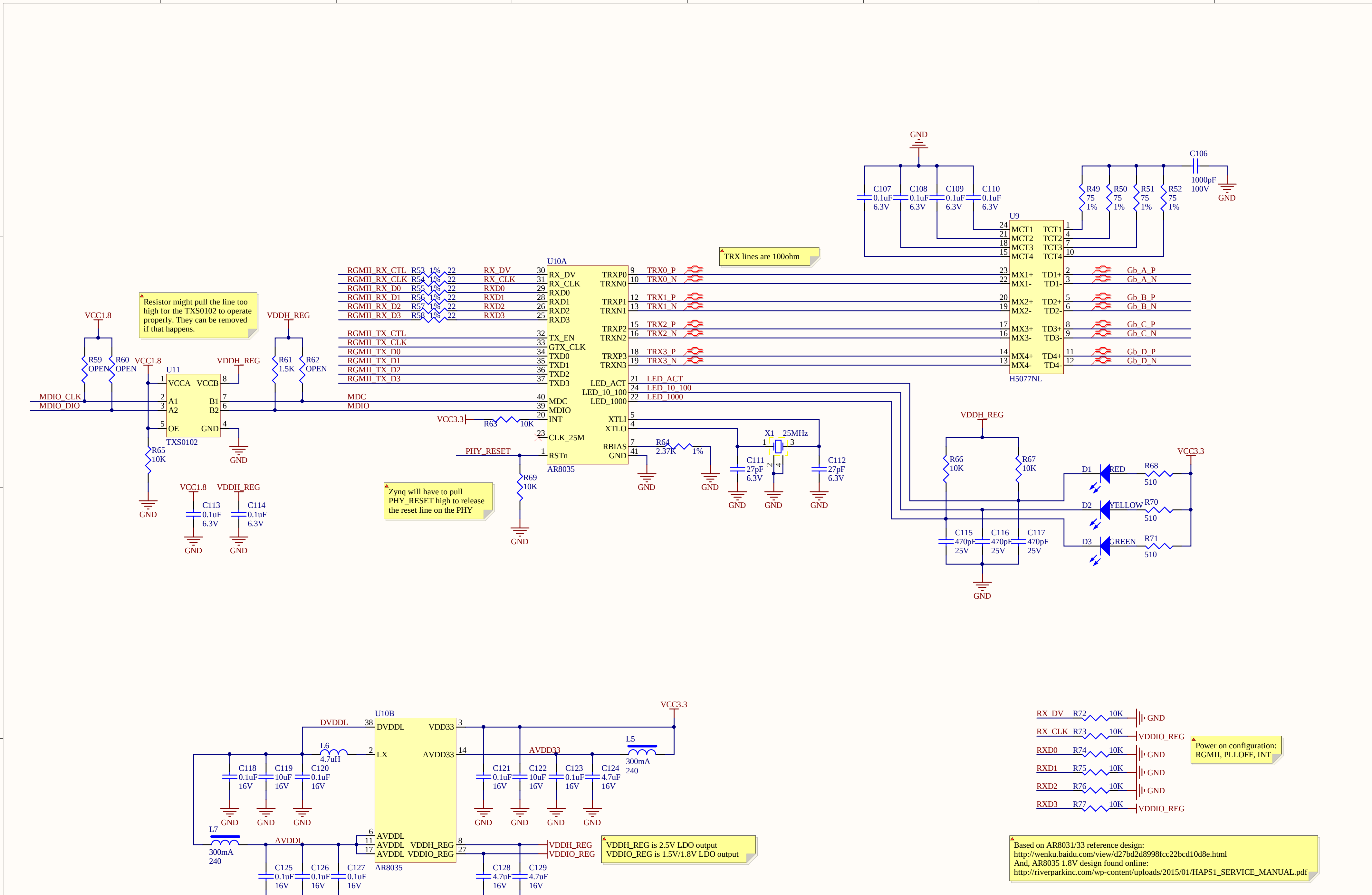


Description Description			
Title *IPMC Zynq Mezzanine*			Univ. Wisconsin-Madison Madison, WI 53706
Size: A3	Number:*	Revision:revA	
Date: 24/11/2016	Time: 14:16:30	Sheet * of *	
File: AnalogSense.SchDoc			Author: Vicente, M., Gorski., T., Tikalsky, J.





Description Description			
Title *IPMC Zynq Mezzanine*			Univ. Wisconsin-Madison Madison, WI 53706
Size: A3	Number:*	Revision:revA	
Date: 24/11/2016	Time: 14:16:30	Sheet * of *	
File: BoardConnector.SchDoc			Author: Vicente, M., Gorski., T., Tikalsky, J.



Description Description

Title *IPMC Zynq Mezzanine*

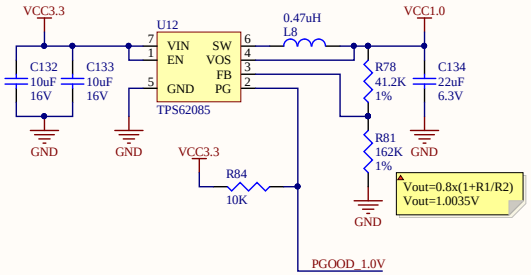
Univ. Wisconsin-Madison
Madison, WI 53706

