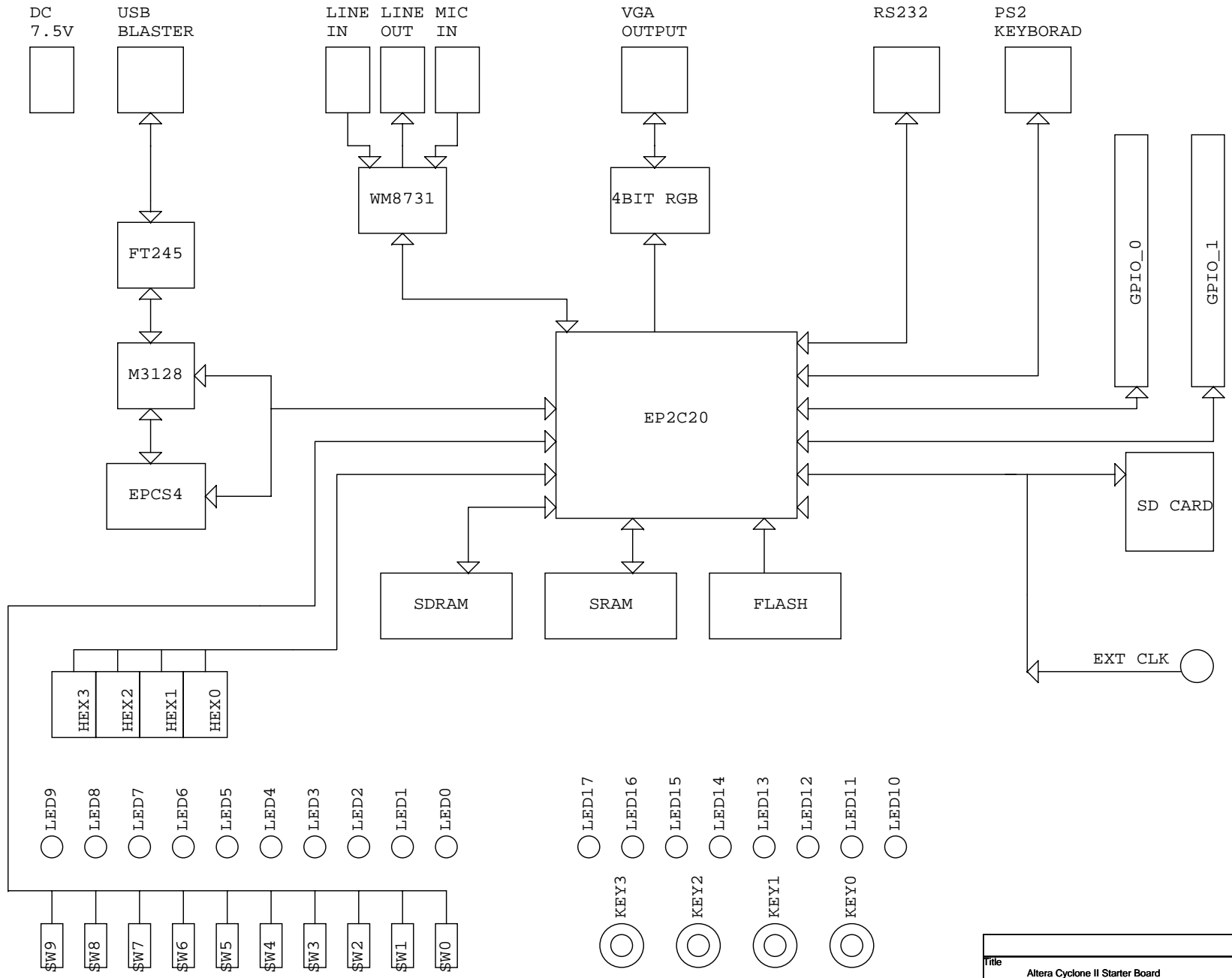
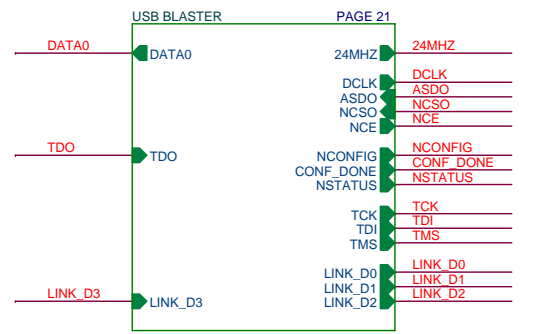
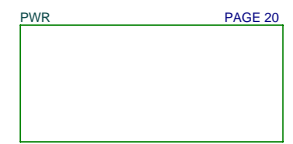
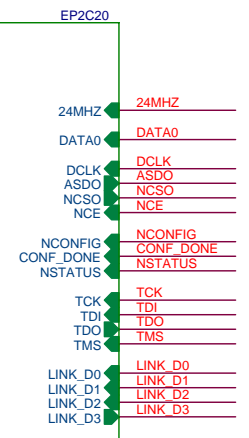
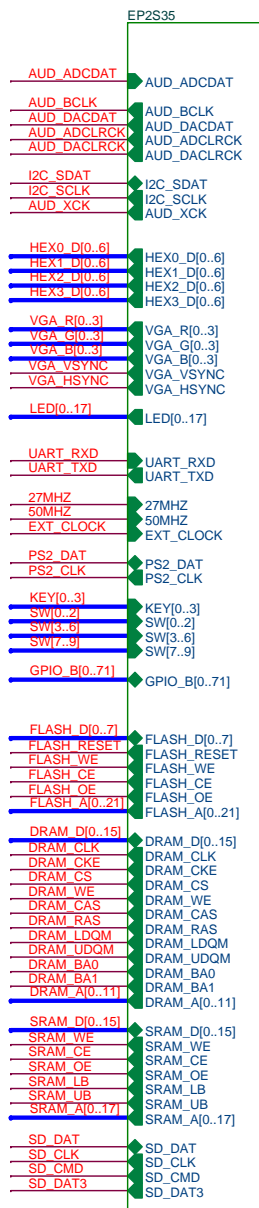
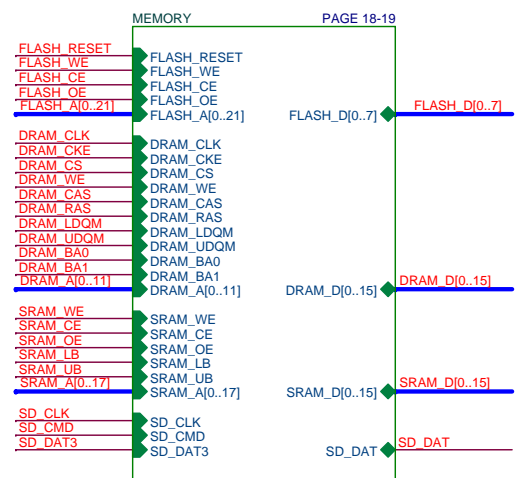
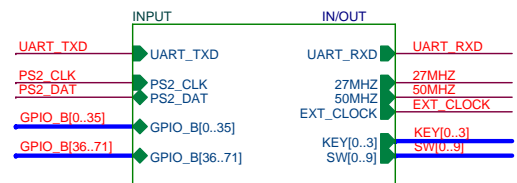
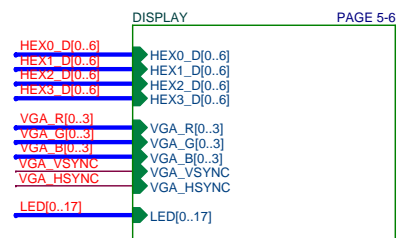
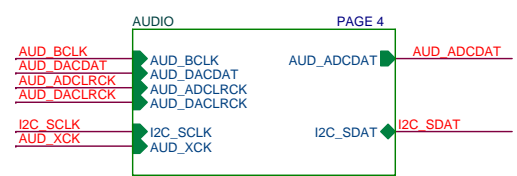


# Altera Cyclone II FPGA Starter Board

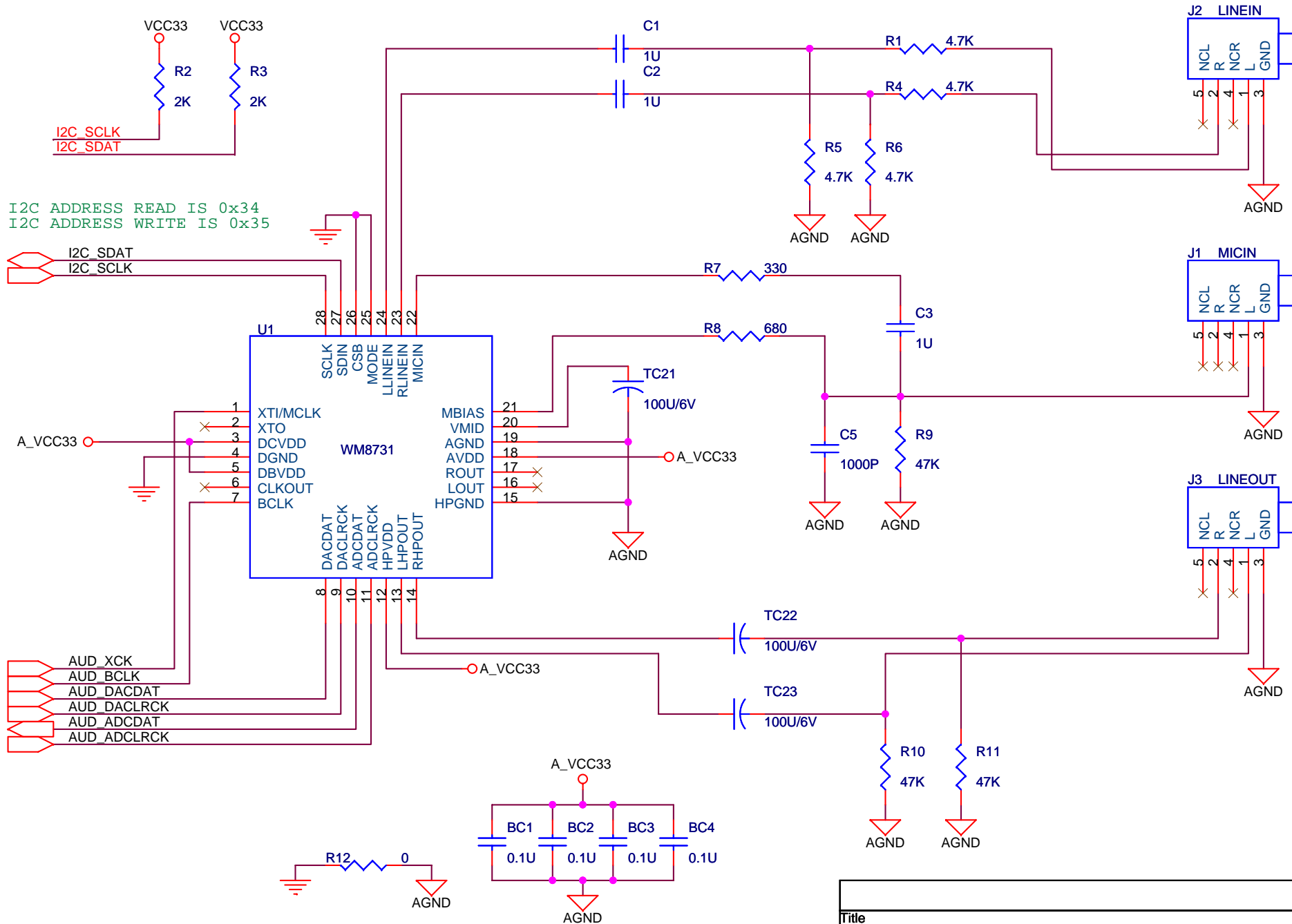
SCHEMATIC	CONTENT	PAGE
TOP	COVER PAGE , TOP	01 ~ 03
AUDIO	WM8731	04 ~ 04
DISPLAY	VGA , 7SEGMENT ,LED	05 ~ 07
EP2C20	EP2C20 BANK1..BANK8 , POWER , CONFIG	08 ~ 12
INPUT	CLOCK , PS2 , RS232 , KEY , SWITCH , CONNECT	13 ~ 17
MEMORY	SRAM , DRAM , FLASH , SD CARD	18 ~ 19
POWER	POWER	20 ~ 20
BLASTER	USB BLASTER	21 ~ 21



