

REV	Description	DATE	BY
A4A	Initial production Release.	11/19/2012	GC
A5	On the initial production release the processors were to be found incorrect as supplied by TI. Parts while marked AM3359 were actually AM3352. This revision uses the correct parts.	1/2/2013	GC
A5A	<ol style="list-style-type: none"> Deleted R29-R44 from the LCD lines. Added 47pf capacitors C156-C173 to LCD data lines to ground. Changed schematic revision to A5A. Changed a few footprints after PCB update for above changes. Added access point for the battery function of the TPS65217C. Added Ferrite beads in series with LED power and 5V power rail of the USB host connector. Required to pass FCC/CE testing due to noise emissions on that pin. Added power button to enable sleep, wakeup, power down and power up features on the system. Added Modification to add 100K ohm resistor to ground to prevent crosstalk when serial cable is not plugged in. 	2/8/2013	GC
A5B	<ol style="list-style-type: none"> Added 100K pull-down on J1 pin 4 to prevent crosstalk when serial cable is not connected into PCB layout. Changed the LED resistors to 4.75K to lower the brightness. 	5/21/2013	GC
A5C	<ol style="list-style-type: none"> Changed R46, R47, R48 to 0 ohms. Changed R45 to 22 Ohms. <p>Change was made due to production failures on some boards due to differences in impedances.</p>	6/12/2013	GC
A6	<ol style="list-style-type: none"> Moved the enable for the VDD_3V3B regulator to VDD_3V3A rail. Change was made to reduce the delay between the ramp up of the 3.3V rails. Added a AND gate to the SYS_RESETn circuitry. There is a small chance that on power up the nRESETOUT signal on the processor may go high, causing the SYS_RESETn signal to go HI before it should. This change reinforces the reset with the PORZn reset signal. Added optional zero ohm resistor to tie GND_OSC0 to system ground. 	7/25/2013	GC
A6A	<ol style="list-style-type: none"> Added optional zero ohm resistor to tie GND_OSC1 to system ground. Changed C106 to a 1uF capacitor. Changed C24 to a 2.2uF capacitor. Made R8 installed and R9 not installed. 	12/13/2013	GC
B	1.Changed the processor to the AM3588BZC100.	1/20/2014	GC
C	1.Increased the eMMC from 2GB to 4GB.	3/21/2014	GC

This schematic is *NOT SUPPORTED* and DOES NOT constitute a reference design. Only "community" support is allowed via resources at BeagleBoard.org/discuss.

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PAGE NO.	SCHEMATIC PAGE
1	COVER PAGE
2	POWER MANAGEMENT
3	PROCESSOR 1 OF 3, JTAG HEADER
4	PROCESSOR 2 OF 3, UAB PORTS
5	PROCESSOR 3 OF 3
6	LED, CONFIGURATION AND BUTTON
7	DDR3 MEMORY
8	eMMC FLASH
9	10/100 ETHERNET
10	HDMI FRAMER
11	EXP CONN, uSD

