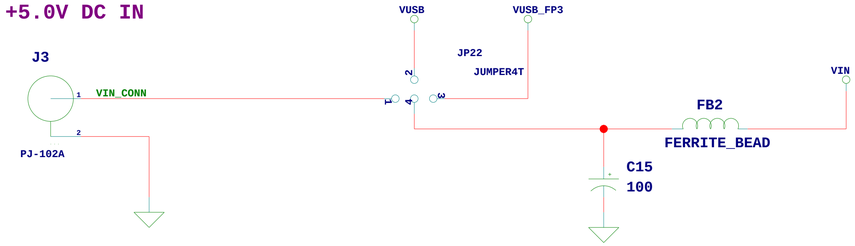
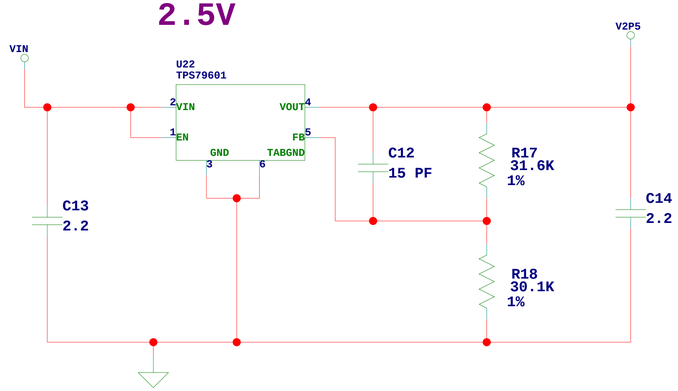
+5.0V DC IN