Title			Altera Cyclone II Starter Board		
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B	PLACEMENT			1.1A	
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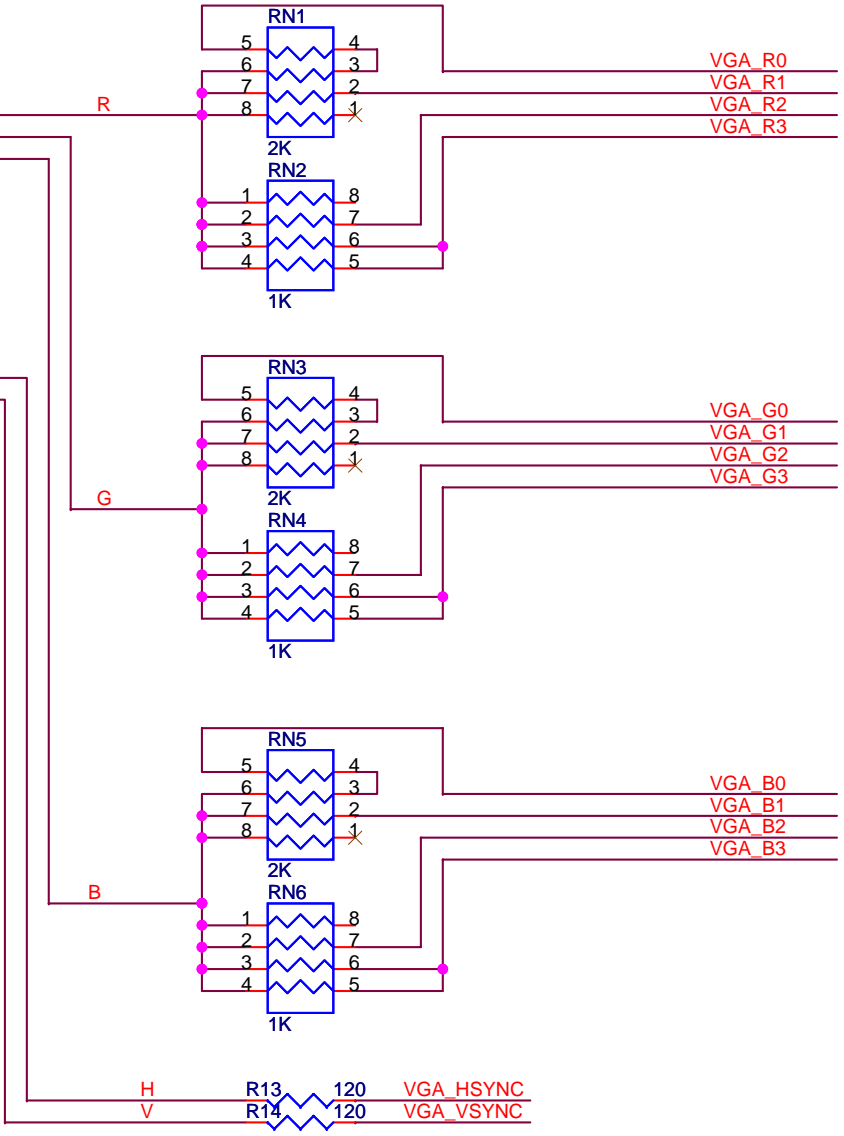
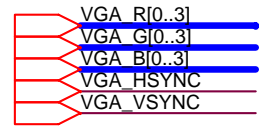
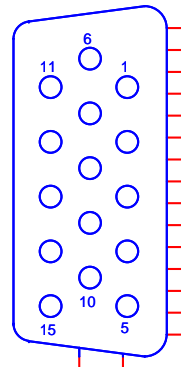
Title		
Altera Cyclone II Starter Board		
Size	Document Number	Rev
B	TOP LEVEL	1.1A
Date:	Tuesday, October 03, 2006	Sheet 3 of 21



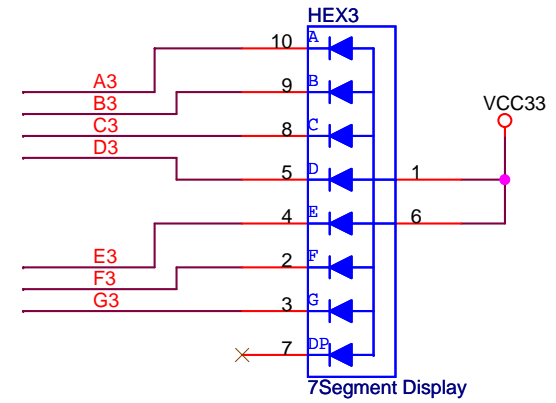
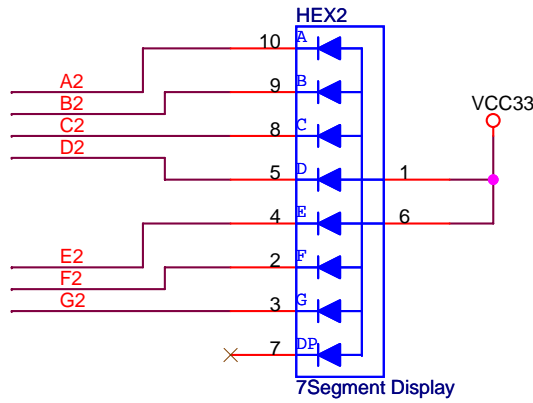
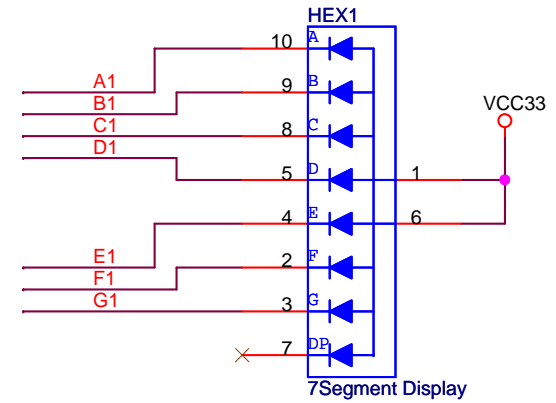
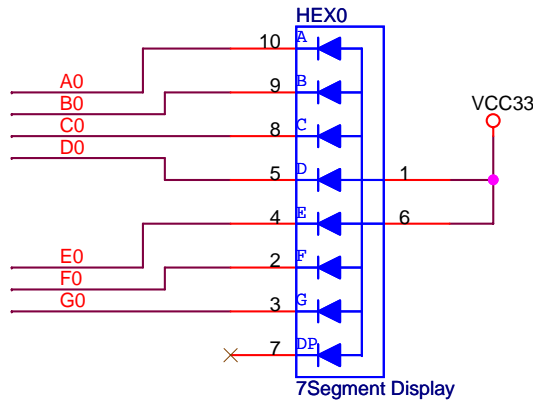
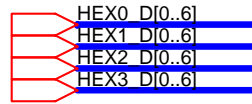
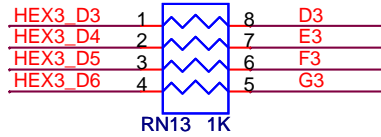
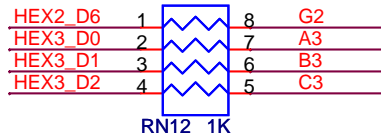
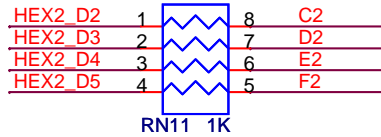
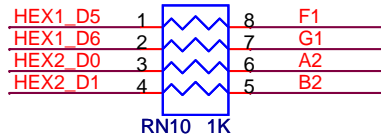
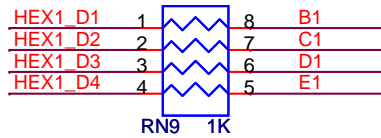
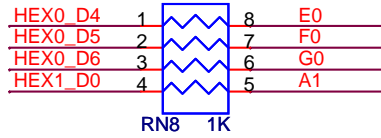
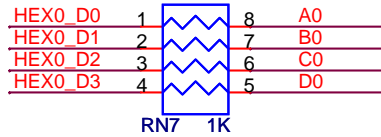
I2C ADDRESS READ IS 0x34  
 I2C ADDRESS WRITE IS 0x35

