



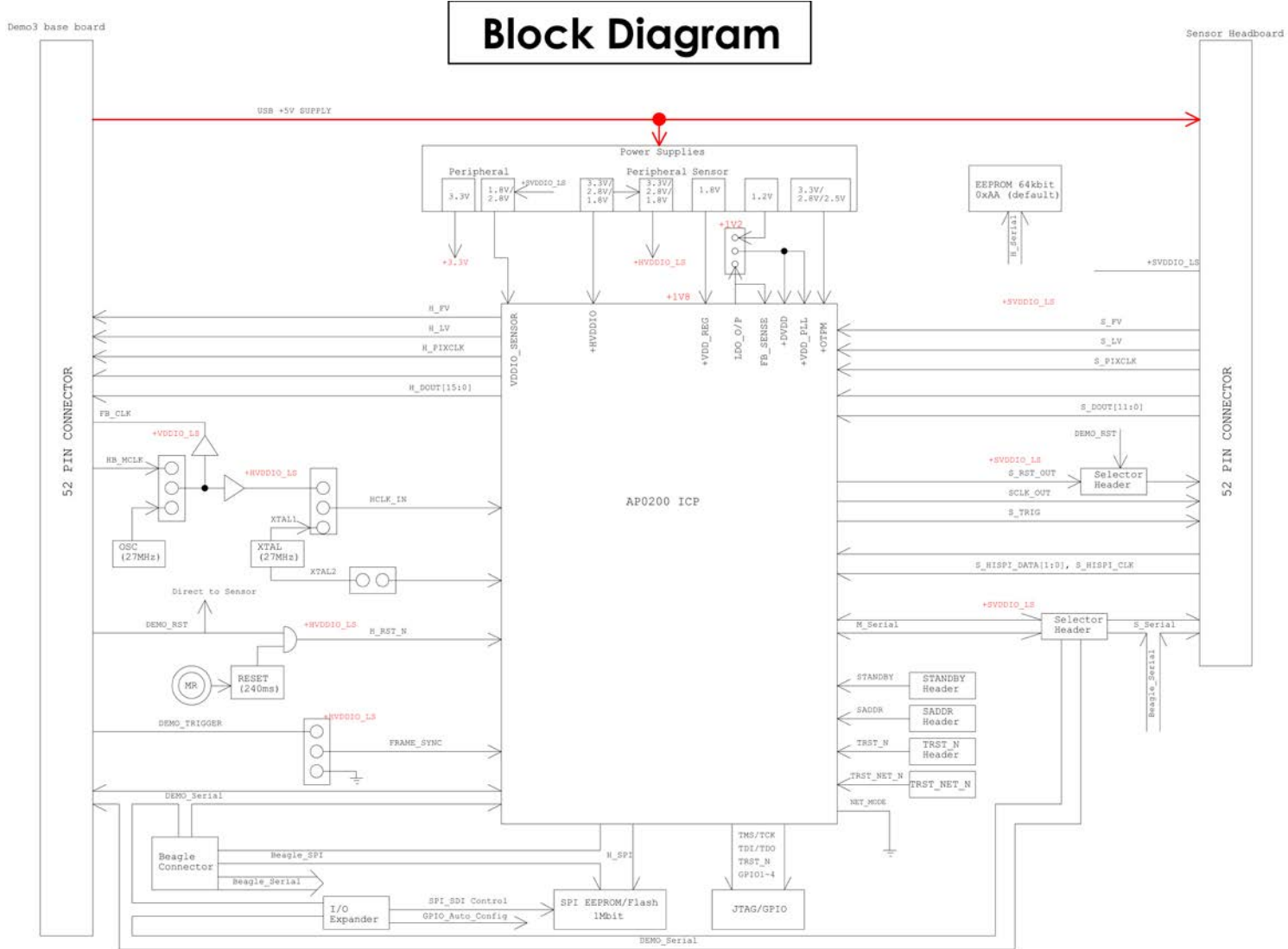
Schematic for the AP0201ATSL00XEGAH3-GEVB Evaluation Board

AP0200_100vFBGA_Adapter

Page	Description
1	Title Page
2	Block Diagram
3	PINOUT
4	ISP
5	Power
6	Auto-Config/BEAGLE Interface
7	External Interfaces
8	Clock and Reset