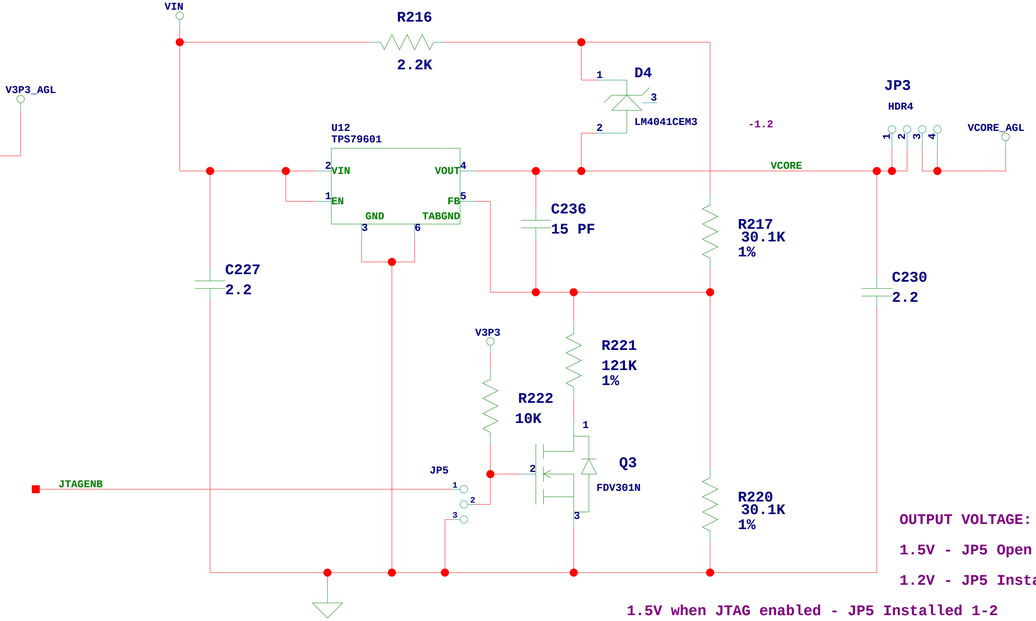


2.5V



3.3V I/O

1.2V / 1.5V CORE



MOUNTING HOLES

MT1 MT2 MT3 MT8 MT4 MT6 MT5 MT9

MT10 MT7

GROUND TESTPOINTS

TPG1 TPG5 TPG3 TPG2 TPG4 TPG6

DRAFTER	JIM AVANT	DATE	
CHECKER		DATE	
ENGINEER		DATE	
APPROVAL		DATE	
APPROVAL		DATE	

SoC Solutions

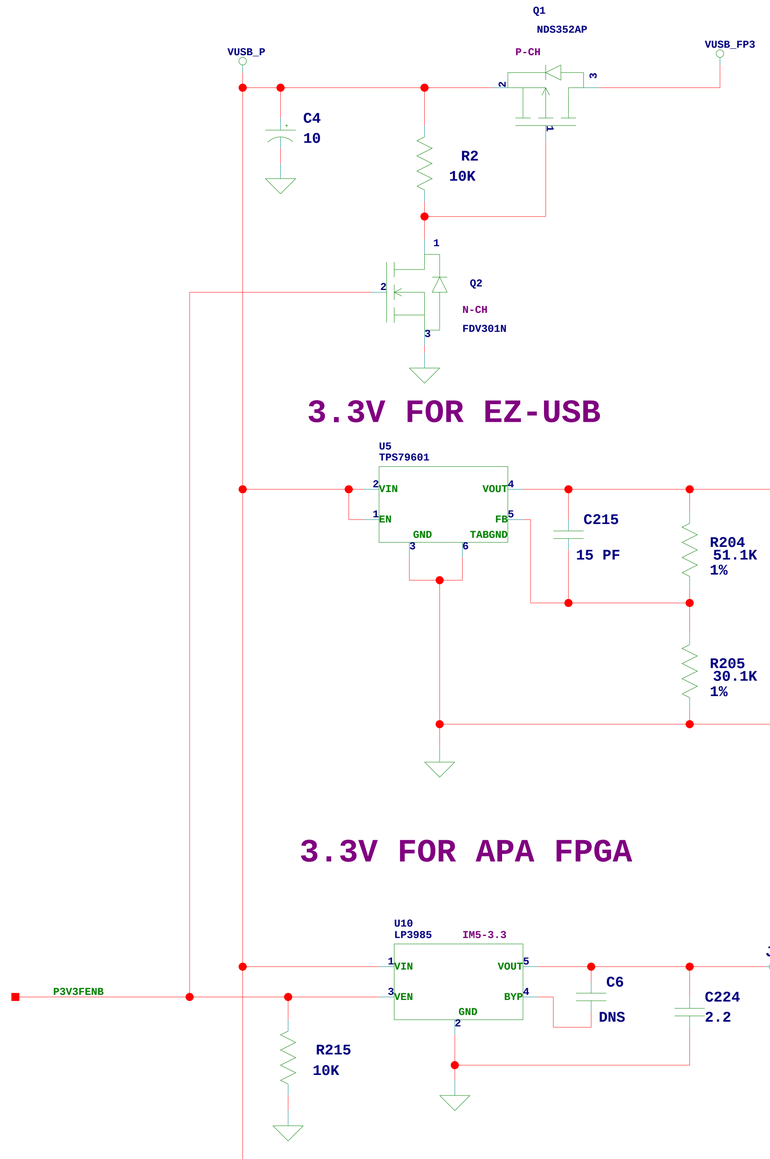
TITLE: POWER SUPPLIES

SIZE: D

DRAWING NUMBER: SOC-AGL-S-002

DATE

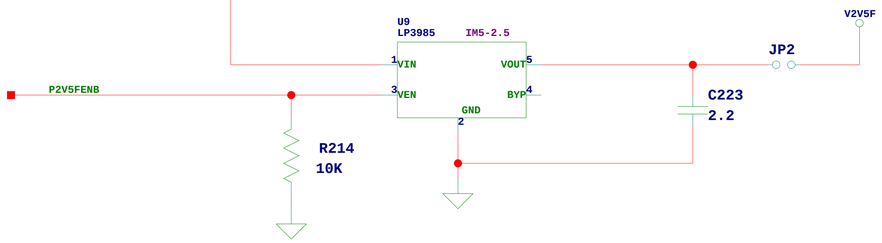
SHEET 1 OF 7



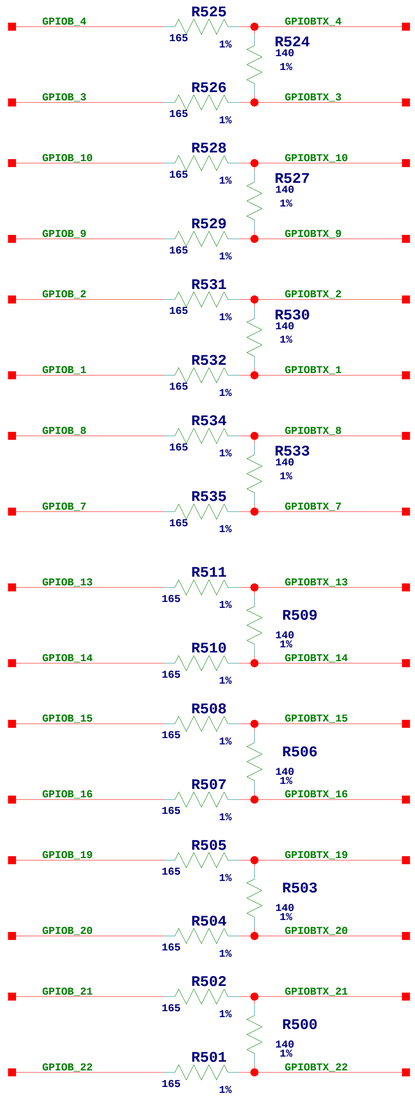
3.3V FOR EZ-USB

3.3V FOR APA FPGA

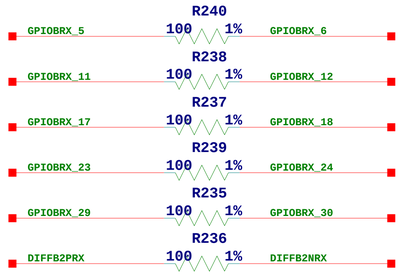
2.5V FOR APA FPGA



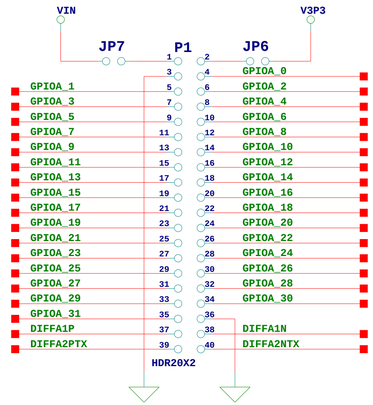
LVDS TX TERMINATIONS
(PLACE CLOSE TO FPGA)

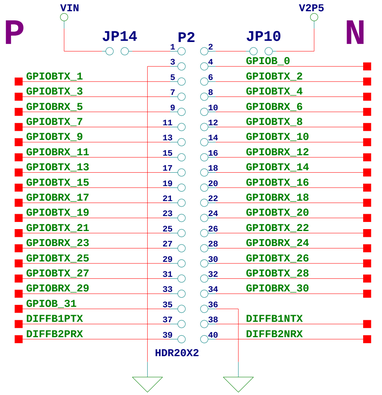


LVDS RX TERMINATIONS
(PLACE CLOSE TO FPGA)