NOTE: PCB Revision for this board is Rev B6



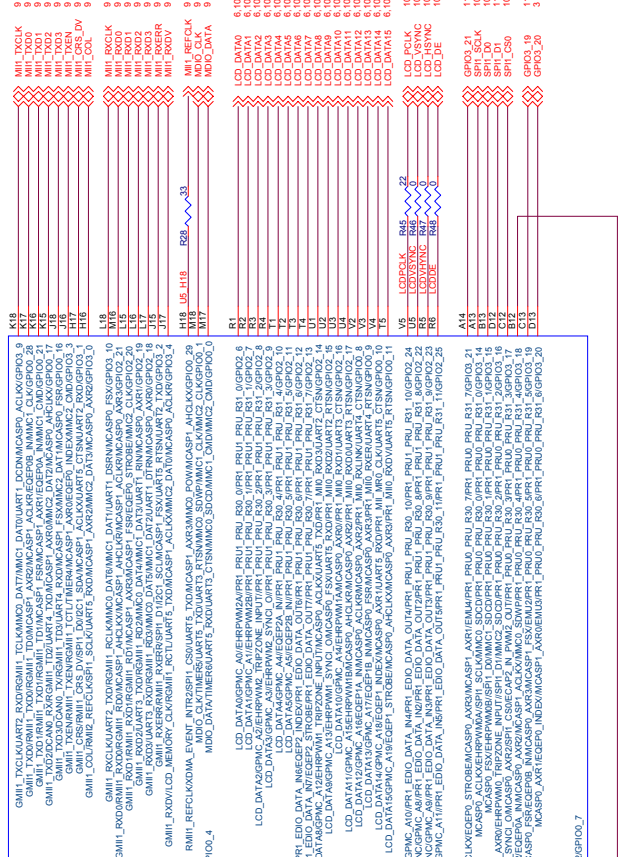
Title BeagleBone Black Cover Page

Size Document Number
 B 450-5500-001

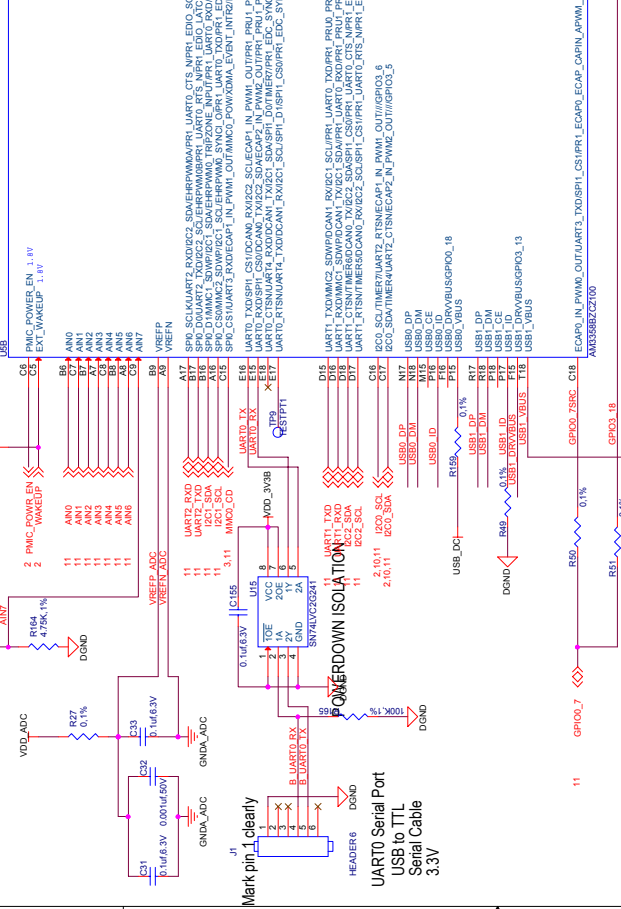
Rev C

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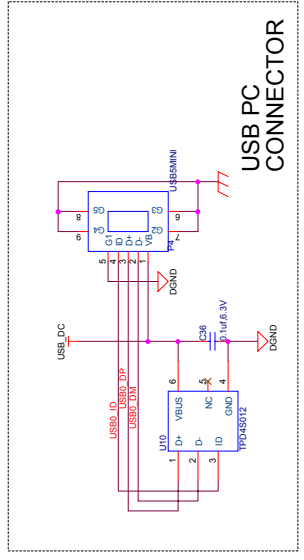
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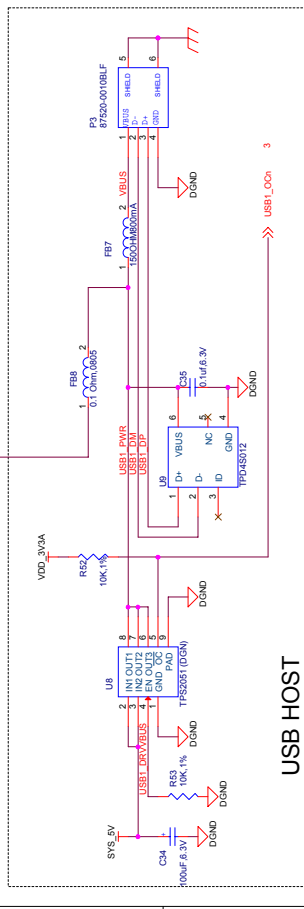
SubArctic-AM335X
 15mm x 15mm
 Package