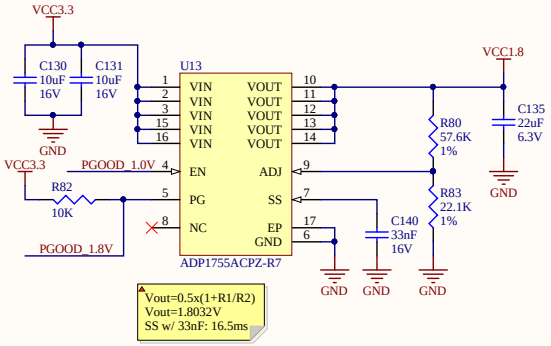
Size: A3 | Number: * | Revision: revA

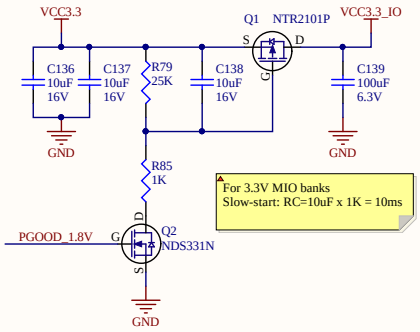
Date: 24/11/2016 | Time: 14:16:31 | Sheet * of *

File: Ethernet.SchDoc

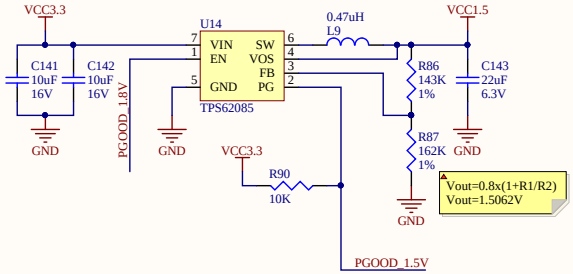
Author: Vicente, M., Gorski., T., Tikalsky, J.

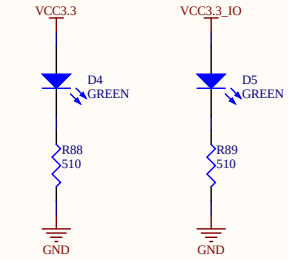


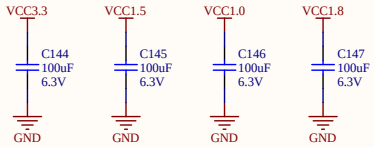




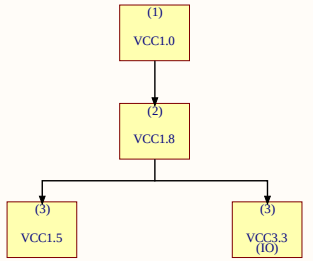
TODO: Might change for a ADP1755 instead