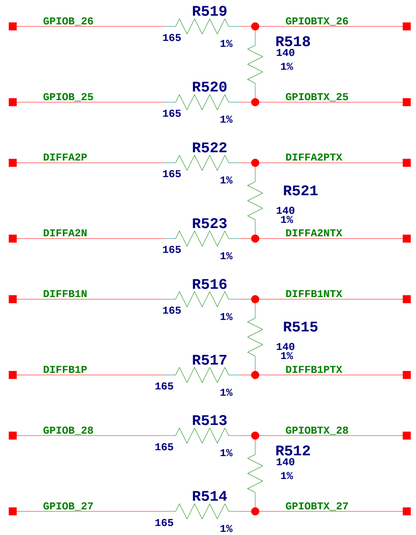


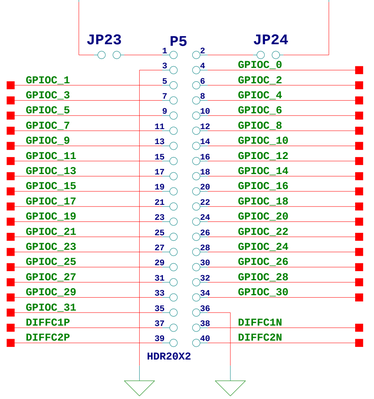
DIGITAL HEADERS



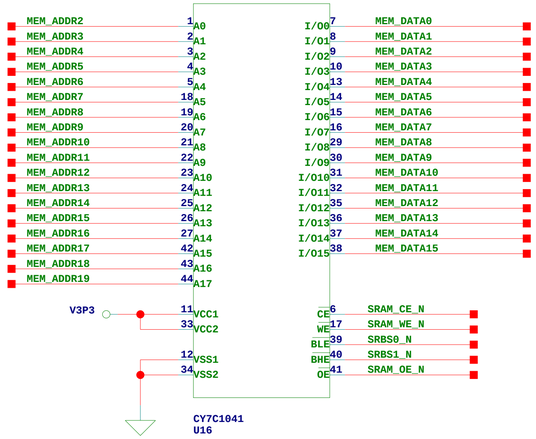


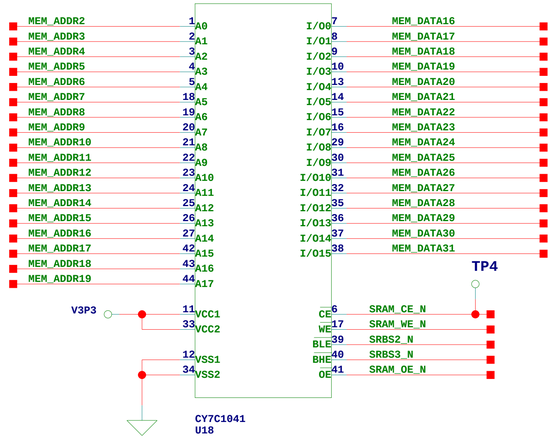
LVDS DIFF. PAIRS





DRAFTER: JIM AVANT	DATE	SoC Solutions	
CHECKER	DATE	TITLE: PWR, HDRS, LVDS	
ENGINEER	DATE		
APPROVAL	DATE	SIZE: D	DRAWING NUMBER: SOC-AGL-S-002
APPROVAL	DATE	DATE	SHEET: 2 OF 7