USB HOST



USB PC CONNECTOR



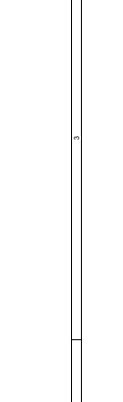
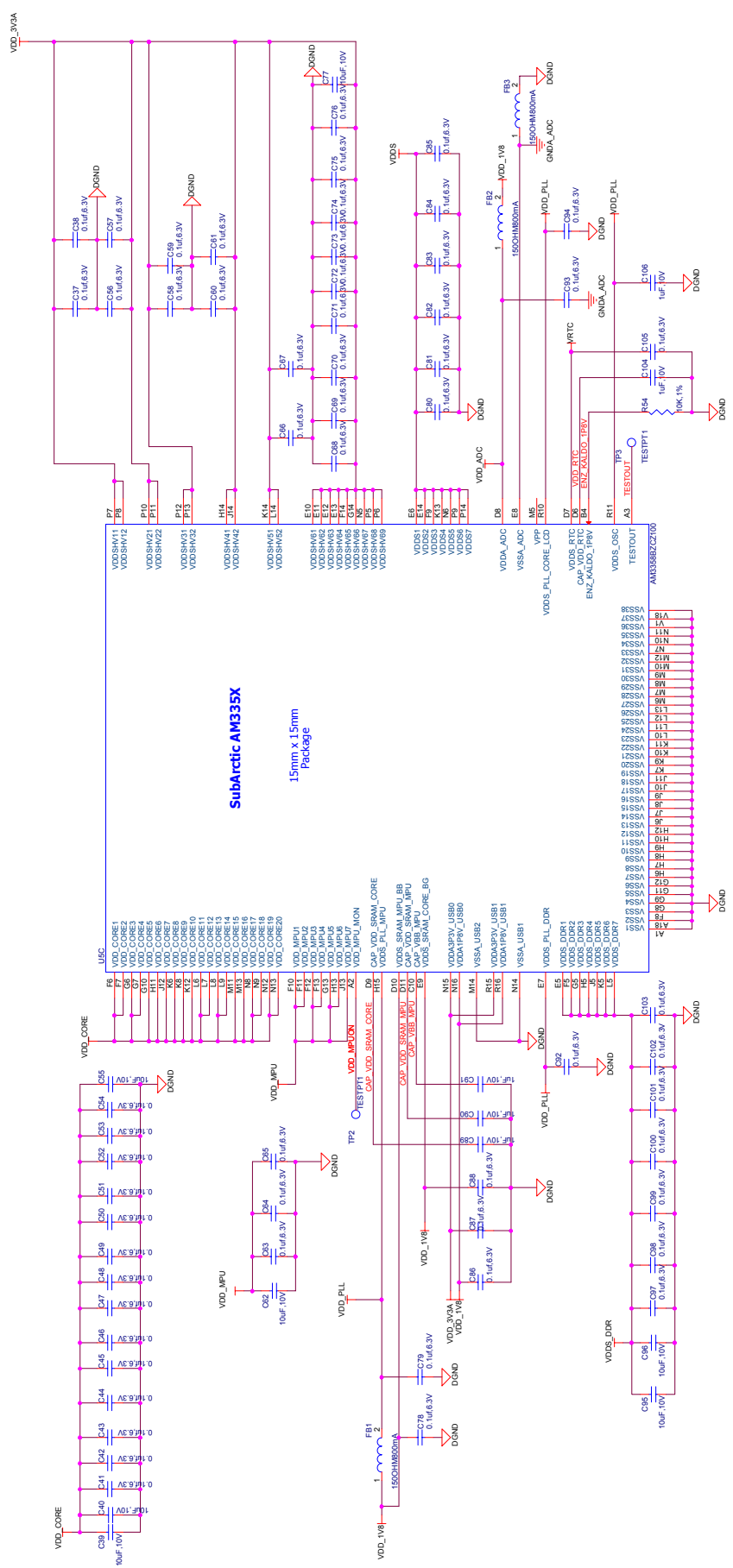
USB to TTL Serial Cable