Title		
Altera Cyclone II Starter Board		
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A	AUDIO	1.1A
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J4

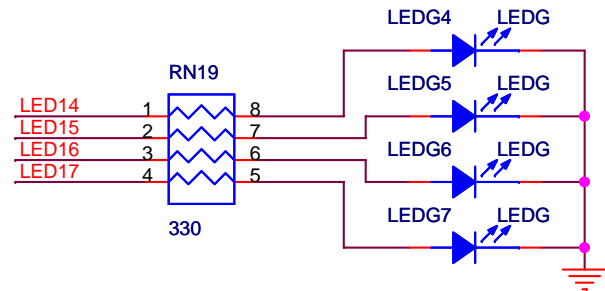
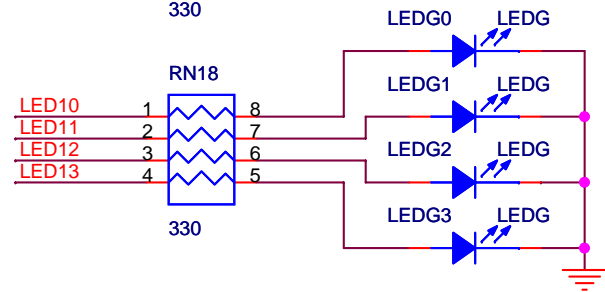
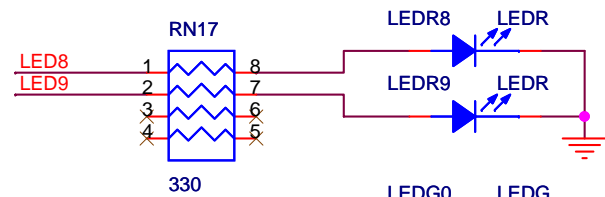
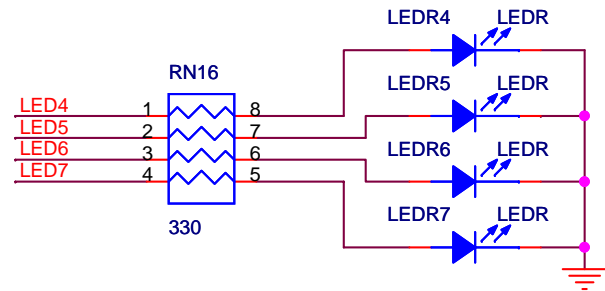
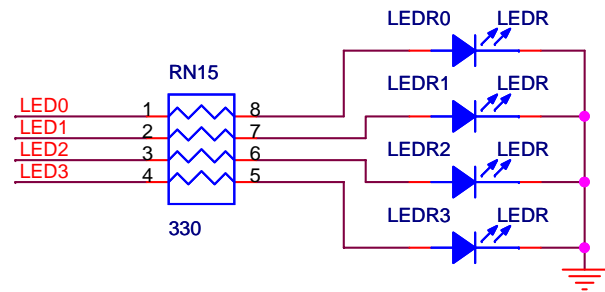


Title		
Altera Cyclone II Starter Board		
Size	Document Number	Rev
A	VGA	1.1A
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Title		
Altera Cyclone II Starter Board		
Size	Document Number	Rev
A	7 SEGMENT	1.1A
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LED[0..17]



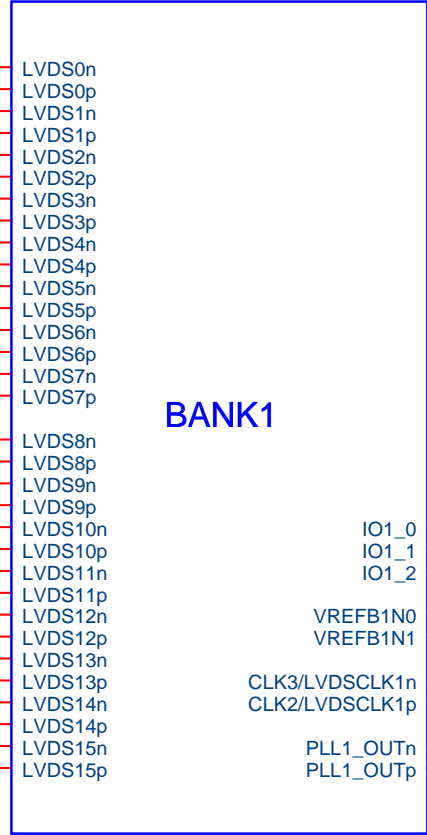
Title		
Altera Cyclone II Starter Board		
Size A	Document Number LED	Rev 1.1A
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DRAM DI[0..15]  
 DRAM AI[0..11]  
 SW[7..9]

U2A

DRAM A3 Y4  
 DRAM A2 Y3  
 DRAM A0 W4  
 DRAM A10 W3  
 DRAM D7 Y2  
 DRAM D6 Y1  
 DRAM D5 W2  
 DRAM D4 W1  
 DRAM CS T6  
 DRAM RAS T5  
 DRAM D3 V2  
 DRAM D2 V1  
 DRAM A4 R6  
 DRAM A5 R5  
 DRAM D1 U2  
 DRAM D0 U1  
  
 DRAM D15 T2  
 DRAM D14 T1  
 DRAM D13 R2  
 DRAM D12 R1  
 DRAM A6 P6  
 DRAM A7 P5  
 DRAM LDQM R7  
 DRAM WE R8  
 DRAM A9 N4  
 DRAM CKE N3  
 DRAM D11 P2  
 DRAM D10 P1  
 DRAM D9 N2  
 DRAM D8 N1  
 DRAM UDQM M6  
 DRAM UDQM M5

BANK1



CYCLONE II EP2C20

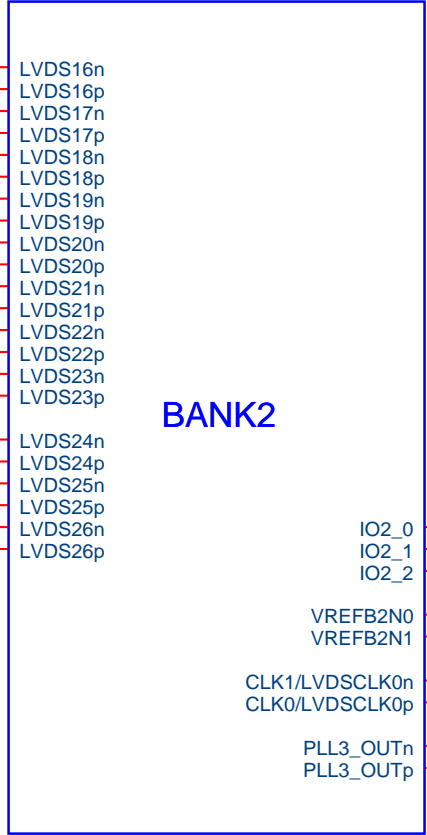
IO1\_0 N6  
 IO1\_1 T3  
 IO1\_2 W5  
  
 VREFB1N0 P3  
 VREFB1N1 U3  
  
 CLK3/LVDSCLK1n M2  
 CLK2/LVDSCLK1p M1  
  
 PLL1\_OUTn V4  
 PLL1\_OUTp U4

HEX0 DI[0..6]  
 HEX1 DI[0..6]  
 HEX2 DI[0..6]  
 HEX3 DI[0..6]

U2B

HEX0 D0 J2  
 HEX0 D1 J1  
 HEX0 D2 H2  
 HEX0 D3 H1  
 HEX0 D4 F2  
 HEX0 D5 F1  
 HEX0 D6 E2  
 HEX1 D0 E1  
 HEX1 D1 H6  
 HEX1 D2 H5  
 HEX1 D3 H4  
 HEX1 D4 G3  
 HEX1 D5 D2  
 HEX1 D6 D1  
 HEX2 D0 G5  
 HEX2 D1 G6  
  