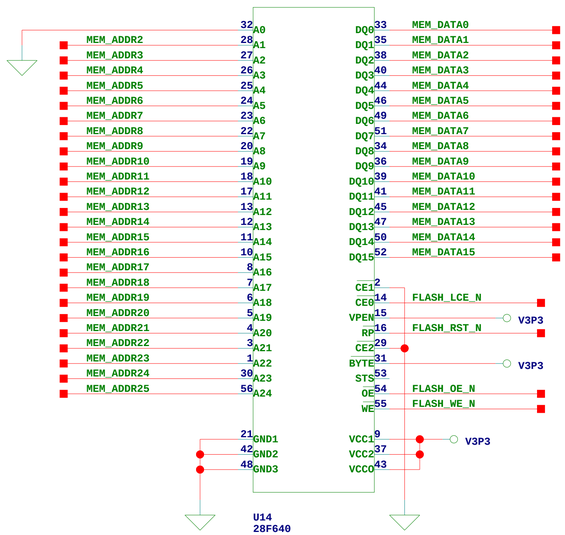


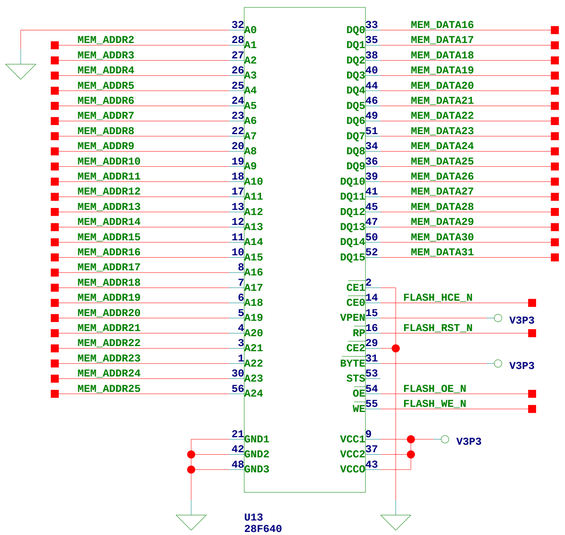


SRAM

1MB

256Kx32

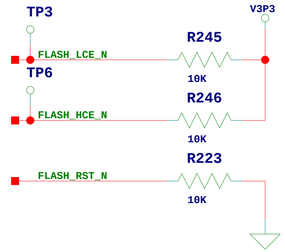


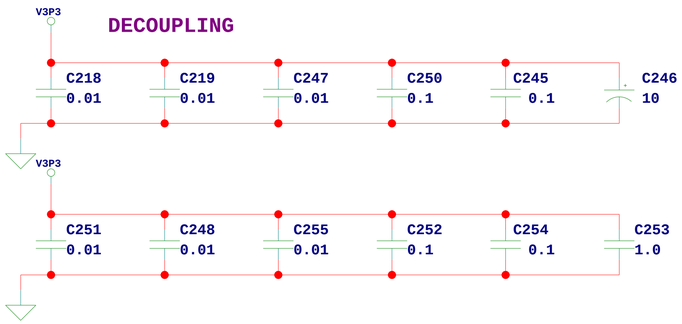


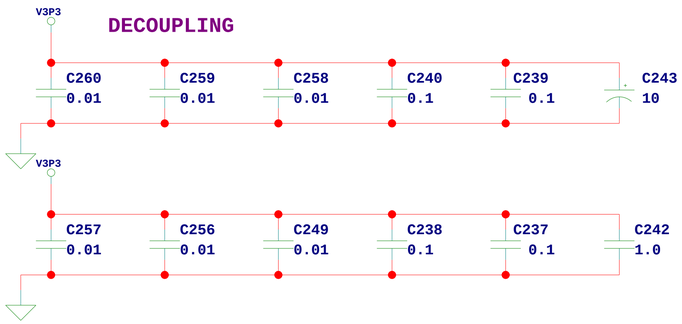
FLASH

16MB

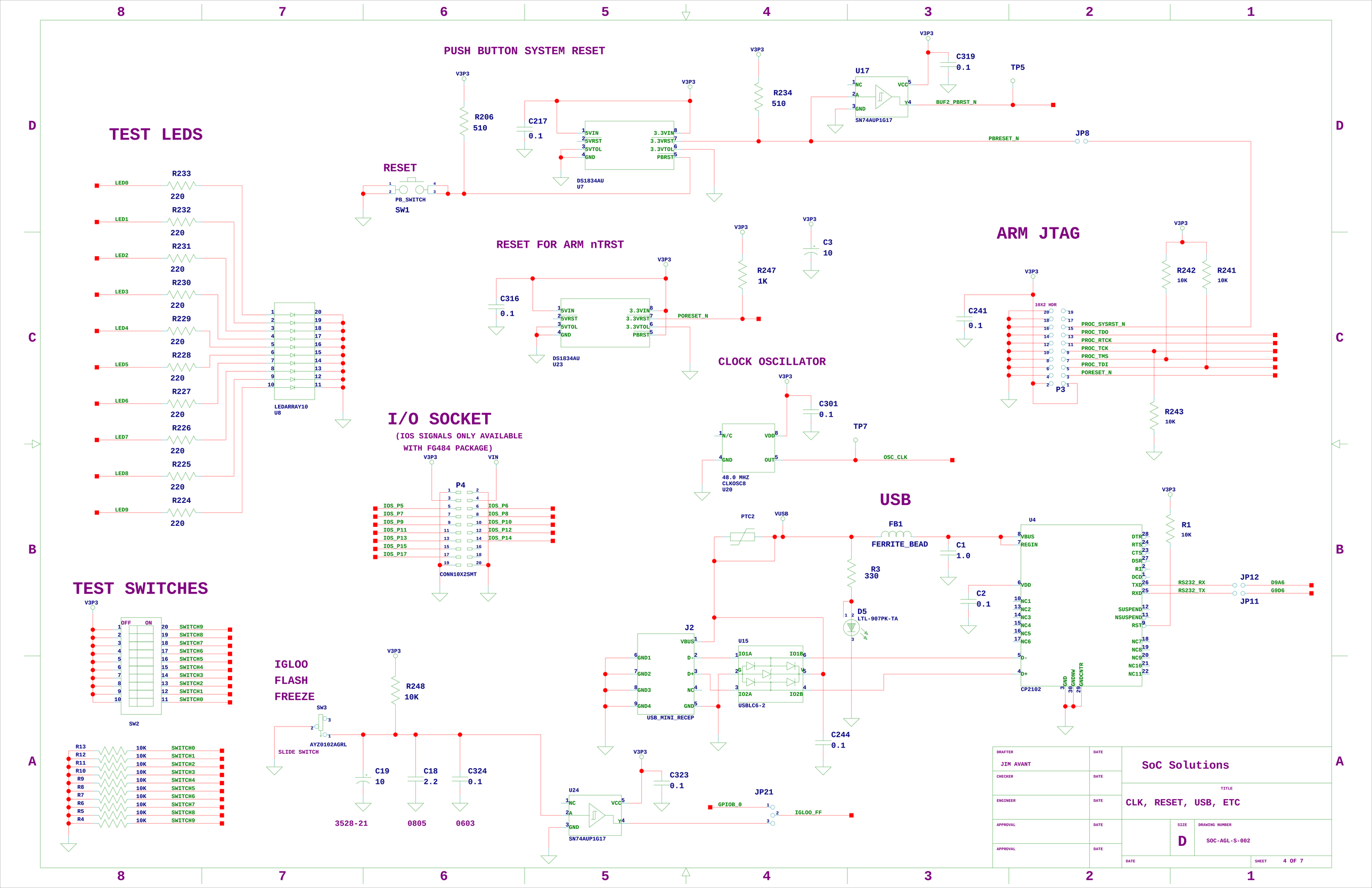
4Mx32







DRAFTER: JIM AVANT	DATE	SoC Solutions
CHECKER	DATE	TITLE: SRAM & FLASH
ENGINEER	DATE	
APPROVAL	DATE	SIZE: D — DRAWING NUMBER: SOC-AGL-S-002
APPROVAL	DATE	DATE — SHEET: 3 OF 7