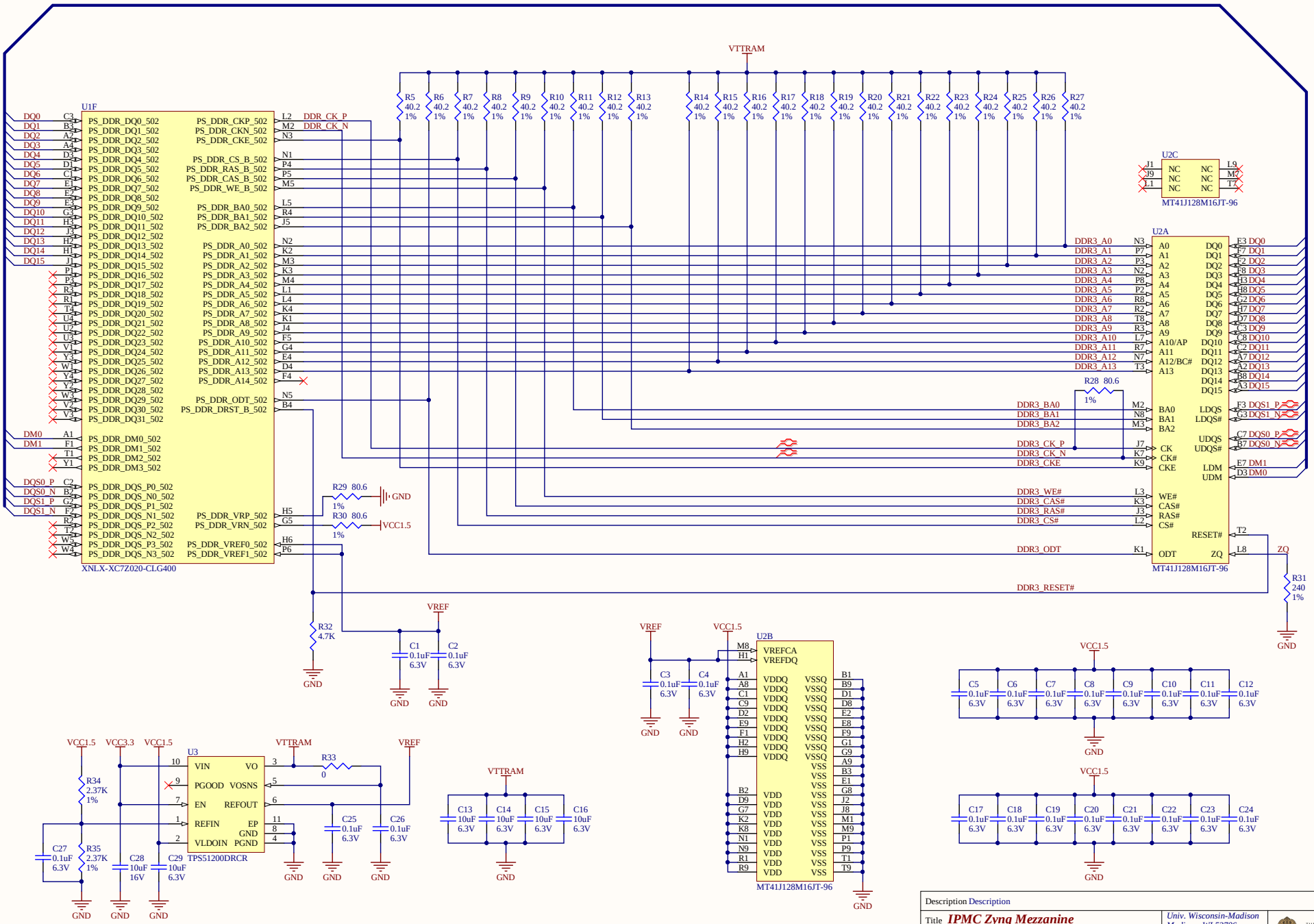
Power sequence for Zynq

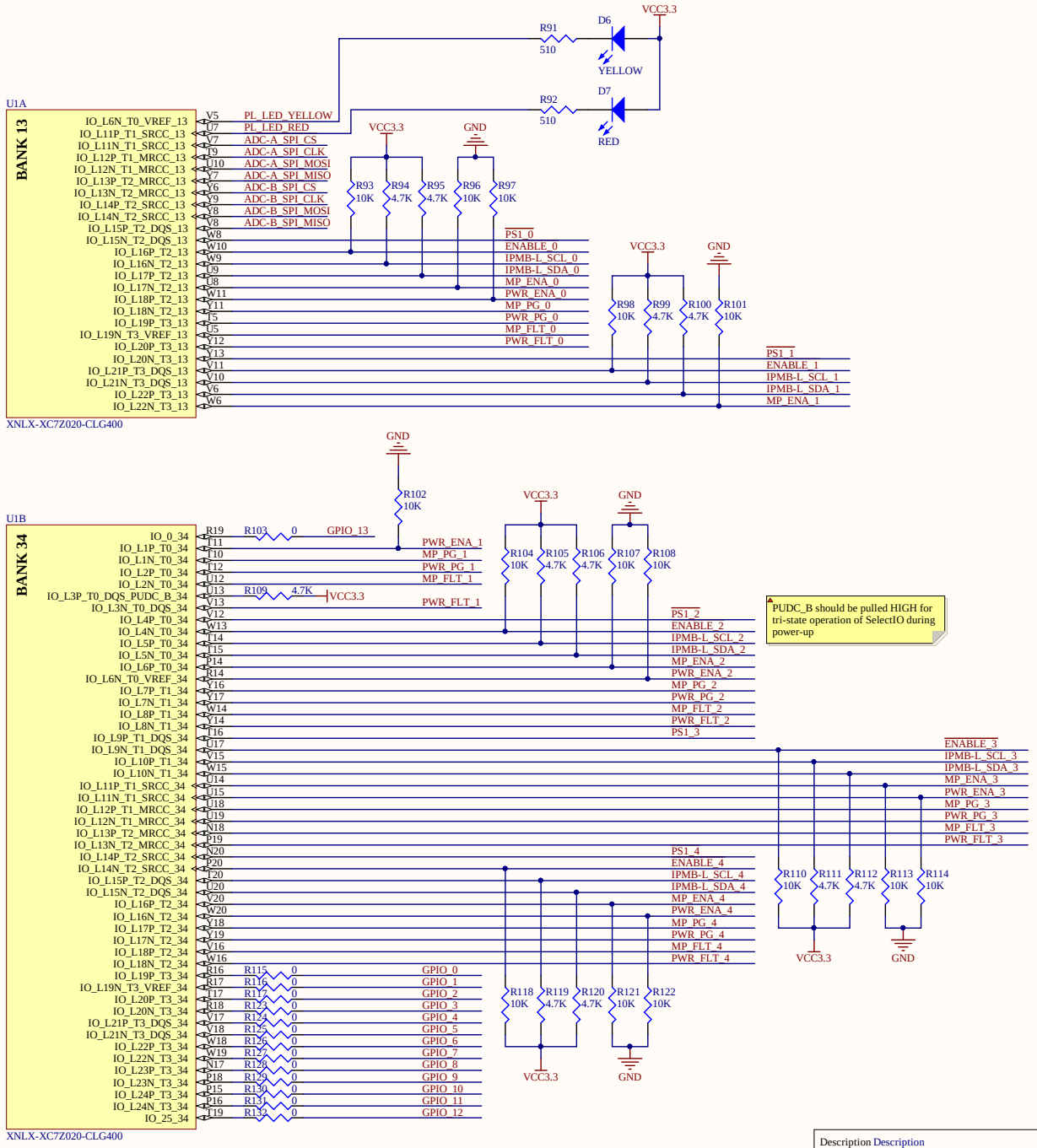


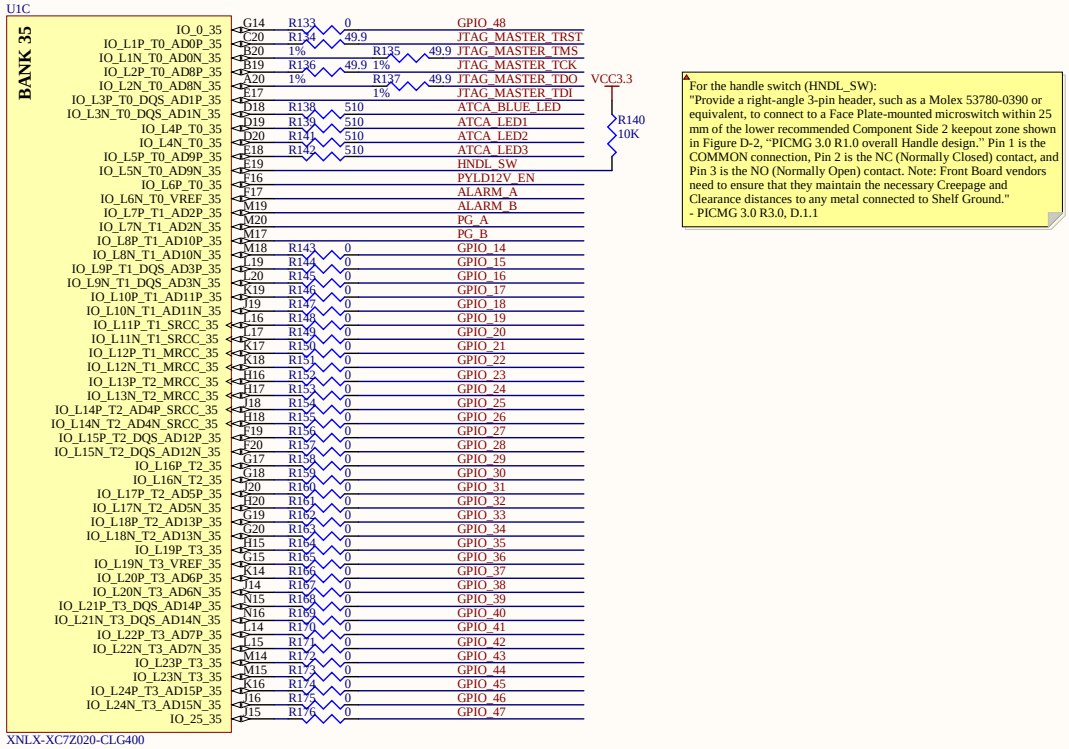
LDO converters are interchangable with the following components:
ADP1753 (0.8A) and ADP1741 (2.0A)