Rev	Who	Date	Description
Rev 0.0	gmudhuguri	03/18/2014	Initial.
Rev 0.1	gmudhuguri	04/22/2014	1) Removed the TRST_N Jtag Connection. 2) Changed the Headers to a smaller package 3) Added Pull down to all config and GPIO headers.
Rev 0.2	gmudhuguri	04/30/2014	1) Removed the Potentiometers for the power page. 2) Removed the Voltage Shift IC for beagle SPI
Rev 0.3	gmudhuguri	05/05/2014	1) Replaced VDDIO regulator to track the IO from the ethernet PHY board.
Rev 0.4	gmudhuguri	05/07/2014	1) Replaced the IO Expander. 2) Removed decaps on the power to headboard
Rev 0.5	gmudhuguri	05/14/2014	1) Replace 2x10 JTAG with 2x5 JTAG connector
Rev 1.0	gmudhuguri	06/12/2014	1) Interchanged the Connections from the IO expander to have a sequence 2) Connected S-SF0 pin from the baseboard connector to Stanby pin 3) Removed the gpio1 led circuitary 4) Added Pull-ups to I2C lines 5) Connected un-used S_SF pins of the two connectors 6) Replaced the 10 pin JTAG header with 20 pin. 7) Added a Diag-Display circuit adding a level translator and a 8 pin header 8) Removed the headers for the confid of gpios 2 to 6.
Rev 1.1	gmudhuguri	06/27/2014	1) Replace 2x10 JTAG TSW with 2x10 JTAG TST connector
Rev 1.2	aralex	08/20/2015	Made R101 as DNP because the Demo3 and Sensor Trigger should not be shorted
Rev 1.3	aralex	10/13/2015	Made R184 as DNP in OrCAD to reflect in BOM. Earlier it was a text only

Block Diagram

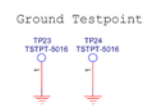
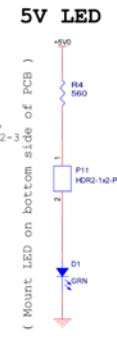
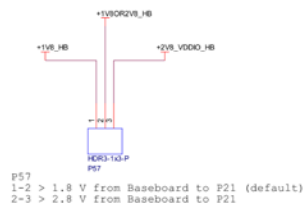
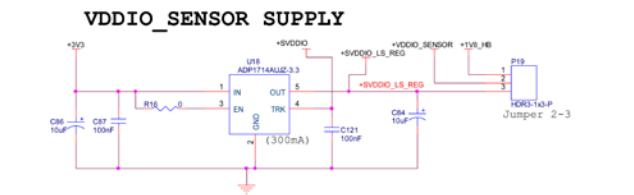
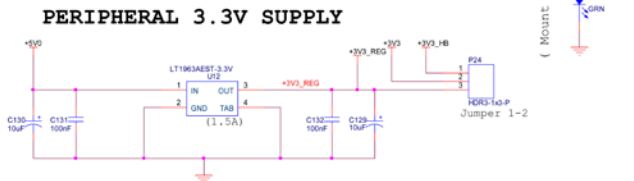
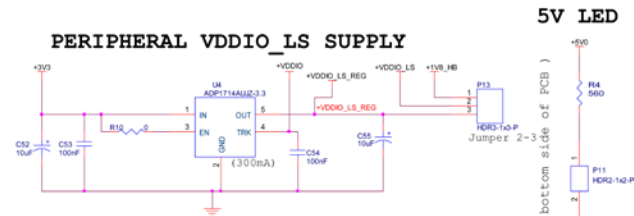
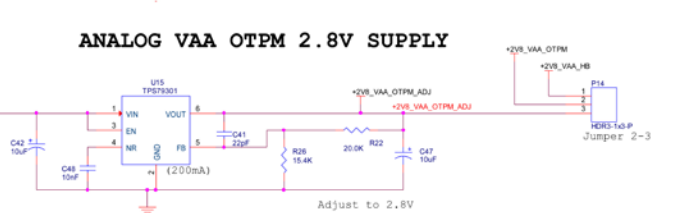
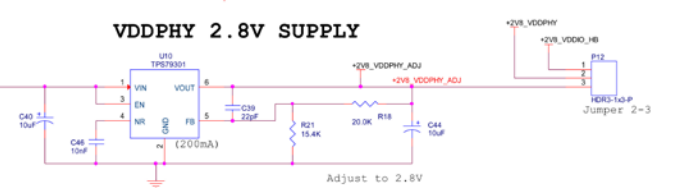
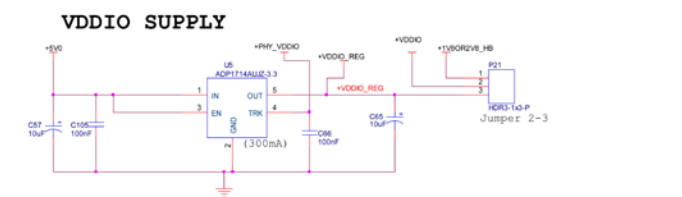
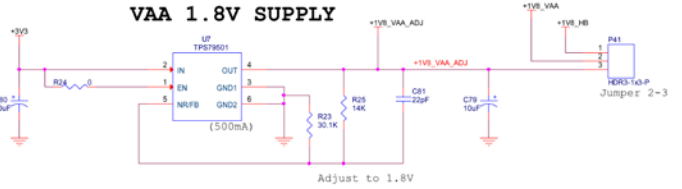
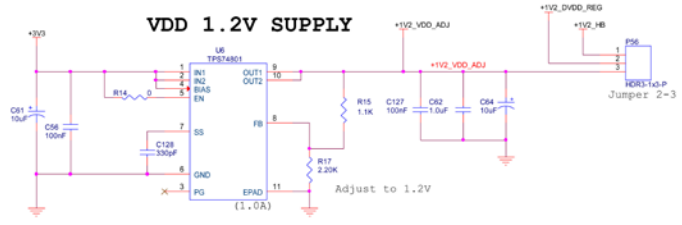
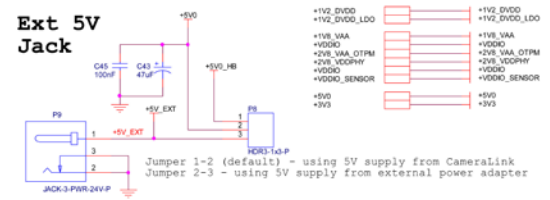