PUSH BUTTON SYSTEM RESET
TEST LEDS
R233
LED0
220
R232
LED1
220
R231
LED2
220
R230
LED3
220
R229
LED4
220
R228
LED5
220
R227
LED6
220
R226
LED7
220
R225
LED8
220
R224
LED9
220
LEDARRAY10
U8
RESET
PB_SWITCH
SW1
V3P3
R206
510
C217
0.1
DS1834AU
U7
5VIN
5VRST
5VTOL
GND
3.3VIN
3.3VRST
3.3VTOL
PBRST
R234
510
U17
NC
A
GND
VCC
Y4
SN74AUP1G17
C319
0.1
TP5
BUF2_PBRST_N
PBRESET_N
JP8
RESET FOR ARM nTRST
C316
0.1
R247
1K
C3
10
PORESET_N
ARM JTAG
R242
10K
R241
10K
C241
0.1
10X2 HDR
P3
PROC_SYSRST_N
PROC_TDO
PROC_RTCK
PROC_TCK
PROC_TMS
PROC_TDI
PORESET_N
R243
10K
I/O SOCKET
(IOS SIGNALS ONLY AVAILABLE
WITH FG484 PACKAGE)
P4
IOS_P5
IOS_P7
IOS_P9
IOS_P11
IOS_P13
IOS_P15
IOS_P17
IOS_P6
IOS_P8
IOS_P10
IOS_P12
IOS_P14
CONN10X2SMT
CLOCK OSCILLATOR
C301
0.1
TP7
OSC_CLK
N/C
VDD
OUT
GND
48.0 MHZ
CLKOSC8
U20
USB
FB1
FERRITE_BEAD
PTC2
VUSB
C1
1.0
C2
0.1
R3
330
D5
LTL-907PK-TA
U4
VBUS
REGIN
VDD
NC1
NC2
NC3
NC4
NC5
NC6
D-
D+
CP2102
DTR
RTS
CTS
DSR
RI
DCD
TXD
RXD
SUSPEND
NSUSPEND
RST
NC7
NC8
NC9
NC10
NC11
R1
10K
RS232_RX
RS232_TX
JP12
JP11
D9A6
G9D6
J2
USB_MINI_RECEP
U15
USBLC6-2
C244
0.1
TEST SWITCHES
SW2
OFF
ON
SWITCH9
SWITCH8
SWITCH7
SWITCH6
SWITCH5
SWITCH4
SWITCH3
SWITCH2
SWITCH1
SWITCH0
R13
R12
R11
R10
R9
R8
R7
R6
R5
R4
10K
IGLOO
FLASH
FREEZE
SW3
AYZ0102AGRL
SLIDE SWITCH
R248
10K
C19
10
3528-21
C18
2.2
0805
C324
0.1
0603
C323
0.1
U24
SN74AUP1G17
JP21
GPIOB_0
IGLOO_FF
SoC Solutions
CLK, RESET, USB, ETC
DRAFTER
JIM AVANT
CHECKER
ENGINEER
APPROVAL
APPROVAL
DATE
SIZE
D
DRAWING NUMBER
SOC-AGL-S-002
SHEET
4 OF 7

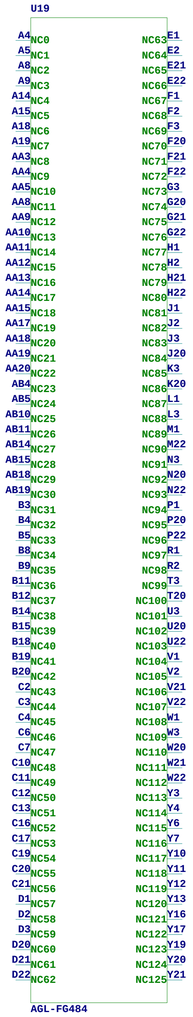
BANK 0

BANK 1

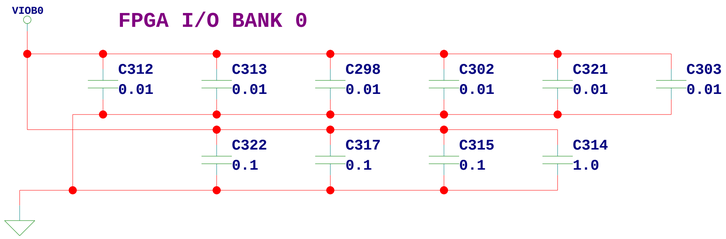
NOTE: BGA BALL NUMBERS SHOWN FOR FG484 PACKAGE
WITH FG256 BALL NUMBERS IN PARENTHESES.

NOTE: BOTTOM PORTION OF FPGA SYMBOLS
MARKED "DNU FG256" SHOWS BALLS THAT ARE
NOT AVAILABLE WHEN THE FG256 PACKAGE IS USED.