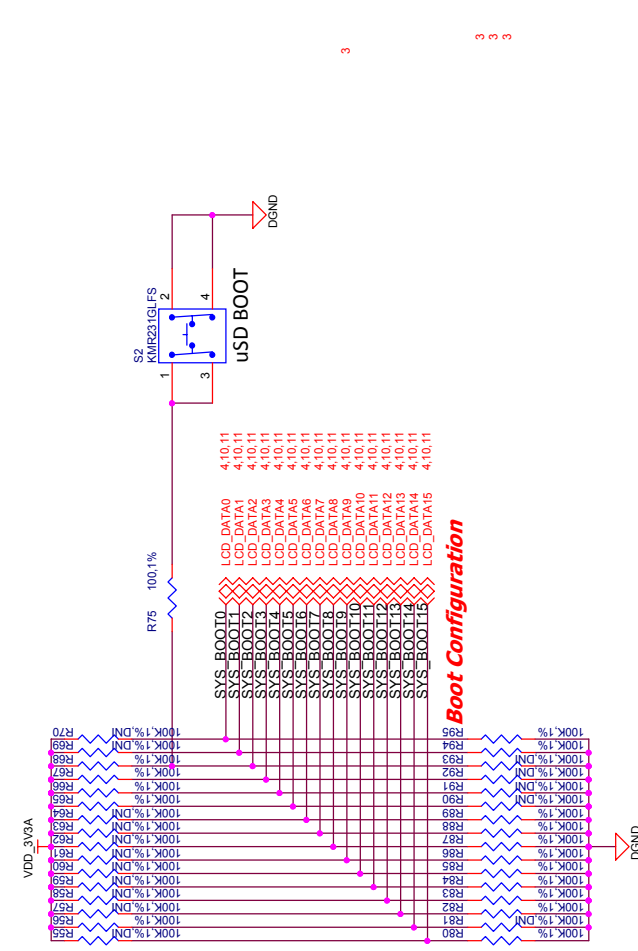
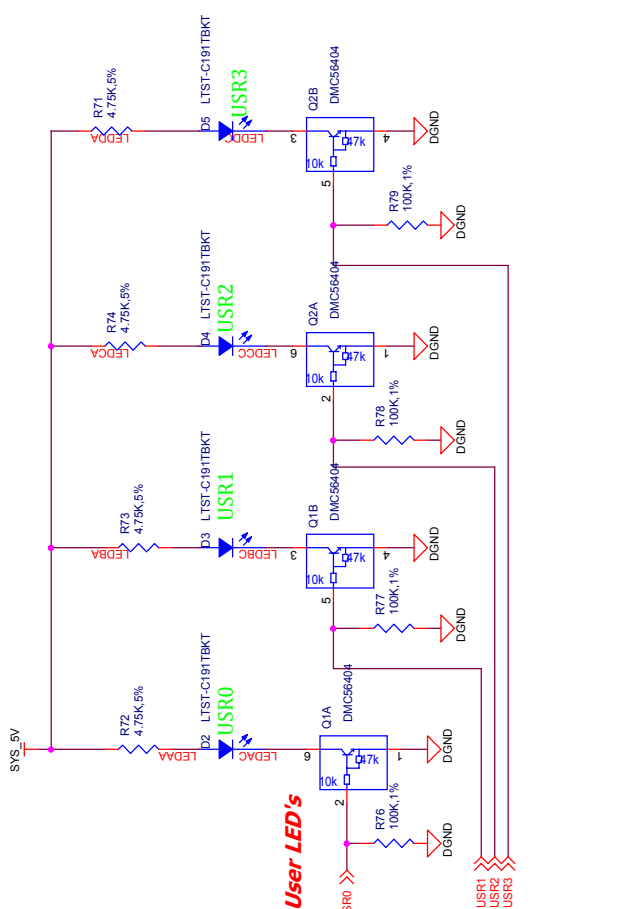
Mark pin 1 clearly
 HEADERS
 USB to TTL Serial Cable
 3.3V