Potentially, a cheaper and small option is also available: LD39050 (0.5A, no

Description Description			
Title *IPMC Zynq Mezzanine*			Univ. Wisconsin-Madison Madison, WI 53706
Size: A3	Number:*	Revision:revA	
Date: 24/11/2016	Time: 14:16:31	Sheet * of *	
File: PowerSequence.SchDoc			Author: Vicente, M., Gorski., T., Tikalsky, J.

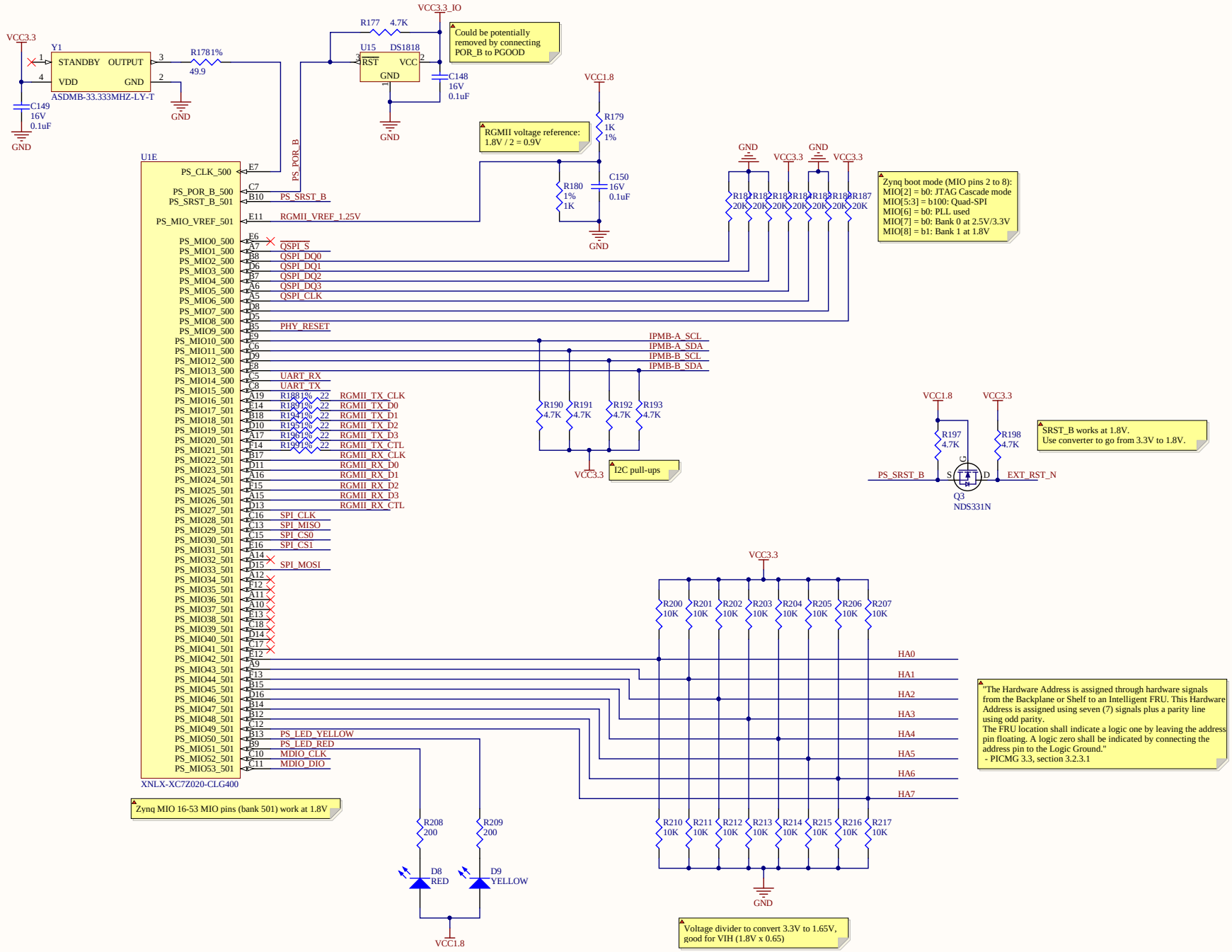

VTTRAM
U1F
XNLX-XC7Z020-CLG400
U2A
U2C
MT41J128M16JT-96
U2B
MT41J128M16JT-96
U3
TPS51200DRCR
VREF
VCC1.5
VCC3.3
GND
DDR_CK_P
DDR_CK_N
DDR3_RESET#
DDR3_ODT
R28 80.6 1%
R29 80.6 1%
R30 80.6 1%
R31 240 1%
R32 4.7K
R33 0
R34 2.37K 1%
R35 2.37K 1%
Description Description
Title IPMC Zynq Mezzanine
Size: A3
Number:*
Revision:revA
Date: 24/11/2016
Time: 14:16:31
Sheet * of *
File: ZynqDDR.SchDoc
Univ. Wisconsin-Madison
Madison, WI 53706
Author: Vicente, M., Gorski., T., Tikalsky, J.