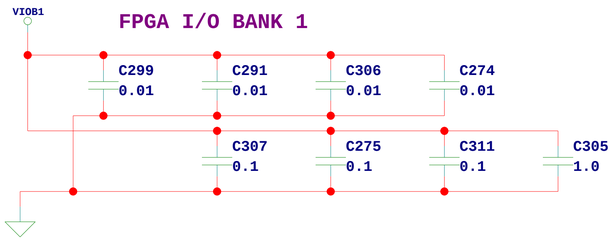
NC

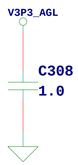


FPGA I/O BANK 0

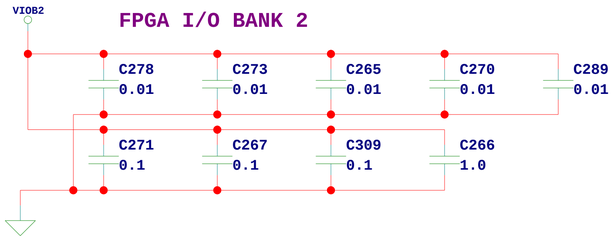


FPGA I/O BANK 1

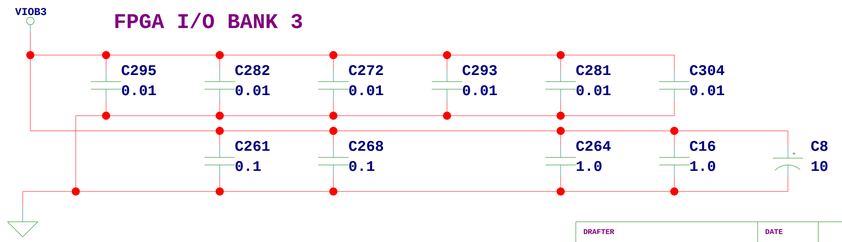




FPGA I/O BANK 2



FPGA I/O BANK 3



DRAFTER: JIM AVANT	DATE:	SoC Solutions	
CHECKER	DATE		
ENGINEER	DATE	TITLE: FPGA	
APPROVAL	DATE	SIZE: D	DRAWING NUMBER: SOC-AGL-S-002
APPROVAL	DATE	DATE	SHEET: 5 OF 7

POWER & GND

BANK 2

BANK 3

JTAG

FPGA CORE

U19

VCORE_AGL

VCC0 C8
VCC1 C9
VCC2 C14
VCC3 C15
VCC4 H3
VCC5 H20
VCC6 J10 (F7)
VCC7 J11 (F8)
VCC8 J12 (F9)
VCC9 J13 (F10)
VCC10 K9 (G6)
VCC11 K14 (G11)
VCC12 L9 (H6)
VCC13 L14 (H11)
VCC14 M9 (J6)
VCC15 M14 (J11)
VCC16 N9 (K6)
VCC17 N14 (K11)
VCC18 P10 (L7)
VCC19 P11 (L8)
VCC20 P12 (L9)
VCC21 P13 (L10)
VCC22 R3
VCC23 R20
VCC24 Y8
VCC25 Y9
VCC26 Y14
VCC27 Y15
VCCPLF M6 (J3)

A1 GND0
A2 GND1
A21 GND2
A22 GND3
AA1 GND4
AA22 GND5
AB1 GND6
AB2 GND7
AB21 GND8
AB22 GND9
B1 GND10
B22 GND11
C5 GND12
C18 GND13
(A1) D4 GND14
(A16) D19 GND15
E3 GND16
E20 GND17
(F6) J9 GND18
(F11) J14 GND19
(G7) K10 GND20
(G8) K11 GND21
(G9) K12 GND22
(G10) K13 GND23
(H7) L10 GND24
(H8) L11 GND25
(H9) L12 GND26
(H10) L13 GND27
(J7) M10 GND28
(J8) M11 GND29
(J9) M12 GND30
(J10) M13 GND31
(K7) N10 GND32
(K8) N11 GND33
(K9) N12 GND34
(K10) N13 GND35
(L6) P9 GND36
(L11) P14 GND37
V3 GND38
V20 GND39
(T1) W4 GND40
(T16) W19 GND41
Y5 GND42
Y18 GND43
(B3) E6 GNDQ0
(D5) G8 GNDQ1
(D12) G15 GNDQ2
(N5) T8 GNDQ3
(N12) T15 GNDQ4
(R15) V18 GNDQ5
(H4) L7 VCOMPLF

AGL-FG484

JP20
C286 0.1
C294 0.01

VIOB1
VIOB0
VIOB3
VIOB2

VCCIB0_0 A3
VCCIB0_1 A20
VCCIB0_2 H9 (E6)
VCCIB0_3 H10 (E7)
VCCIB0_4 H13 (E10)
VCCIB0_5 H14 (E11)
VCCIB1_0 AA21
VCCIB1_1 B21
VCCIB1_2 C22
VCCIB1_3 J15 (F12)
VCCIB1_4 K15 (G12)
VCCIB1_5 N15 (K12)
VCCIB1_6 P15 (L12)
VCCIB1_7 Y22
VCCIB2_0 AB3
VCCIB2_1 AB20
VCCIB2_2 R9 (M6)
VCCIB2_3 R10 (M7)
VCCIB2_4 R13 (M10)
VCCIB2_5 R14 (M11)
VCCIB3_0 AA2
VCCIB3_1 B2
VCCIB3_2 C1
VCCIB3_3 J8 (F5)
VCCIB3_4 K8 (G5)
VCCIB3_5 P8 (L5)
VCCIB3_6 N8 (K5)
VCCIB3_7 Y1
VMV0_0 F17 (C14)
VMV0_1 H8 (E5)
VMV1_0 H15 (E12)
VMV1_1 U15 (P12)
VMV2_0 R15 (M12)
VMV2_1 U6 (P3)
VMV3_0 F6 (C3)
VMV3_1 R8 (M5)