GPIO7
 GPIO3_18
 GPIO3_19
 GPIO3_20

SubArctic AM335X

15mm x 1.5mm Package

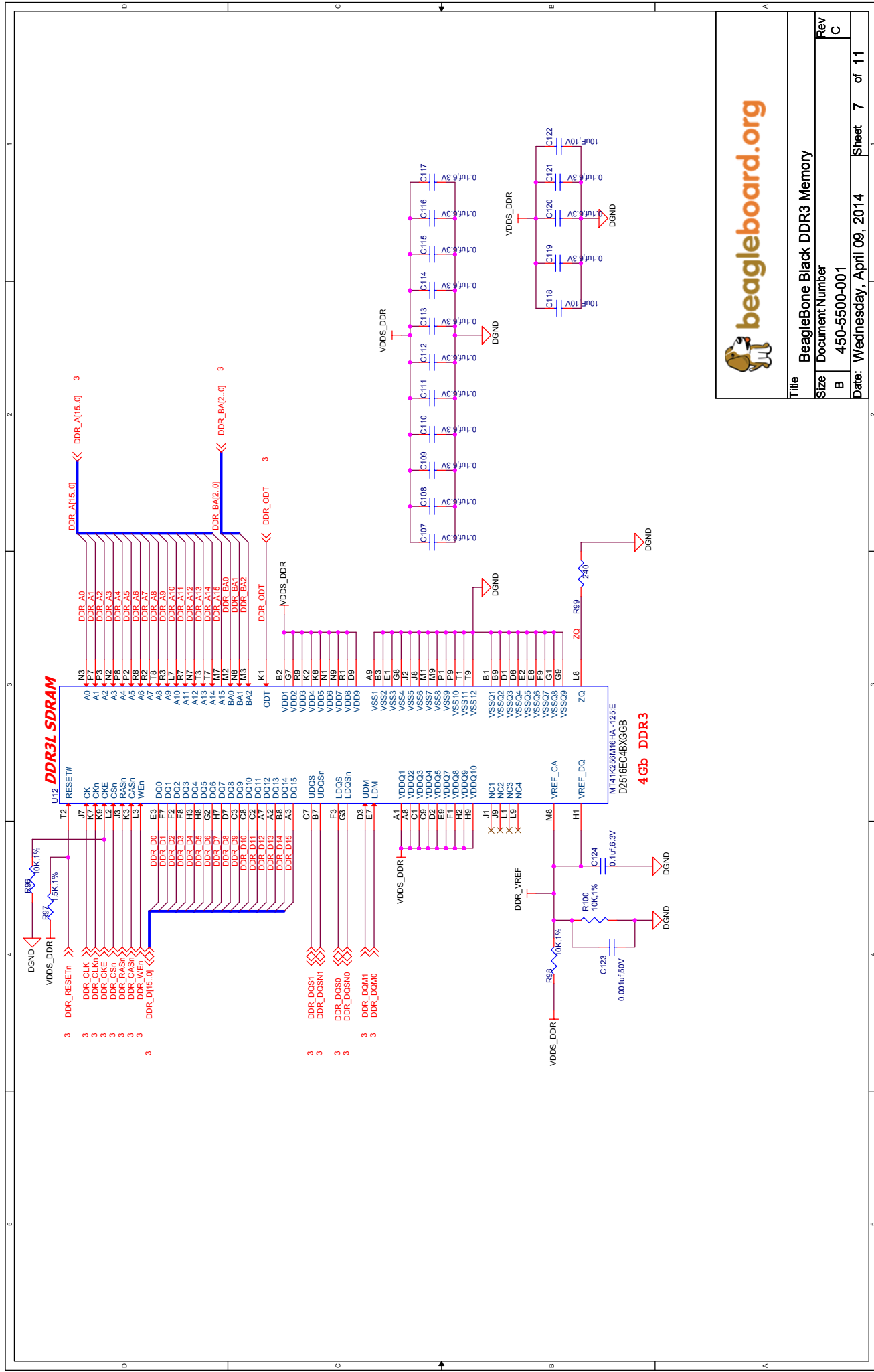




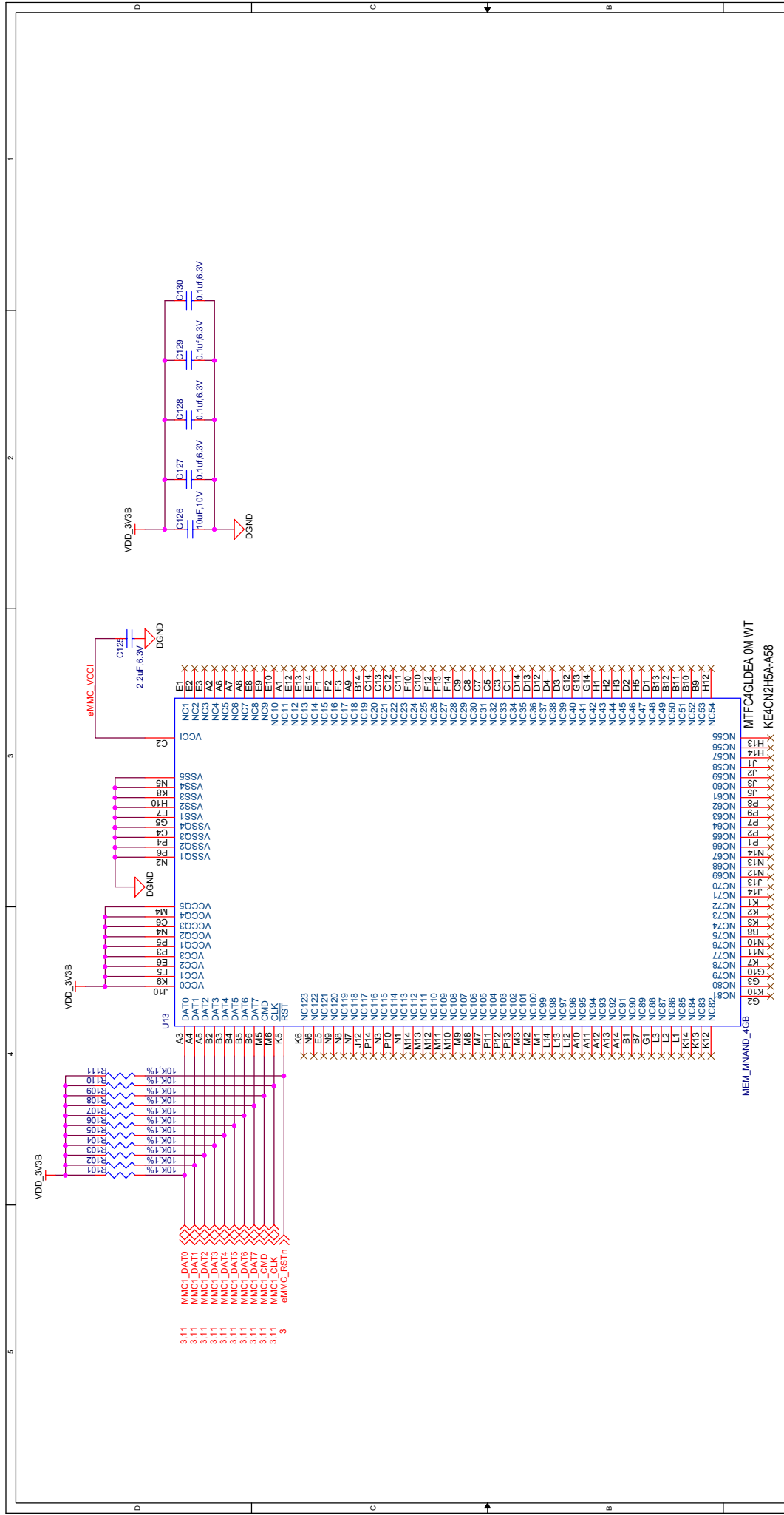
SYSBOOT[15:14]	SYSBOOT[13:12]	SYSBOOT[11:10]	SYSBOOT[9]	SYSBOOT[8]	SYSBOOT[7:6]	SYSBOOT[5]	SYSBOOT[4:0]	Boot Sequence
00b = 19.2MHz 01b = 24MHz 10b = 25MHz 11b = 26MHz	00b (all other values reserved)	Don't care for ROM code	Don't care for ROM code	Don't care for ROM code	Don't care for ROM code	0 = CLKOUT1 disabled 1 = CLKOUT1 enabled	11100b	MMC0 UART0 USB0[5]
00b = 19.2MHz 01b = 24MHz 10b = 25MHz 11b = 26MHz	00b (all other values reserved)	Don't care for ROM code	Don't care for ROM code	Don't care for ROM code	Don't care for ROM code	0 = CLKOUT1 disabled 1 = CLKOUT1 enabled	11000b	MMC0 SPI0 USB0[5] UART0