 HEX2 D2 C2  
 HEX2 D3 C1  
 HEX2 D5 E4  
 HEX2 D4 E3  
 HEX3 D6 D4  
 HEX2 D6 D3

BANK2

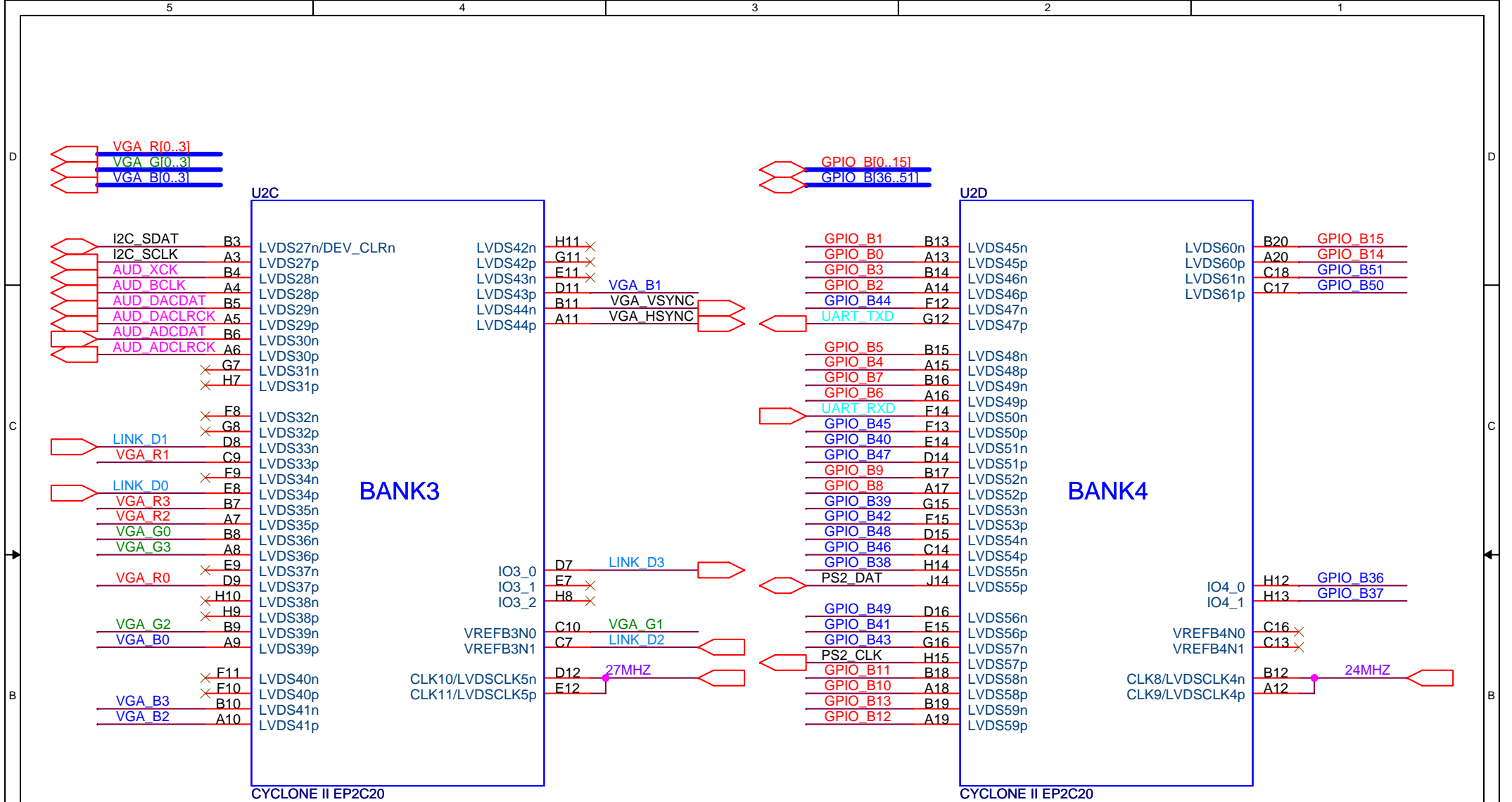


CYCLONE II EP2C20

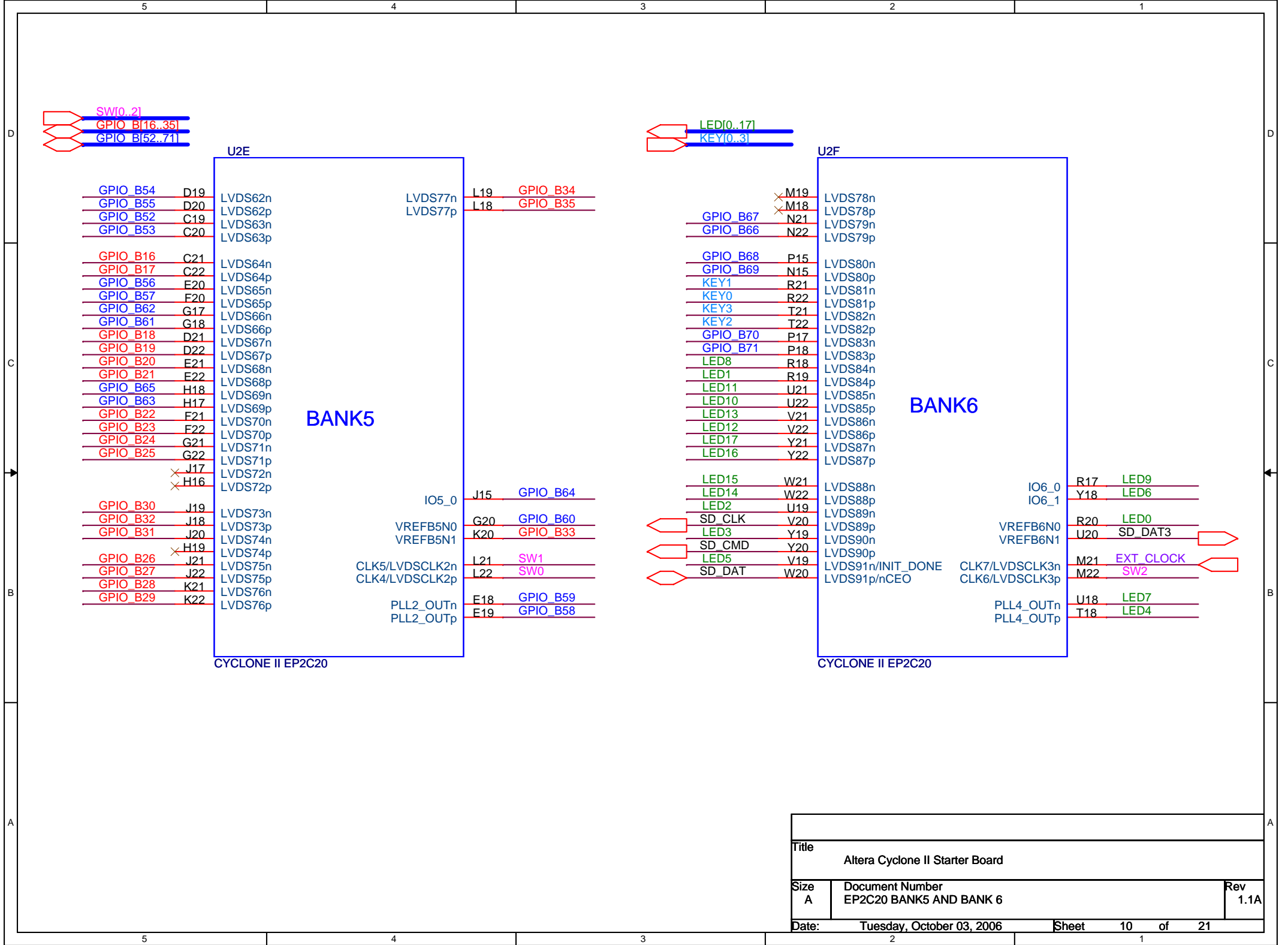
IO2\_0 F3  
 IO2\_1 J4  
 IO2\_2 L8  
  
 VREFB2N0 F4  
 VREFB2N1 H3  
  
 CLK1/LVDSCLK0n L2  
 CLK0/LVDSCLK0p L1  
  
 PLL3\_OUTn D6  
 PLL3\_OUTp D5

Title		
Altera Cyclone II Starter Board		
Size	Document Number	Rev
A	EP2C20 BANK1 AND BANK 2	1.1A
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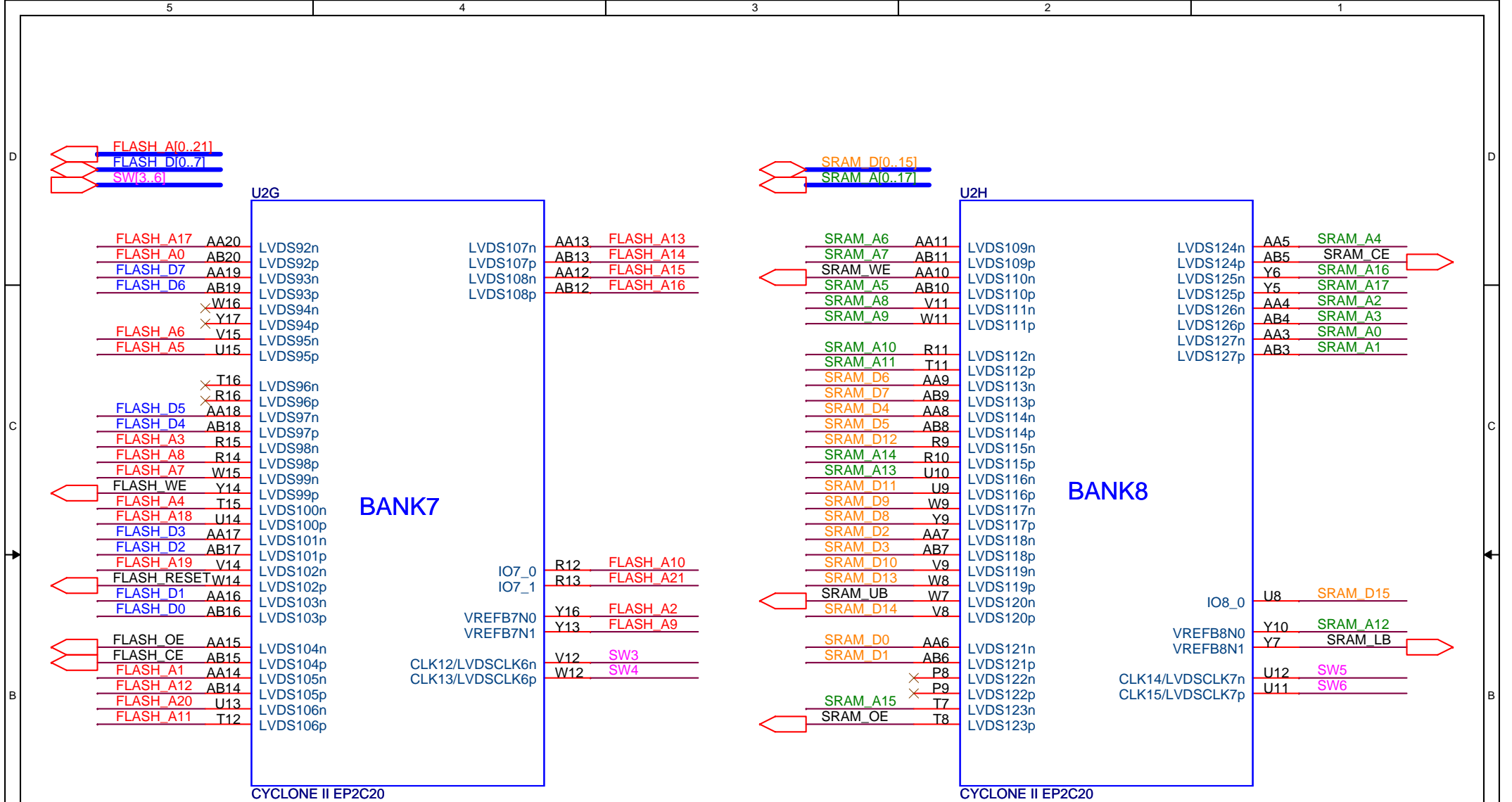