V3P3_AGL

HDR4 JP13
HDR4 JP18
HDR4 JP17
HDR4 JP16

V2P5

U19

SRBS0_N (T14) W17 GDA2/IO89RSB2
SRBS1_N (R13) V16 GDB2/IO90RSB2
SRBS2_N (T12) W15 GDC2/IO91RSB2
SRBS3_N (T13) W16 IO93RSB2
SRAM_CE_N (N11) T14 IO99RSB2
SRAM_WE_N (R12) V15 IO96RSB2
SRAM_OE_N (P11) U14 IO97RSB2
MEM_DATA16 (N10) T13 IO103RSB2
MEM_DATA17 (T11) W14 IO102RSB2
MEM_DATA18 (R11) V14 IO98RSB2
MEM_DATA19 (P10) U13 IO104RSB2
MEM_DATA20 (T10) W13 IO106RSB2
MEM_DATA21 (M9) R12 IO110RSB2
MEM_DATA22 (P9) U12 IO107RSB2
MEM_DATA23 (R10) V13 IO105RSB2
MEM_DATA24 (N9) T12 IO108RSB2
MEM_DATA25 (T9) W12 IO111RSB2
MEM_DATA26 (R9) V12 IO109RSB2
MEM_DATA27 (M8) R11 IO117RSB2
GPIOC_30 (M13) R16 IO94RSB2
GPIOC_29 (N13) T16 IO92RSB2

GPIOC_15 AB17 IO95RSB2
GPIOC_17 AB16 IO100RSB2
GPIOC_19 AB13 IO112RSB2
GPIOC_21 AB12 IO113RSB2
GPIOC_23 AA16 IO101RSB2

IO114RSB2 V11 (R8) MEM_DATA2
IO119RSB2 U11 (P8) MEM_DATA1
IO115RSB2 W11 (T8) MEM_DATA0
IO120RSB2 T11 (N8) MEM_DATA6
IO121RSB2 V10 (R7) MEM_DATA3
IO118RSB2 W10 (T7) MEM_DATA4
IO124RSB2 U10 (P7) MEM_DATA5
IO126RSB2 T10 (N7) MEM_DATA10
IO127RSB2 V9 (R6) MEM_DATA8
IO123RSB2 W9 (T6) MEM_DATA7
IO131RSB2 U9 (P6) MEM_DATA9
IO132RSB2 V8 (R5) MEM_DATA12
IO125RSB2 W8 (T5) MEM_DATA11
IO136RSB2 U8 (P5) LED2
IO134RSB2 W7 (T4) MEM_DATA14
IO137RSB2 W5 (T2) LED3
GEA2/IO143RSB2 T9 (N6) BUF2_PBRST_N
FF/GEB2/IO142RSB2 W6 (T3) IGLOO_FF
GEC2/IO141RSB2 V7 (R4) PORESET_N
IO138RSB2 U7 (P4) LED4
IO139RSB2 V6 (R3) LED5
IO140RSB2 T7 (N4) FLASH_RST_N
IO129RSB2 N7 (K4) GPIOA_21

IO116RSB2 AB9 GPIOC_14
IO122RSB2 AB8 GPIOC_16
IO128RSB2 AB7 GPIOC_18
IO130RSB2 AB6 GPIOC_20
IO133RSB2 AA7 GPIOC_22
IO135RSB2 AA6 GPIOC_24

DNU FG256
AGL-FG484

U19

GPIOA_31 (B2) E5 GAA2/IO174PDB3
OSC_CLK (B1) E4 GAB2/IO173PDB3
PROC_TCK (D3) G6 GAC2/IO172PDB3
FLASH_HCE_N (N2) T5 IO147PPB3
FLASH_LCE_N (M3) R6 IO147NPB3
FLASH_WE_N (L4) P7 IO158PPB3
FLASH_OE_N (N1) T4 IO150NDB3
MEM_ADDR25 (M2) R5 IO151NPB3
MEM_DATA30 (L3) P6 IO151PPB3
MEM_DATA31 (M1) R4 IO150PDB3
PROC_TMS (L1) P4 IO159NDB3
PROC_TDI (L2) P5 IO156NPB3
PROC_TDO (K3) N6 IO156PPB3
GPIOA_22 (K2) N5 IO161NPB3
GPIOA_23 (J4) M7 IO160NDB3
GPIOA_24 (G1) K4 IO165NDB3
GPIOA_25 (G2) K5 IO165PDB3
GPIOA_26 (G3) K6 IO168PPB3
GPIOA_27 (F4) J7 IO169PDB3
GPIOA_28 (F3) J6 IO167PPB3
GPIOA_29 (F1) J4 IO166NDB3
GPIOA_30 (E1) H4 IO166PDB3

IOS_P7 T2 IO152NDB3
IOS_P9 P2 IO153PDB3
IOS_P11 M2 IO155NDB3
IOS_P13 L2 IO155PDB3
IOS_P15 N1 IO154NDB3
IOS_P17 U2 IO149NDB3
IOS_P5 P3 IO153NDB3
IOS_P10 N2 IO154PDB3
GPIOC_25 Y2 IO148NDB3
GPIOC_26 W2 IO148PDB3
GPIOC_27 U1 IO149PDB3
GPIOC_28 T1 IO152PDB3