U1A
BANK 13
XNLX-XC7Z020-CLG400
IO_L6N_T0_VREF_13
IO_L11P_T1_SRCC_13
IO_L11N_T1_SRCC_13
IO_L12P_T1_MRCC_13
IO_L12N_T1_MRCC_13
IO_L13P_T2_MRCC_13
IO_L13N_T2_MRCC_13
IO_L14P_T2_SRCC_13
IO_L14N_T2_SRCC_13
IO_L15P_T2_DQS_13
IO_L15N_T2_DQS_13
IO_L16P_T2_13
IO_L16N_T2_13
IO_L17P_T2_13
IO_L17N_T2_13
IO_L18P_T2_13
IO_L18N_T2_13
IO_L19P_T3_13
IO_L19N_T3_VREF_13
IO_L20P_T3_13
IO_L20N_T3_13
IO_L21P_T3_DQS_13
IO_L21N_T3_DQS_13
IO_L22P_T3_13
IO_L22N_T3_13
V5 PL_LED_YELLOW
U7 PL_LED_RED
V7 ADC-A_SPI_CS
T9 ADC-A_SPI_CLK
U10 ADC-A_SPI_MOSI
Y7 ADC-A_SPI_MISO
Y6 ADC-B_SPI_CS
Y9 ADC-B_SPI_CLK
Y8 ADC-B_SPI_MOSI
V8 ADC-B_SPI_MISO
W8
W10 PS1_0
W9 ENABLE_0
U9 IPMB-L_SCL_0
U8 IPMB-L_SDA_0
W11 MP_ENA_0
Y11 PWR_ENA_0
T5 MP_PG_0
U5 PWR_PG_0
Y12 MP_FLT_0
Y13 PWR_FLT_0
V11 PS1_1
V10 ENABLE_1
V6 IPMB-L_SCL_1
W6 IPMB-L_SDA_1
MP_ENA_1
R91 510
R92 510
D6
D7
YELLOW
RED
VCC3.3
GND
R93 10K
R94 4.7K
R95 4.7K
R96 10K
R97 10K
R98 10K
R99 4.7K
R100 4.7K
R101 10K
U1B
BANK 34
XNLX-XC7Z020-CLG400
IO_0_34
IO_L1P_T0_34
IO_L1N_T0_34
IO_L2P_T0_34
IO_L2N_T0_34
IO_L3P_T0_DQS_PUDC_B_34
IO_L3N_T0_DQS_34
IO_L4P_T0_34
IO_L4N_T0_34
IO_L5P_T0_34
IO_L5N_T0_34
IO_L6P_T0_34
IO_L6N_T0_VREF_34
IO_L7P_T1_34
IO_L7N_T1_34
IO_L8P_T1_34
IO_L8N_T1_34
IO_L9P_T1_DQS_34
IO_L9N_T1_DQS_34
IO_L10P_T1_34
IO_L10N_T1_34
IO_L11P_T1_SRCC_34
IO_L11N_T1_SRCC_34
IO_L12P_T1_MRCC_34
IO_L12N_T1_MRCC_34
IO_L13P_T2_MRCC_34
IO_L13N_T2_MRCC_34
IO_L14P_T2_SRCC_34
IO_L14N_T2_SRCC_34
IO_L15P_T2_DQS_34
IO_L15N_T2_DQS_34
IO_L16P_T2_34
IO_L16N_T2_34
IO_L17P_T2_34
IO_L17N_T2_34
IO_L18P_T2_34
IO_L18N_T2_34
IO_L19P_T3_34
IO_L19N_T3_VREF_34
IO_L20P_T3_34
IO_L20N_T3_34
IO_L21P_T3_DQS_34
IO_L21N_T3_DQS_34
IO_L22P_T3_34
IO_L22N_T3_34
IO_L23P_T3_34
IO_L23N_T3_34
IO_L24P_T3_34
IO_L24N_T3_34
IO_25_34
R19 R103 0 GPIO_13
T11 PWR_ENA_1
L10 MP_PG_1
L12 PWR_PG_1
U12 MP_FLT_1
U13 R109 4.7K VCC3.3
V13 PWR_FLT_1
V12 PS1_2
W13 ENABLE_2
L14 IPMB-L_SCL_2
L15 IPMB-L_SDA_2
P14 MP_ENA_2
R14 PWR_ENA_2
Y16 MP_PG_2
Y17 PWR_PG_2
W14 MP_FLT_2
Y14 PWR_FLT_2
L16 PS1_3
U17 ENABLE_3
V15 IPMB-L_SCL_3
W15 IPMB-L_SDA_3
U14 MP_ENA_3
U15 PWR_ENA_3
U18 MP_PG_3
U19 PWR_PG_3
N18 MP_FLT_3
P19 PWR_FLT_3
N20 PS1_4
P20 ENABLE_4
L20 IPMB-L_SCL_4
U20 IPMB-L_SDA_4
V20 MP_ENA_4
W20 PWR_ENA_4
Y18 MP_PG_4
Y19 PWR_PG_4
V16 MP_FLT_4
W16 PWR_FLT_4
R16 R115 0 GPIO_0
R17 R116 0 GPIO_1
T17 R117 0 GPIO_2
R18 R123 0 GPIO_3
V17 R124 0 GPIO_4
V18 R125 0 GPIO_5
W18 R126 0 GPIO_6
W19 R127 0 GPIO_7
N17 R128 0 GPIO_8
P18 R129 0 GPIO_9
P15 R130 0 GPIO_10
P16 R131 0 GPIO_11
L19 R132 0 GPIO_12
R102 10K
R104 10K
R105 4.7K
R106 4.7K
R107 10K
R108 10K
R110 10K
R111 4.7K
R112 4.7K
R113 10K
R114 10K
R118 10K
R119 4.7K
R120 4.7K
R121 10K
R122 10K
PUDC_B should be pulled HIGH for tri-state operation of SelectIO during power-up
Description Description
Title IPMC Zynq Mezzanine
Size: A3
Number:*
Revision:revA
Date: 24/11/2016
Time: 14:16:31
Sheet * of *
File: ZynqEMIO.SchDoc
Univ. Wisconsin-Madison
Madison, WI 53706
Author: Vicente, M., Gorski., T., Tikalsky, J.