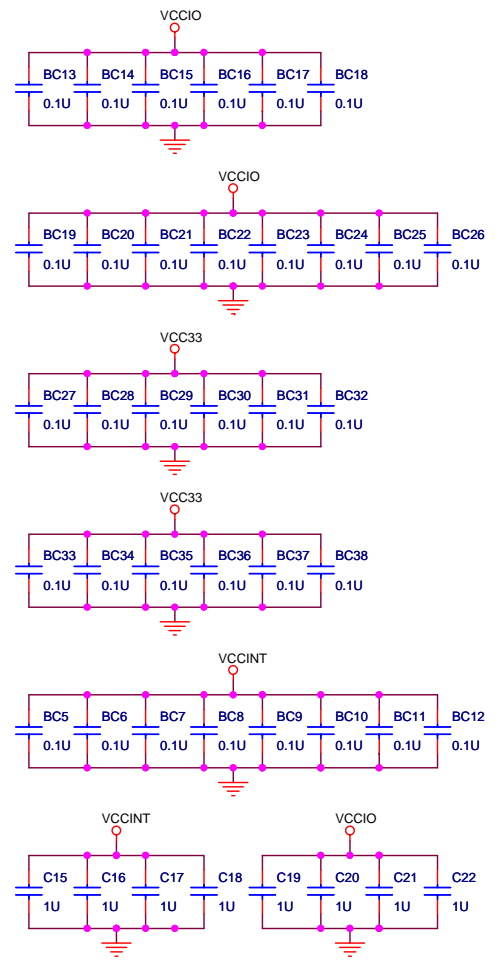
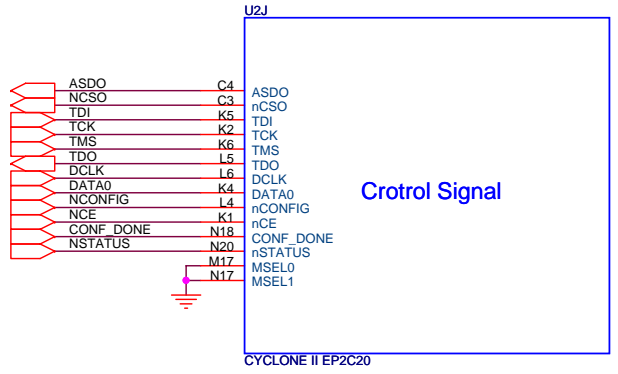
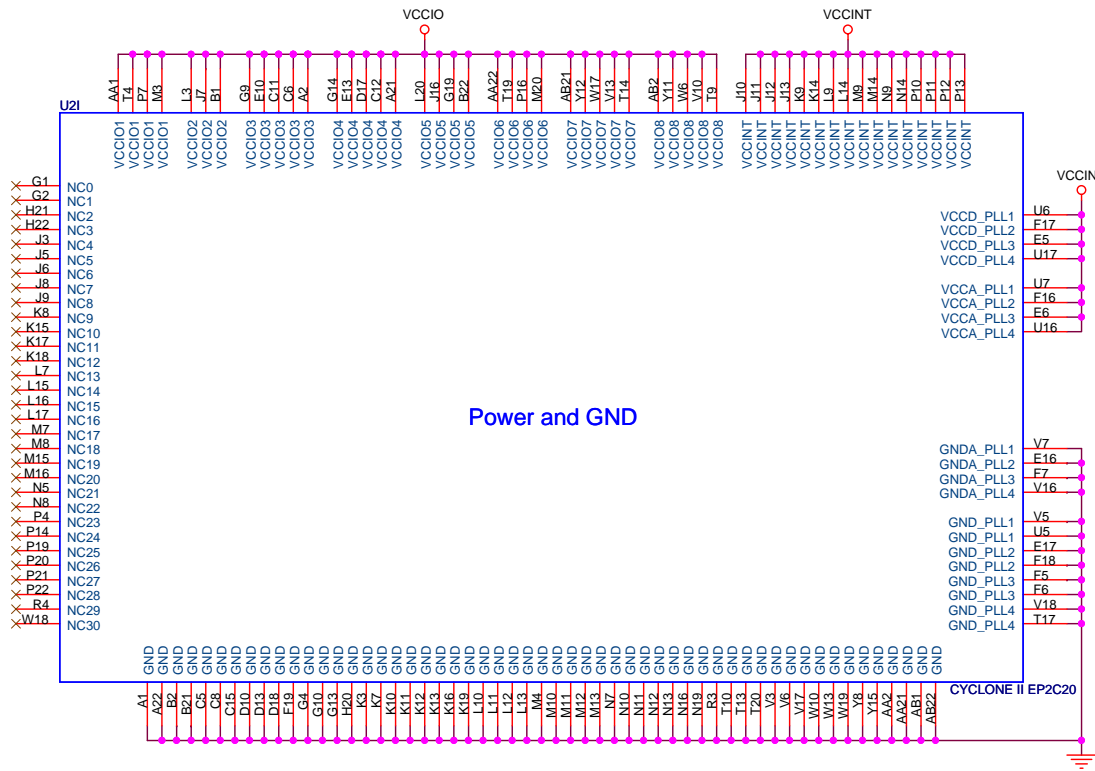
Title		
Altera Cyclone II Starter Board		
Size	Document Number	Rev
A	EP2C35 BANK3 AND BANK 4	1.1A
Date:	Tuesday, October 03, 2006	Sheet 9 of 21



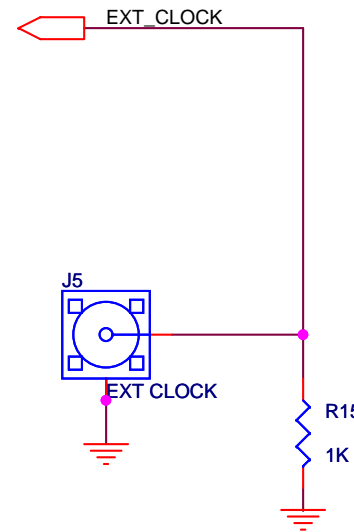
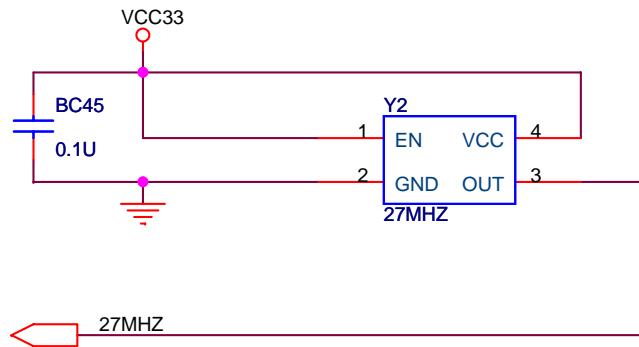
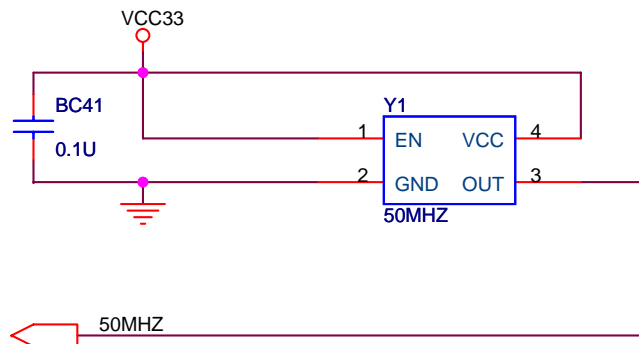
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Altera Cyclone II Starter Board		
Size	Document Number	Rev
A	EP2C20 BANK5 AND BANK 6	1.1A
Date:	Tuesday, October 03, 2006	Sheet 10 of 21