GFA0/IO162NDB3 L5 (H2) PROC_RTCK
GFA1/IO162PDB3 M5 (J2) MEM_ADDR24
GFA2/IO161PPB3 M4 (J1) MEM_ADDR23
GFB0/IO163NPB3 L4 (H1) MEM_ADDR22
GFB1/IO163PPB3 L6 (H3) MEM_ADDR21
GFB2/IO160PDB3 M8 (J5) MEM_ADDR20
GFC0/IO164NPB3 L8 (H5) MEM_ADDR19
GFC1/IO164PPB3 K7 (G4) MEM_ADDR18
GFC2/IO159PDB3 N4 (K1) MEM_ADDR17
IO168NPB3 J5 (F2) MEM_ADDR16
IO167NPB3 H5 (E2) MEM_ADDR15
IO172NDB3 H6 (E3) MEM_ADDR14
IO169NDB3 M7 (E4) MEM_ADDR13
IO171NDB3 G4 (D1) MEM_ADDR12
IO171PDB3 G5 (D2) MEM_ADDR11
IO173NDB3 F4 (C1) MEM_ADDR9
IO174NDB3 F5 (C2) MEM_ADDR8
GEA0/IO144NDB3 V5 (R2) LED9
GEA1/IO144PDB3 V4 (R1) LED8
GEB0/IO145NDB3 U5 (P2) LED6
GEB1/IO145PDB3 U4 (P1) LED7
GEC0/IO146NPB3 R7 (M4) MEM_ADDR3
GEC1/IO146PPB3 T6 (N3) MEM_ADDR2

IO157PDB3 K1 IOS_P6
IO170NDB3 G1 IOS_P12
IO170PDB3 G2 IOS_P14
IO158NPB3 M3 GPIOC_31
IO157NDB3 K2 IOS_P8

DNU FG256
AGL-FG484

FTCK (P13) U16 TCK
FTDI (R14) V17 TDI
FTMS (T15) W18 TMS
FTRST_N (P15) U18 TRST
FTDO

U19
AGL-FG484

VJTAG T17 (N14)
VPUMP U17 (P14) VPUMP
TDO V19 (R16)

V3P3_AGL
JP9
HDR4

C7 0.1
C284 0.1
C285 0.01

R244 1K
R213 510

VCORE_AGL

C297 0.01
C276 0.01
C288 0.01
C277 0.01
C292 0.01
C296 0.01
C290 0.01
C280 0.1
C300 0.1
C325 0.1
C235 1.0
C279 1.0
C17 10

NOTE: TMS, TDI, & TRST HAVE INTERNAL 10K PULLUPS

DRAFTER JIM AVANT	DATE	SoC Solutions	
CHECKER	DATE	TITLE FPGA	
ENGINEER	DATE		
APPROVAL	DATE	SIZE D	DRAWING NUMBER SOC-AGL-S-002
APPROVAL	DATE	DATE	SHEET 6 OF 7

USB 2.0

X1
24 MHZ
C210
12 PF
C211
12 PF
V3V3C
VUSB_P
EZ_RST_N
TP1
TP2
U6
TPS3820
RESET
GND
MR
VDD
WDI
PTC1
CP29
R300
18
EZ_SCL
EZ_SDA
CP30
J1
USB_MINI_RECEP
VBUS
GND1
GND2
GND3
GND4
D-
D+
NC
GND
U2
USBLC6-2
IO1A
IO2A
IO1B
IO2B
C203
0.1
U1
CY7C68013A-56
XTALIN
XTALOUT
RESET
WAKEUP
SCL
SDA
IFCLK
CLKOUT
DPLUS
DMINUS
RES
PA0/INT0#
PA1/INT1#
PA2/SLOE
PA3/WU2
PA4/FA0
PA5/FA1
PA6/PEND
PA7/SLCS#
FD0/PB0
FD1/PB1
FD2/PB2
FD3/PB3
FD4/PB4
FD5/PB5
FD6/PB6
FD7/PB7
FD8/PD0
FD9/PD1
FD10/PD2
FD11/PD3
FD12/PD4
FD13/PD5
FD14/PD6
FD15/PD7
RDY0/SLRD
RDY1/SLWR
FLAGA/CTL0
FLAGB/CTL1
FLAGC/CTL2
CP0
CP1
CP2
CP3
CP4
CP5
CP6
CP7
CP15
CP24
CP25
P3V3FENB
P2V5FENB
JTAGENB_N
TRSTENB_N
VPUMPENB
R219
10K
R302
10K
R303
10K
JTAGENB
Q4
FDV301N
FP3_LED1
FP3_LED0
FP3_LED2
FP3_LED3
FP3_LED4
R218
100
1%
R208
33
D1
LED_RG_TH
PASS/FAIL
R209
33
D2
LED_TH
ACTIVITY
R210
33
D3
LED_TH
ON
V3V3F
V2V5F
R203
2.2K
R207
2.2K
R202
DNS
R212
DNS
R211
DNS
BREV2
BREV0
BREV1
FTDO
VPUMP_GOOD
VJTAG_GOOD
U11
APA150-TQ100
U26
U25
NC7WV125K8X
FTRST_N
FTCK
FTMS
FTDI
R301
18
TRSTENB_N
JTAGENB_N
R200
2.2K
R201
2.2K
U3
CAT24C64
SCL
SDA
A0
A1
A2
WP
VCC
VSS
C200
C201
C202
C205
C209
C208
C207
C206
C204
1.0
C231
C232
C214
C229
C5
C220
C228
C221
C212
C226
C222
C216
C233
C326
C327
C225

DRAFTER JIM AVANT	DATE	SoC Solutions
CHECKER	DATE	TITLE: FLASHPRO3
ENGINEER	DATE	
APPROVAL	DATE	SIZE: D — DRAWING NUMBER: SOC-AGL-S-002
APPROVAL	DATE	DATE — SHEET 7 OF 7