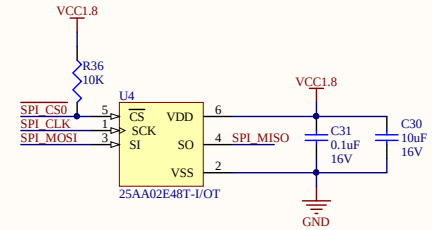


For the handle switch (HNDL_SW):
"Provide a right-angle 3-pin header, such as a Molex 53780-0390 or equivalent, to connect to a Face Plate-mounted microswitch within 25 mm of the lower recommended Component Side 2 keepout zone shown in Figure D-2, "PICMG 3.0 R1.0 overall Handle design." Pin 1 is the COMMON connection, Pin 2 is the NC (Normally Closed) contact, and Pin 3 is the NO (Normally Open) contact. Note: Front Board vendors need to ensure that they maintain the necessary Creepage and Clearance distances to any metal connected to Shelf Ground."
- PICMG 3.0 R3.0, D.1.1

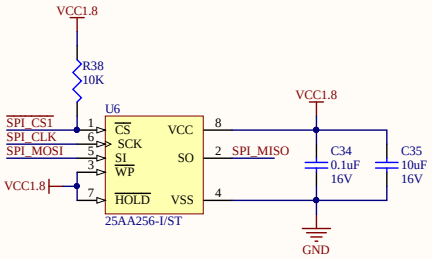
Description Description			
Title *IPMC Zynq Mezzanine*			Univ. Wisconsin-Madison Madison, WI 53706
Size: A3	Number:*	Revision:revA	
Date: 24/11/2016	Time: 14:16:31	Sheet * of *	
File: ZynqEMIO_2.SchDoc			Author: Vicente, M., Gorski., T., Tikalsky, J.

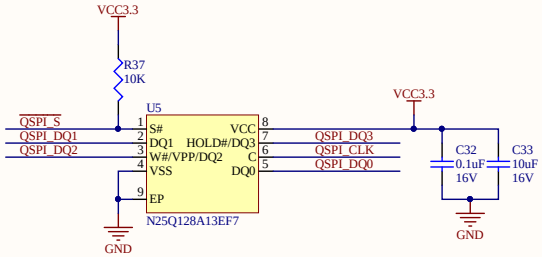


Description	Description		
Title	*IPMC Zynq Mezzanine*		Univ. Wisconsin-Madison Madison, WI 53706
Size: A3	Number:*	Revision: revA	
Date: 24/11/2016	Time: 14:16:32	Sheet * of *	
File: ZynqMIO.SchDoc			Author: Vicente, M., Gorski., T., Tikalsky, J.