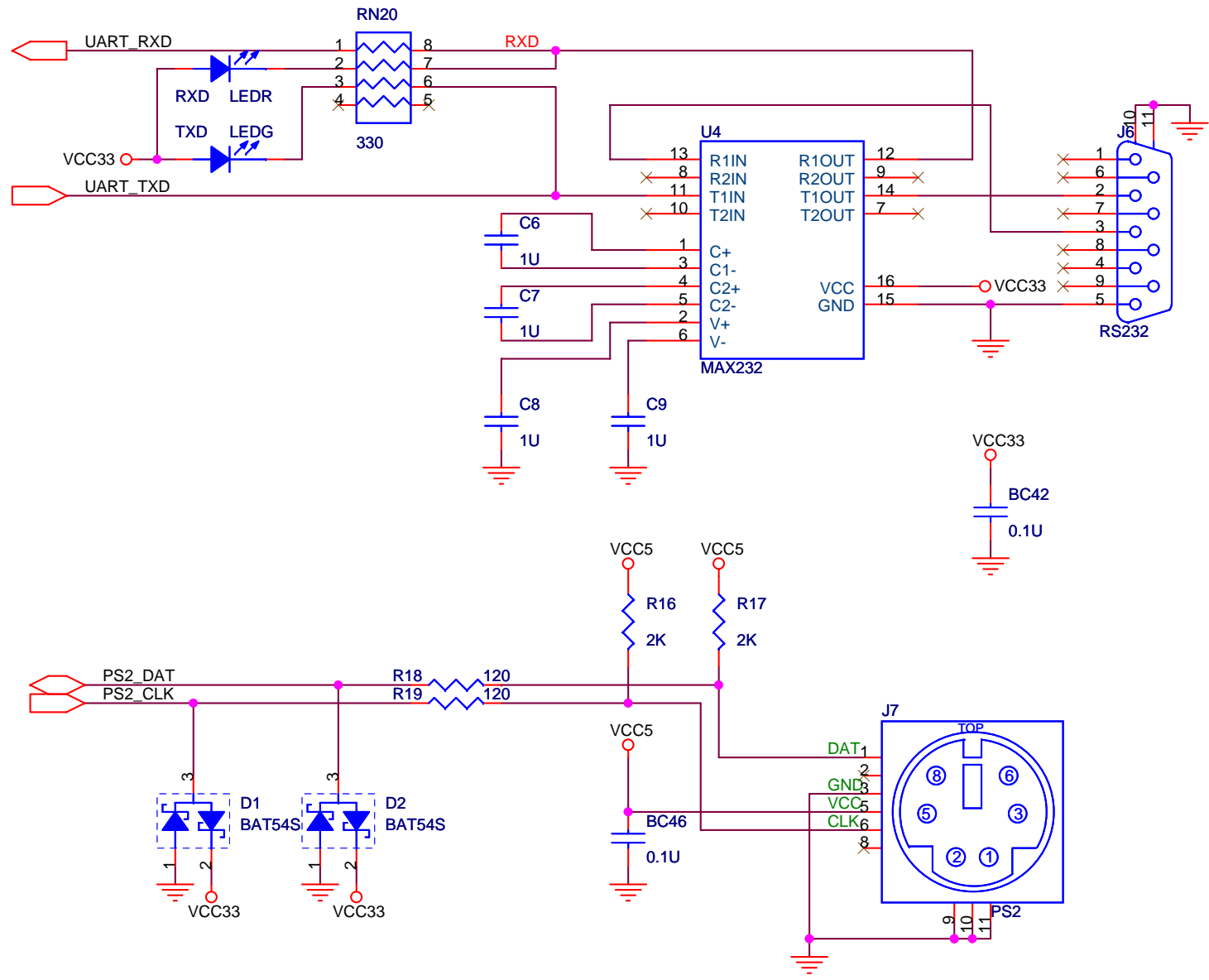
Title		
Altera Cyclone II Starter Board		
Size	Document Number	Rev
A	EP2C20 BANK7 AND BANK 8	1.1A
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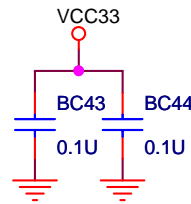
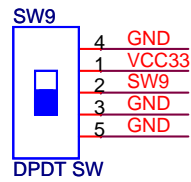
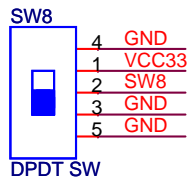
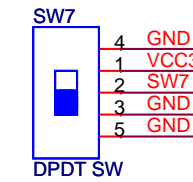
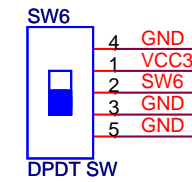
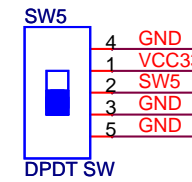
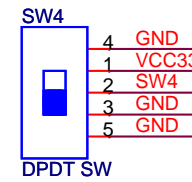
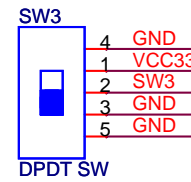
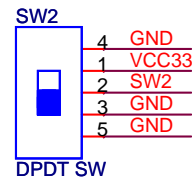
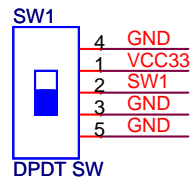
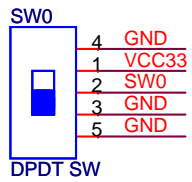
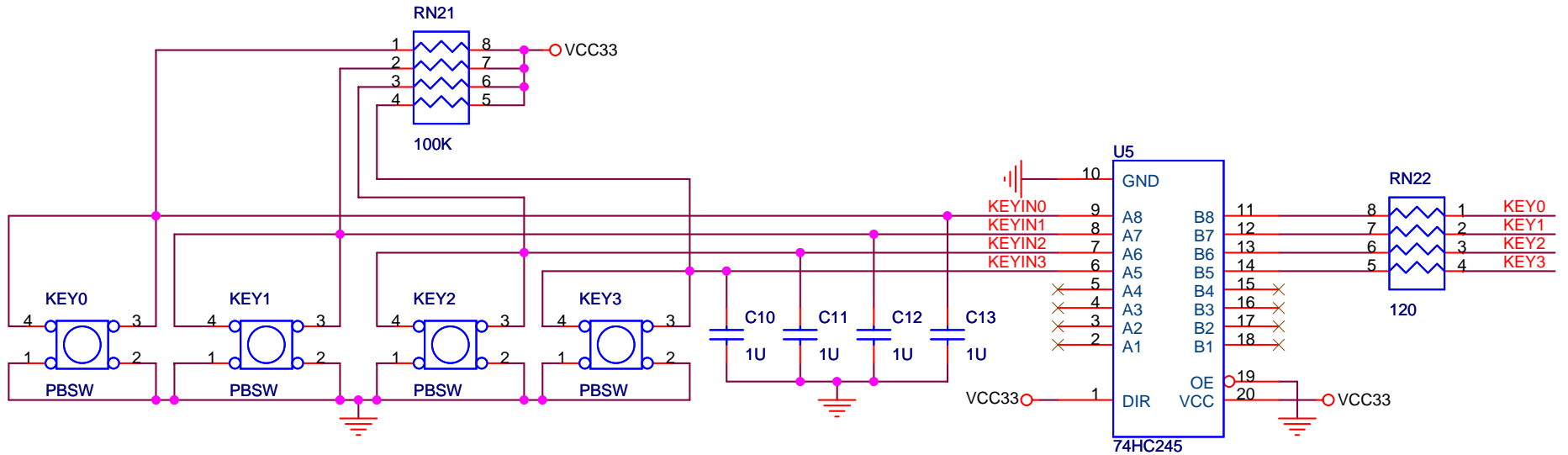
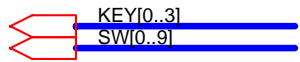
Title		
Altera Cyclone II Starter Board		
Size	Document Number	Rev
B	EP2C20 POWER AND CONFIG	1.1A
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Title		
Altera Cyclone II Starter Board		
Size	Document Number	Rev
A	CLOCK	1.1A
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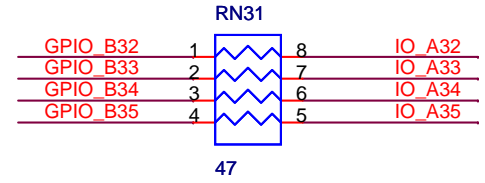
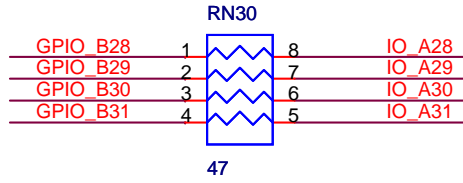
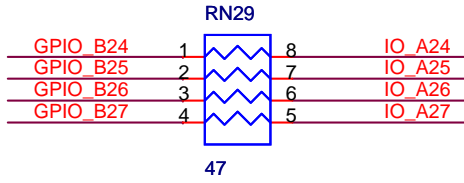
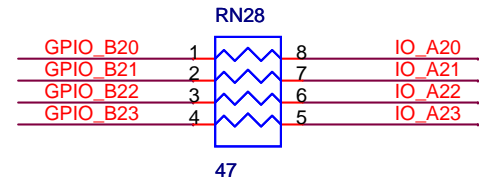
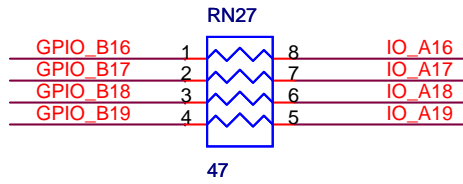
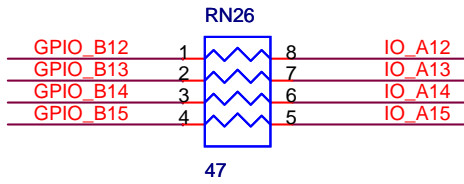
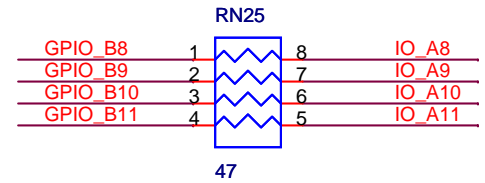
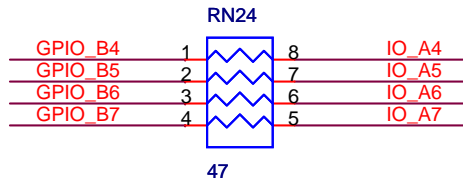
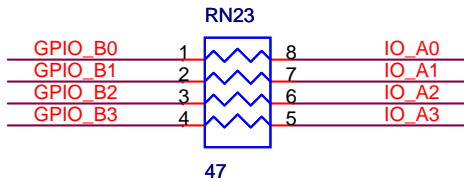


Title		
Altera Cyclone II Starter Board		
Size	Document Number	Rev
A	PS2 AND RS232	1.1A
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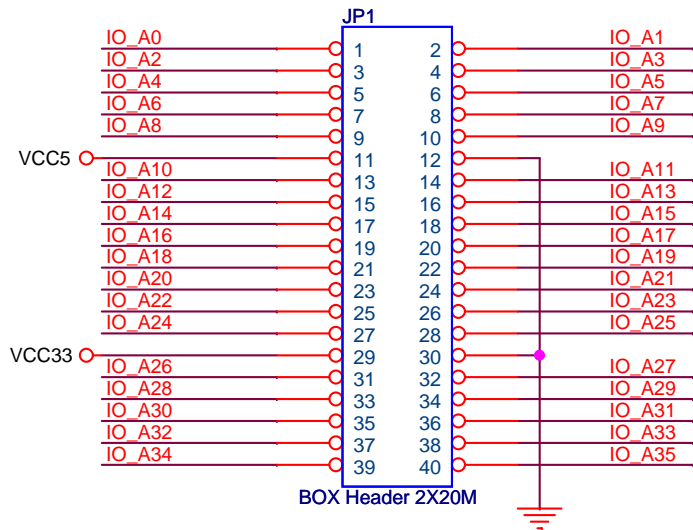


Title		
Altera Cyclone II Starter Board		
Size	Document Number	Rev
A	KEY AND SWITCH	1.1A
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GPIO B[0..35]