Title		BeagleBone Black LED, Configuration, and Reset
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Title		BeagleBone Black DDR3 Memory
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Title Beagle BoneBlack 4G eMMC
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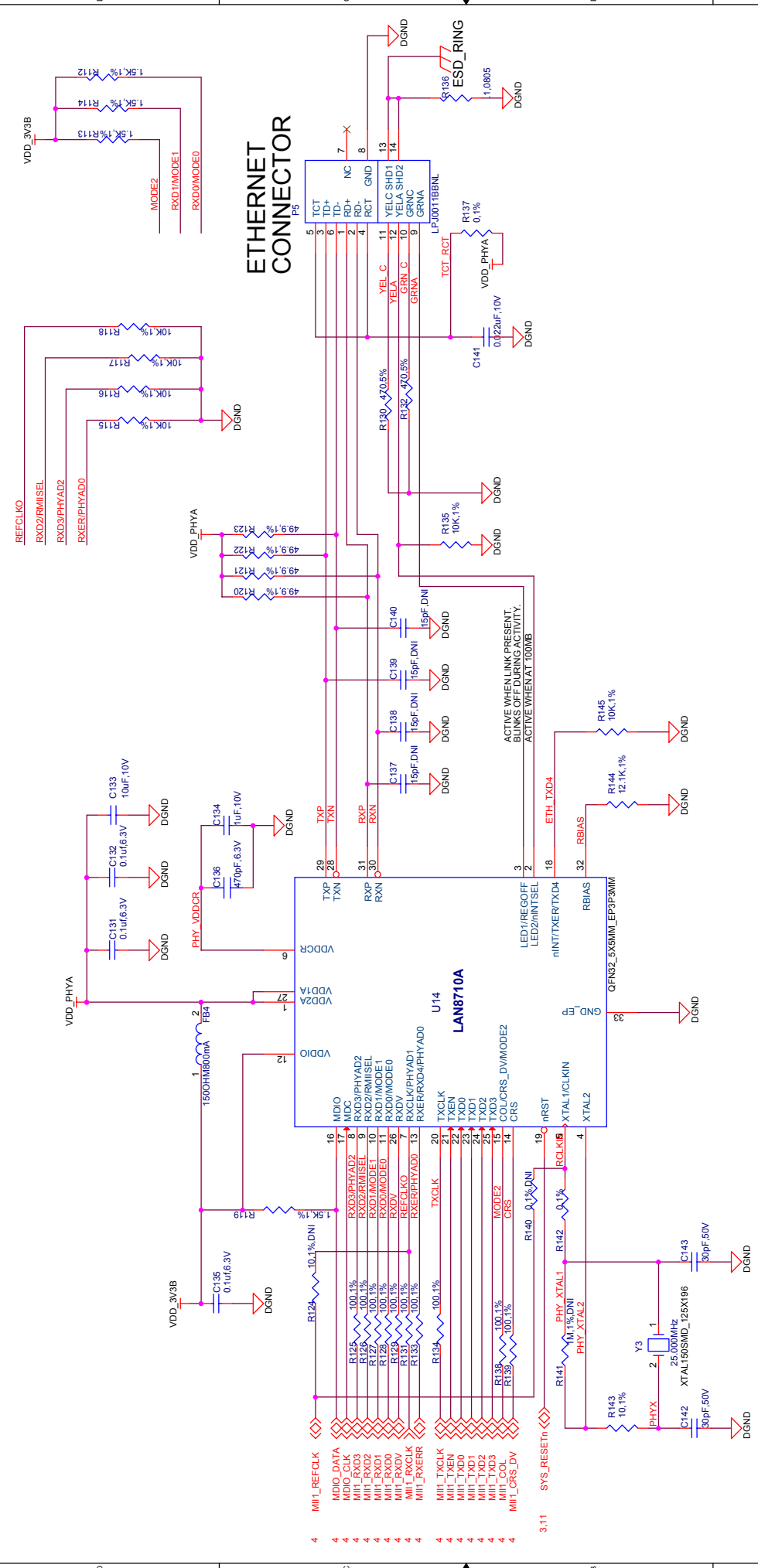
3.11	MMCI_DAT0	A3	10K 1%	R111	NC55	X
3.11	MMCI_DAT1	A4	10K 1%	R110	NC56	X
3.11	MMCI_DAT2	A5	10K 1%	R109	NC57	X
3.11	MMCI_DAT3	B2	10K 1%	R108	NC58	X
3.11	MMCI_DAT4	B4	10K 1%	R107	NC59	X
3.11	MMCI_DAT5	B5	10K 1%	R106	NC60	X
3.11	MMCI_DAT5	B6	10K 1%	R105	NC61	X
3.11	MMCI_CMD	M5	10K 1%	R104	NC62	X
3.11	MMCI_CMD	M6	10K 1%	R103	NC63	X
3.11	MMCI_CLK	M7	10K 1%	R102	NC64	X
3	eMMC_RSTn	K5	10K 1%	R101	NC65	X
		K6			NC66	X
		N6			NC67	X
		E5			NC68	X
		N9			NC69	X
		N7			NC70	X
		J2			NC71	X
		J14			NC72	X
		J12			NC73	X
		J10			NC74	X
		J11			NC75	X
		J13			NC76	X
		J15			NC77	X
		J16			NC78	X
		J17			NC79	X
		J18			NC80	X
		J19			NC81	X
		J20			NC82	X
		J21			NC83	X
		J22			NC84	X
		J23			NC85	X
		J24			NC86	X
		J25			NC87	X
		J26			NC88	X
		J27			NC89	X
		J28			NC90	X
		J29			NC91	X
		J30			NC92	X
		J31			NC93	X
		J32			NC94	X
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Title		BeagleBone Black Ethernet
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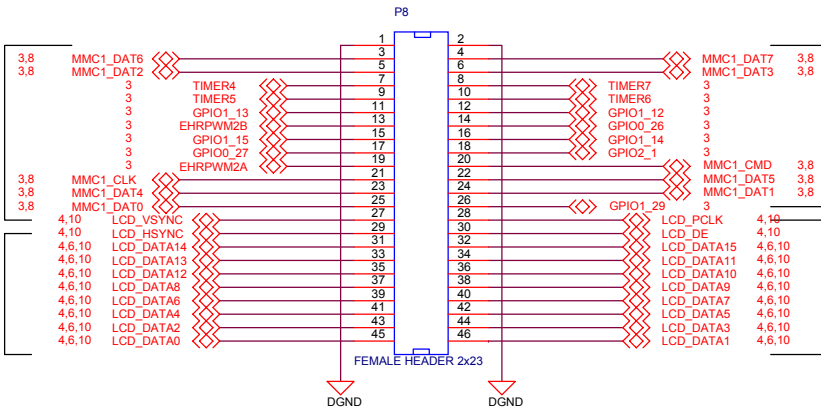
ETHERNET CONNECTOR