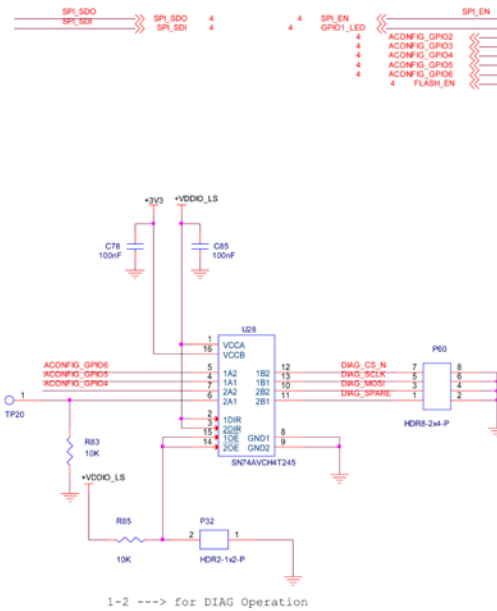
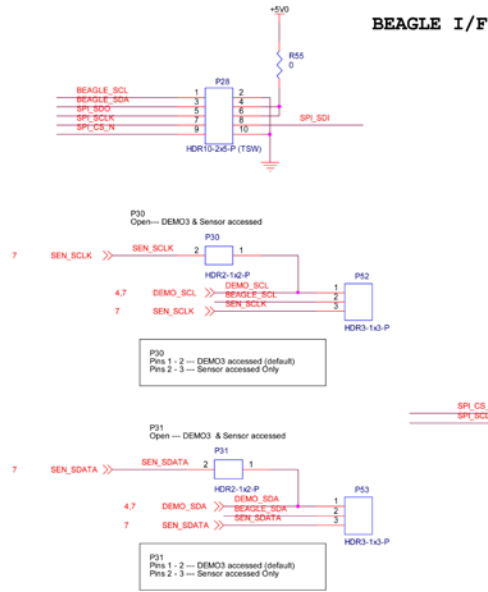
PINOUT

BALL A1 ID	1	2	3	4	5	6	7	8	9	10
A	TRST_NET_N	VDD01VR2V8LHOST	M_SDATA	DIN0	DVDD1V2	DIN5	DIN10	LV_IN	VDD01VR2V8LSENSOR	FV_IN
B	SCLK	GPI0_6	MCLK_OUT	M_SCLK	DIN1	DIN4	DIN9	DIN11	HISPI1N	HISPI1P
C	SPL_SCLK	NET_MODE	SDATA	GPI0_5	GPI0_0	DIN3	DIN8	FXCLK_IN	HISPI0N	HISPI0P
D	SPL_SDO	SPL_SDI	SPL_CS_N	SADDR	RESET_N_OUT	DIN2	DIN7	VDD02V8_PHY	HISPI0N	HISPI0P
E	DVDD1V2	GPI0_3	STANDBY	DGN0	DGN0	DGN0	DIN6	DGN0	DGN0	VDD01VR2V8LHOST
F	VAA2V8_OTPM	GPI0_2	GPI0_3	RESET_N	DGN0	DGN0	DGN0	CLIN	XTAL	DVDD1V2
G	TRST_N	GPI0_4	FRAME_SYNC	LINE_VALID	DOUT16	DOUT12	DOUT5	EXT_RE0	ENLDO	DVDD1V2_PILL
H	META_LINE_VALID	FRAME_VALID	DOUT21	DOUT18	DOUT14	DOUT8	DOUT6	DOUT2	DVDD1V2_FB_SENSE	VAA1V8_REG
J	FXCLK	DOUT22	DOUT19	DOUT17	DOUT13	DOUT10	DOUT7	DOUT3	DOUT0	DVDD1V2_LDO
K	DOUT23	VDD01VR2V8LHOST	DOUT20	DOUT15	DVDD1V2	DOUT11	DOUT9	DOUT4	DOUT1	AGND