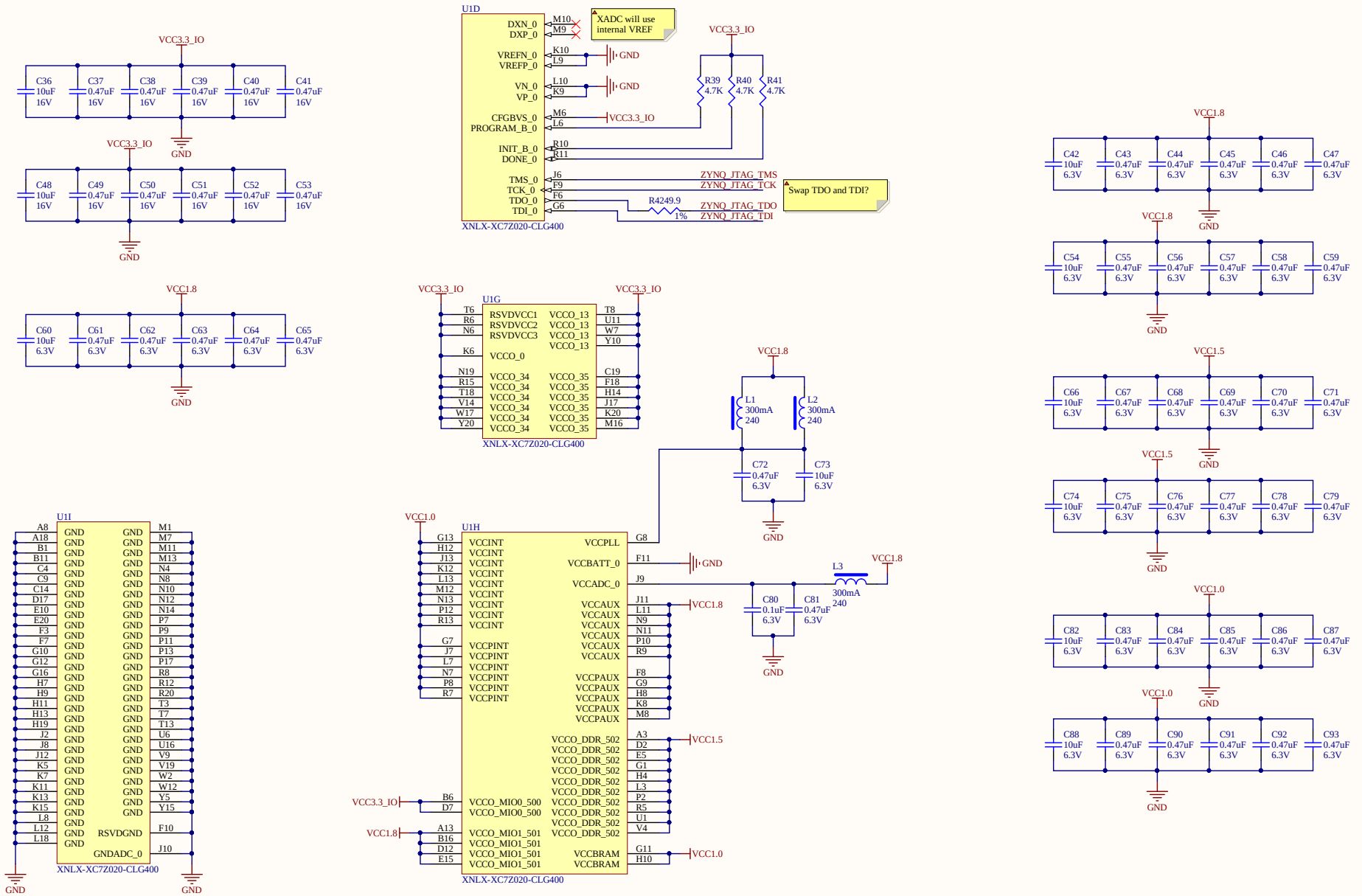
CS pins can be swapped if it improves layout





QSPI has 16MBytes
Needs 50ohm lines
C should be pulled LOW, but there is already the Zynq strap-pins

Description Description			
Title *IPMC Zynq Mezzanine*			Univ. Wisconsin-Madison Madison, WI 53706
Size: A3	Number:*	Revision:revA	
Date: 24/11/2016	Time: 14:16:32	Sheet * of *	
File: ZynqPeripherals.SchDoc			Author: Vicente, M., Gorski., T., Tikalsky, J.



Description Description		
Title *IPMC Zynq Mezzanine*		Univ. Wisconsin-Madison Madison, WI 53706
Size: A3	Number:*	Revision:revA
Date: 24/11/2016	Time: 14:16:32	Sheet * of *
File: ZynqPower.SchDoc		Author: Vicente, M., Gorski., T., Tikalsky, J.