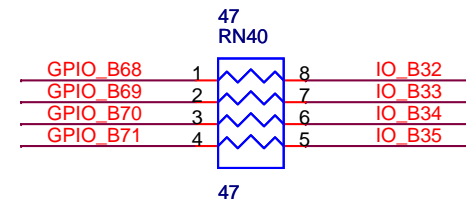
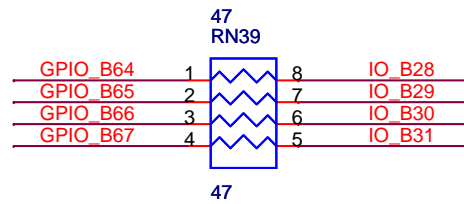
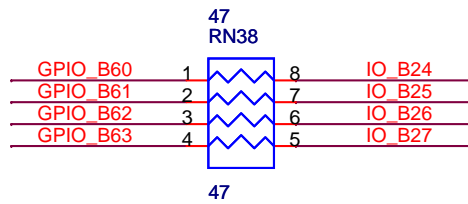
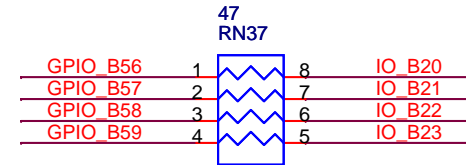
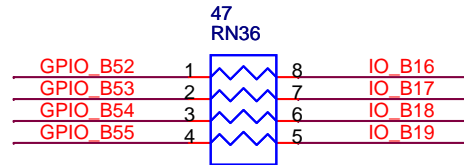
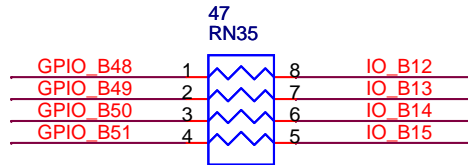
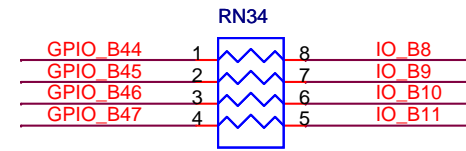
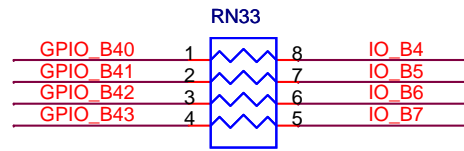
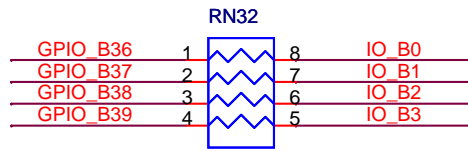
(GPIO 0)



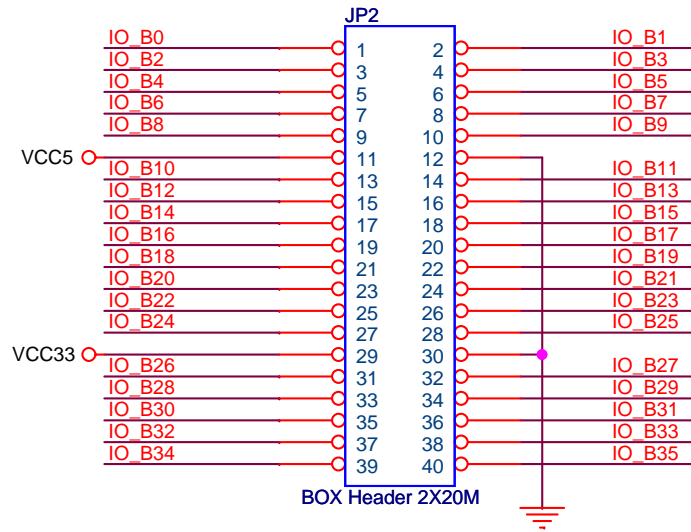
Title		
Altera Cyclone II Starter Board		
Size	Document Number	Rev
A	CONNECT A	1.1A
Date:	Tuesday, October 03, 2006	Sheet 16 of 21



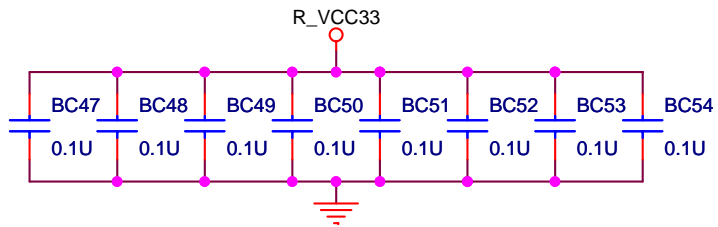
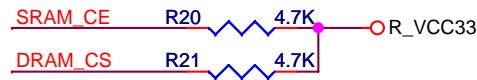
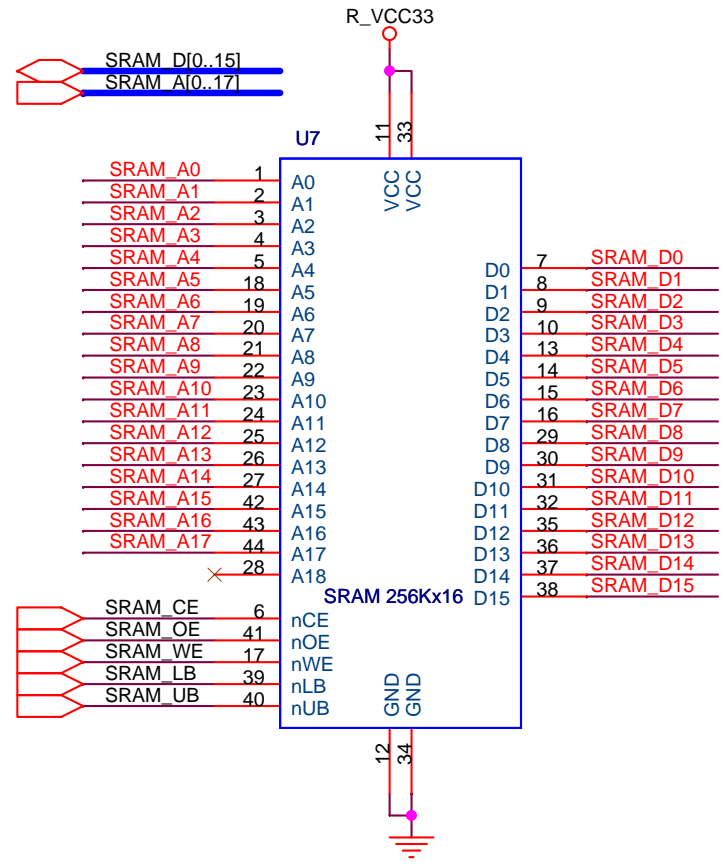
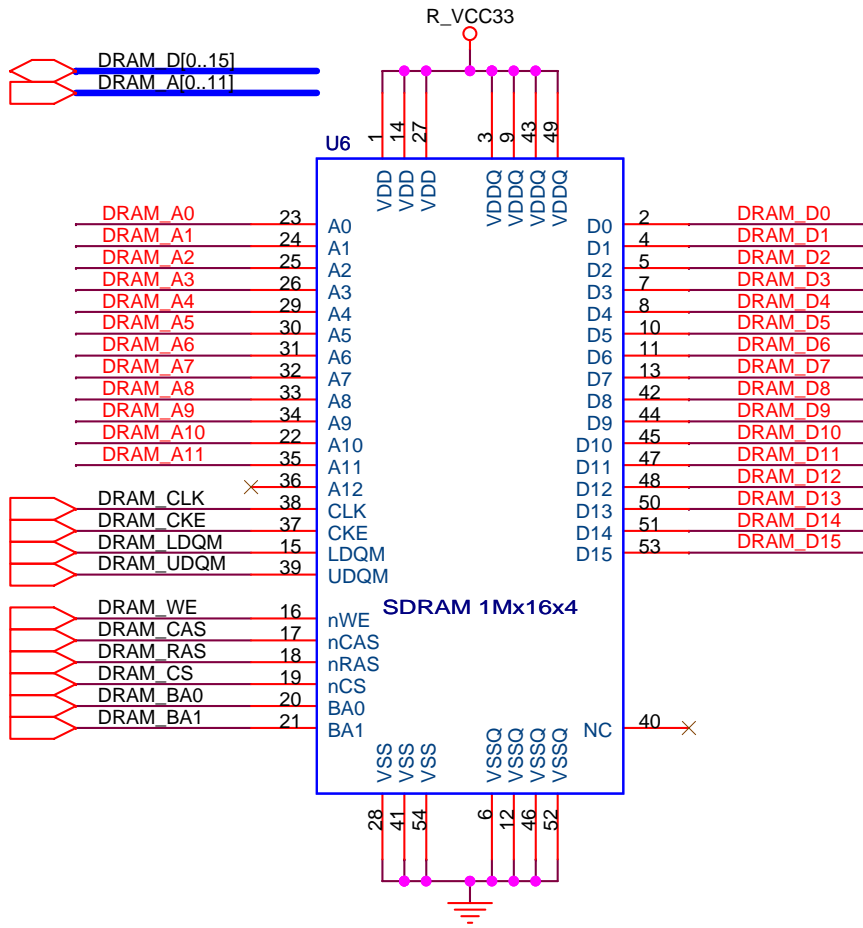
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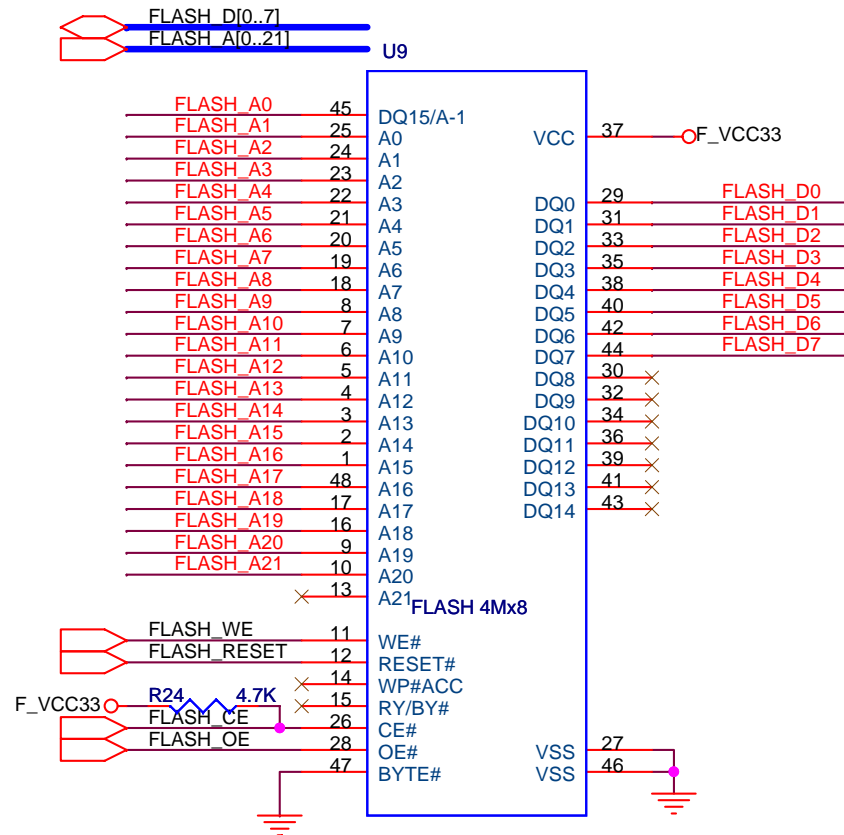
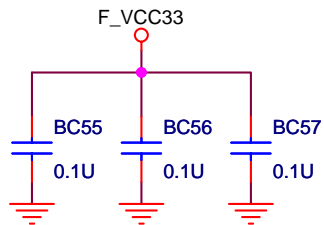
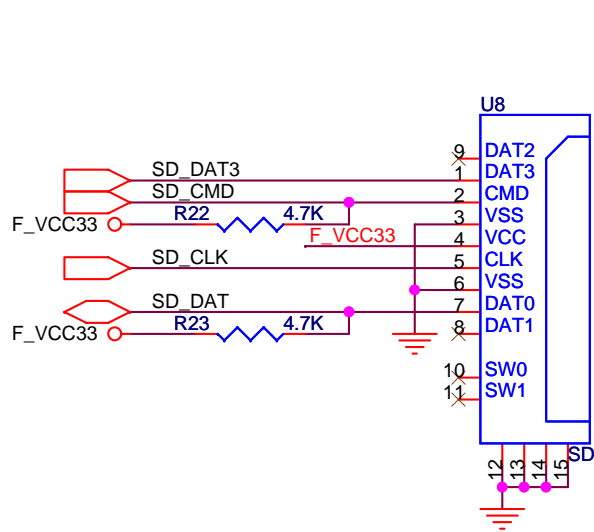
(GPIO 1)