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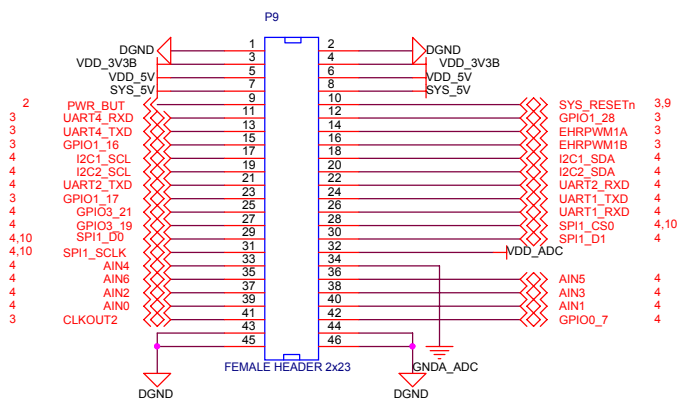
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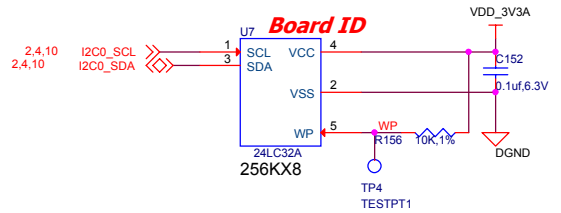
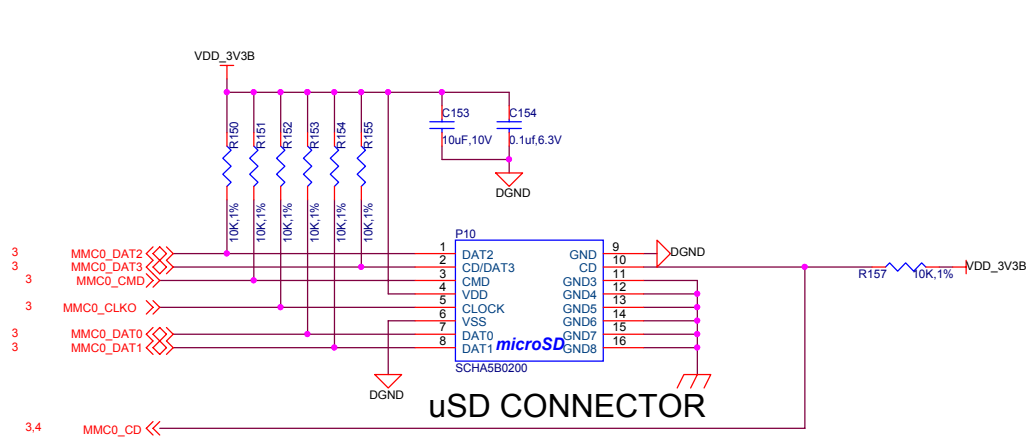


EXPANSION HEADER

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EXPANSION HEADER



Title		
BeagleBone Black Expansion Headers, uSD and EEPROM		
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