Comment	Description	Designator	Footprint	LibRef	Quantity	Rated Current	Tolerance	Value
?	Capacitor	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C80, C96, C98, C99, C101, C102, C104, C105, C107, C108, C109, C110, C113, C114	C0201	Cap	37		6.3V	0.1uF
?	Capacitor	C13, C14, C15, C16, C29, C42, C54, C60, C66, C73, C74, C82, C88, C95, C97, C100, C103	C0402	Cap	17		6.3V	10uF
?	Capacitor	C28, C30, C33, C35, C36, C48, C118, C122, C130, C131, C132, C133, C136, C137, C138, C141, C142	C0603_H	Cap	17		16V	10uF
?	Capacitor	C31, C32, C34, C118, C120, C121, C123, C125, C126, C127, C148, C149, C150	C0402	Cap	13		16V	0.1uF
?	Capacitor	C37, C38, C39, C40, C41, C49, C50, C51, C52, C53	C0402	Cap	10		16V	0.47uF
?	Capacitor	C43, C44, C45, C46, C47, C55, C56, C57, C58, C59, C61, C62, C63, C64, C65, C67, C68, C69, C70, C71, C72, C75, C76, C77, C78, C79, C81, C83, C84, C85, C86, C87, C89, C90, C91, C92, C93	C0402	Cap	37		6.3V	0.47uF
?	Capacitor	C94	C0402	Cap	1		16V	470F
?	Capacitor	C106	C0402	Cap	1		100V	100pF
?	Capacitor	C111, C112	C0201	Cap	2		6.3V	27pF
?	Capacitor	C115, C116, C117	C0201	Cap	3		25V	470pF
?	Capacitor	C124, C128, C129	C0402	Cap	3		16V	4.7uF
?	Capacitor	C134, C135, C143	C0805_M	Cap	3		6.3V	22uF
?	Capacitor	C139, C144, C145, C146, C147	C1210	Cap	5		6.3V	100uF
?	Capacitor	C140	C0402	Cap	1		16V	33nF
?	Light Emitting Diode	D1, D7, D8	LED0603_M	LED	3			RED
?	Light Emitting Diode	D2, D6, D9	LED0603_M	LED	3			YELLOW
?	Light Emitting Diode	D3, D4, D5	LED0603_M	LED	3			GREEN
MINIDIMM244	244-pin miniDIMM pads	J1	miniDIMM244	MINIDIMM244	1			
BK1005HM241-T	Bead Inductor	L1, L2, L3, L4, L5, L7	L0402_H	Bead	6	300 mA		240
96urth-74438323047	Inductor	L6	L2520_H	Ind	1			4.7uH 20%
DFE252012F-R47M=P2	Inductor	L8, L9	L2520_H	Ind	2			0.47uH 20%
NTR2101P	Small Signal MOSFET, -8.0V, -3.7 A, Single P−Channel, SOT−23	Q1	SOT23-H	NTR2101P	1			
NDS331N	N-Channel Logic Level Enhancement Mode Field Effect Transistor	Q2, Q3	SSOT-3_H	NDS331N	2			
?	Resistor	R1, R2, R3, R4, R59, R60, R62	R0402	Res	7		5%	OPEN
?	Resistor	R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27	R0201	Res	23		1%	402
?	Resistor	R28, R29, R30	R0402	Res	3		1%	80.6
?	Resistor	R31	R0201	Res	1		1%	240
?	Resistor	R32, R39, R40, R41, R45, R46, R47, R48, R94, R95, R99, R100, R105, R106, R109, R111, R112, R119, R120, R177, R190, R191, R192, R193, R197, R198	R0402	Res	26		5%	4.7K
?	Resistor	R33, R103, R115, R116, R117, R123, R124, R125, R126, R127, R128, R129, R130, R131, R132, R133, R143, R144, R145, R146, R147, R148, R149, R150, R151, R152, R153, R154, R155, R156, R157, R158, R159, R160, R161, R162, R163, R164, R165, R166, R167, R168, R169, R170, R171, R172, R173, R174, R175, R176	R0402	Res	50		5%	0
?	Resistor	R34, R35, R64	R0402	Res	3		1%	2.37K
Yageo AC0201JR-0710KL	Resistor	R36, R37, R38, R63, R65, R66, R67, R69, R72, R73, R74, R75, R76, R77, R82, R84, R90, R93, R96, R97, R98, R101, R102, R104, R107, R108, R110, R113, R114, R118, R121, R122, R140, R200, R201, R202, R203, R204, R205, R206, R207, R210, R211, R212, R213, R214, R215, R216, R217	R0201	Res	49		5%	10K
?	Resistor	R42, R134, R135, R136, R137, R178	R0402	Res	6		1%	49.9
?	Resistor	R43	R0603	Res	1		1%	4.64K
?	Resistor	R44, R179, R180	R0603	Res	3		1%	1K
?	Resistor	R49, R50, R51, R52	R0402	Res	4		1%	75
?	Resistor	R53, R54, R55, R56, R57, R58, R188, R189, R194, R195, R196, R199	R0201	Res	12		1%	22
?	Resistor	R61	R0402	Res	1		5%	1.5K
?	Resistor	R68, R70, R71, R88, R89, R91, R92, R138, R139, R141, R142	R0402	Res	11		5%	510
?	Resistor	R78	R0603	Res	1		1%	41.2K
?	Resistor	R79	R0402	Res	1		5%	25K
?	Resistor	R80	R0603	Res	1		1%	57.6K
?	Resistor	R81, R87	R0603	Res	2		1%	1kΩ
?	Resistor	R83	R0603	Res	1		1%	22.1K
?	Resistor	R85	R0402	Res	1		5%	1K
?	Resistor	R86	R0603	Res	1		1%	1.43K
?	Resistor	R181, R182, R183, R184, R185, R186, R187	R0201	Res	7		5%	20K
?	Resistor	R208, R209	R0402	Res	2		5%	200
XNLX-XC7Z020-CLG400		U1	CLG400	XNLX-XC7Z020-CLG400	1			
MT41J128M16JT-06		U2	MICT-JT-96	MT41J128M16JT-06	1			
TPS51200DRCR	Single Output LDO, 3 A, 2.375 to 3.5 V Input, with DDR Termination, 10-pin SON (DRC), -40 to 85 degC, Green (RoHS & no Sb/Br)	U3	DRC0010J_V	CMP-0395-00664-2	1		Cataloging	
25AA02E48T-I/OT	2K SPI Bus Serial EEPROM with EUI-48 Node Identity, 6-Pin SOT-23, Industrial Temperature, Tape and Reel	U4	SOT-23-OT6_L	CMP-0165-00270-1	1			
N25Q128A13EF76E	128Mb, Multiple I/O Serial Flash Memory	U5	V-PDFN-8_H	N25Q128A13EF7	1			
25AA256-I/ST	256K SPI Bus Serial EEPROM, 8-Pin TSSOP, Industrial Temperature	U6	TSSOP-ST8_N	CMP-0165-00405-1	1			
AD7689BCPZ	Octal 16-Bit PulSAR Analog-to-Digital Converter with Serial, SPI Interface, 250kSPS, -40 to +85 degC, CP-20-4, Pb-Free, Tube	U7, U8	CP-20-4_N	CMP-0313-00576-2	2			
H5077NL	1000Base-T, Single Port Mini-Magnetics Modules	U9	H5077NL	H5077NL	1			
AR8035	Integrated 10/100/1000 Gigabit Ethernet Transceiver	U10	QFN40_H	AR8035	1			
TXS0102	2-Bit Bidirectional Voltage-Level Translator for Open-Drain and Push-Pull Applications	U11	X2SON-8_H	TXS0102	1			
TPS62085	3-A Step-Down Converter With Hiccup Short-Circuit Protection	U12, U14	VSON-8_L	TPS62085	2			
ADP1755ACPZ-R7	1.2 A, Low VIN, Low Dropout Linear Regulator, 1.6 to 3.6 V Vin, 0.75 to 3 V Vout, Industrial, 16-pin QFN (CP-16-4), Reel	U13	CP-16-4_L	CMP-0786-00436-1	1			
DS1818	3.3V EconoReset with Pushbutton	U15	SOT23-H	DS1818	1			
08CGB25M000F3M00R0	Standard Crystal Oscillator	X1	XRCGB_F	Crystal Osc	1			25MHz
ASDMB-33.3	Plastic Package Clock Oscillator	Y1	ABRA-ASDMB-4_V	CMP-07	1			