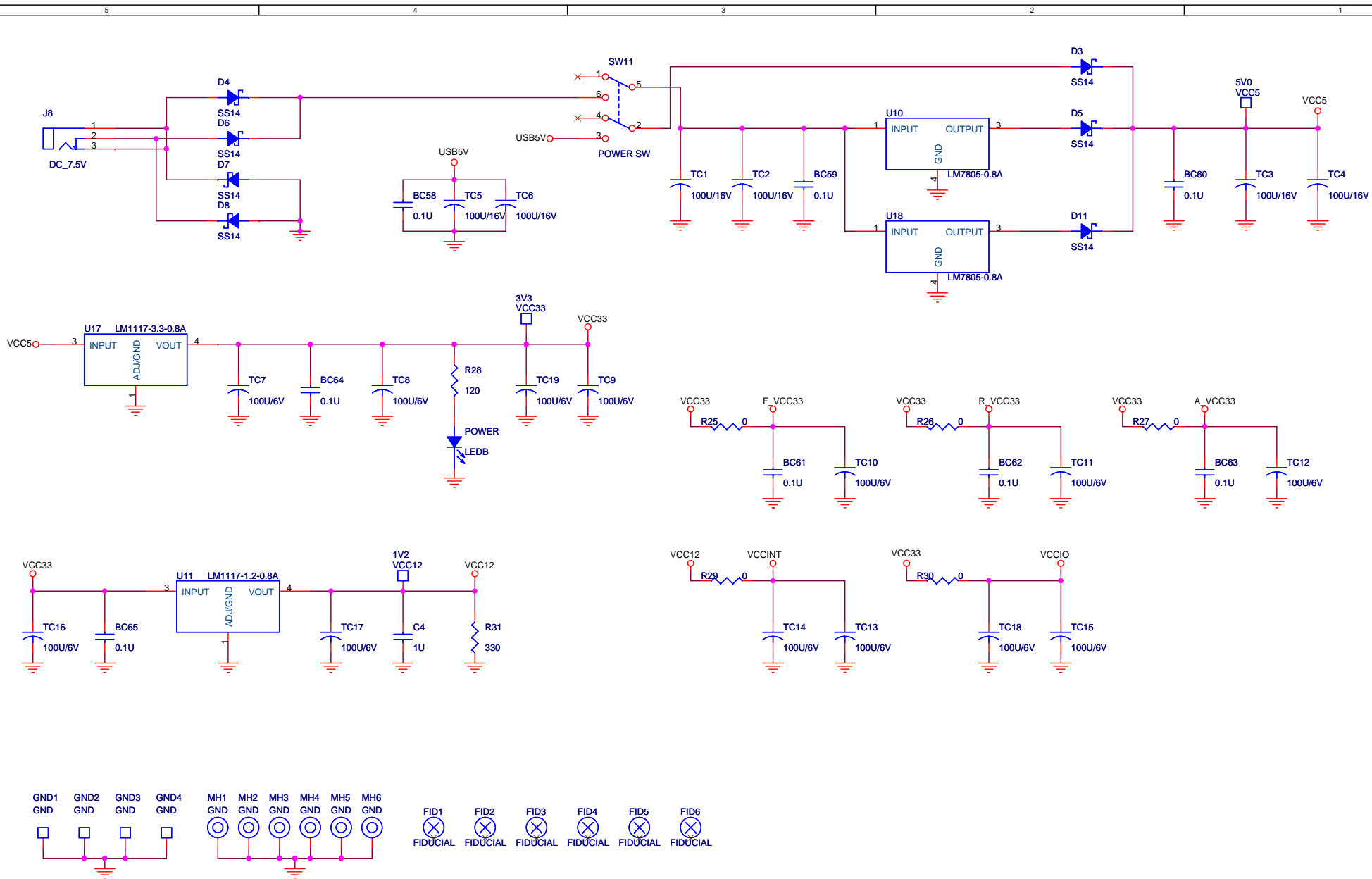
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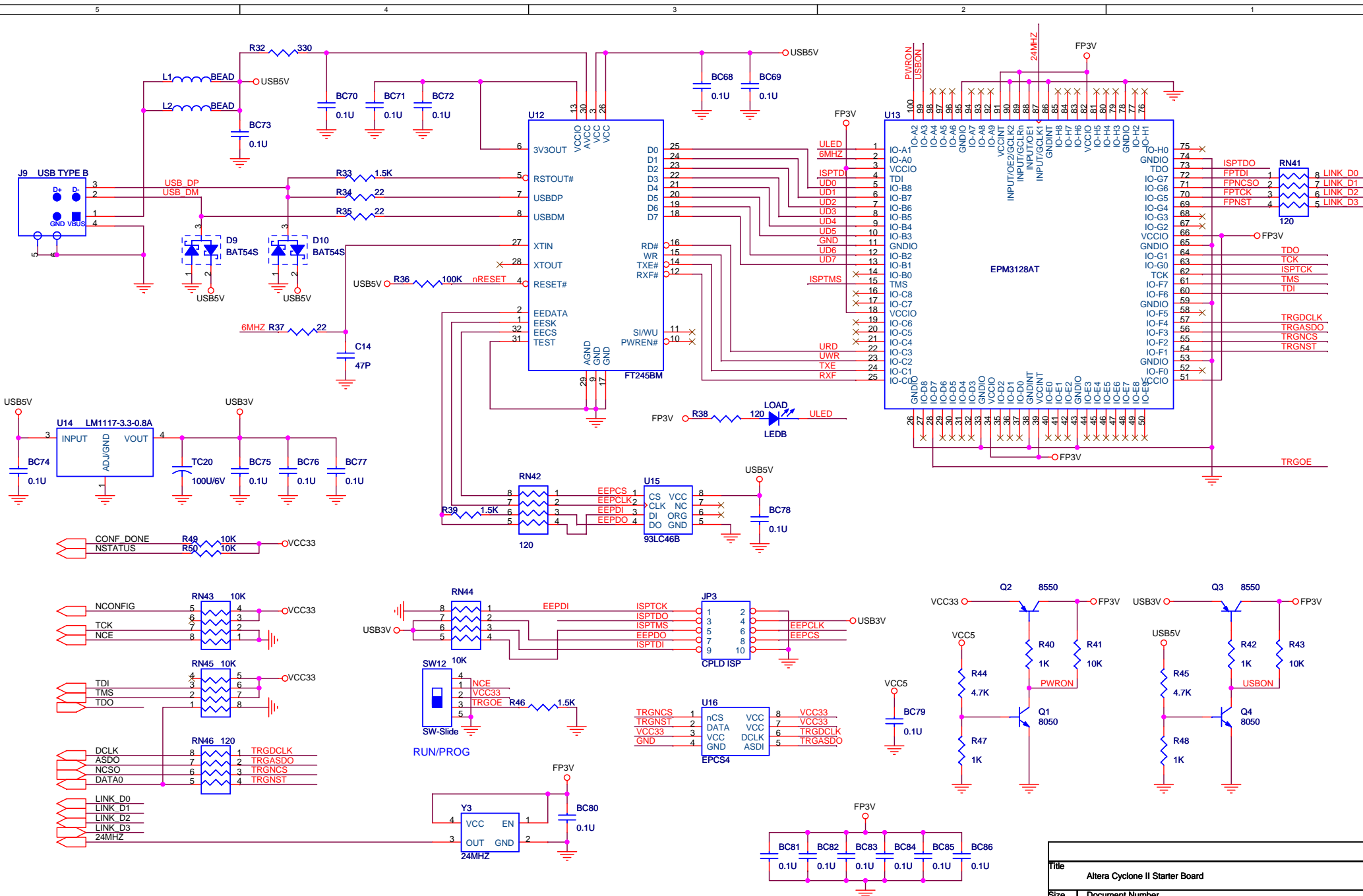
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