POWER



Auto-Config/BEAGLE Interface



Auto Config Circuit

I2C GPIO Address Settings:
 A2 = HIGH, A1 = LOW; Address => 0x48 (default)
 A2 = HIGH, A1 = HIGH; Address => 0x4C
 A2 = LOW, A1 = HIGH; Address => 0x44
 A2 = LOW, A1 = LOW; Address => 0x40

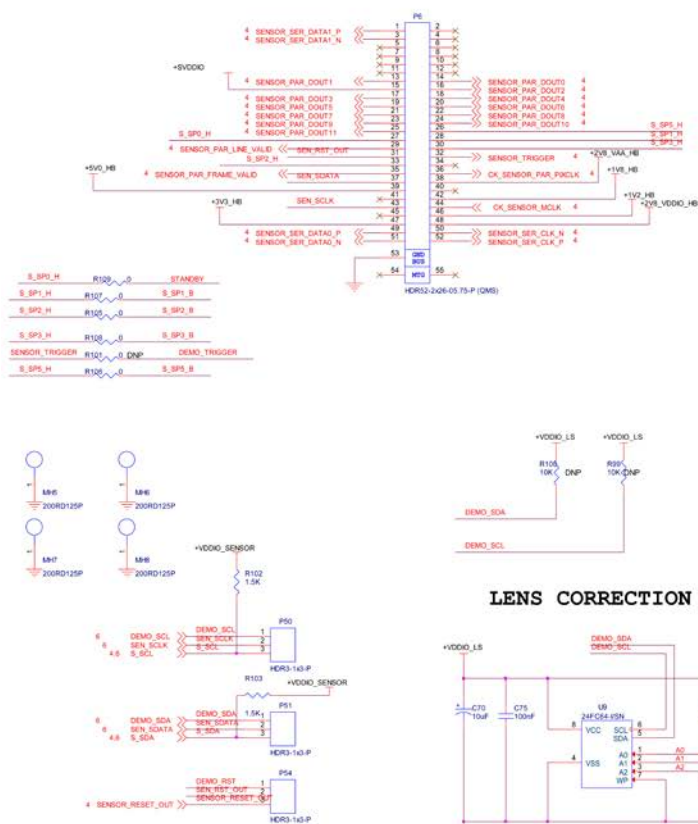


External Interface

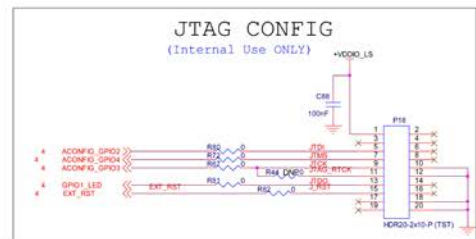
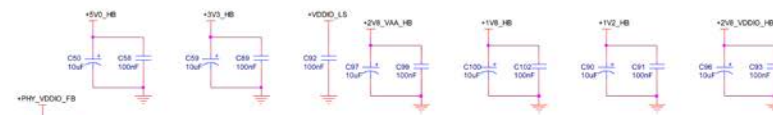
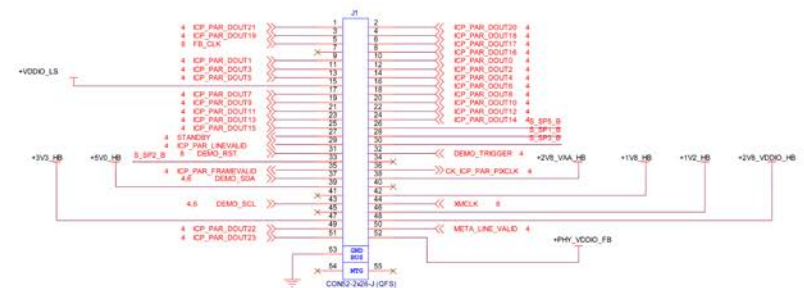
HEADBOARD CONNECTOR
 SP0 ----> NO-CORRECT
 SP1 ----> CONNECTED TO SP1 OF HEADBOARD CONNECTOR
 SP2 ----> CONNECTED TO SP2 OF HEADBOARD CONNECTOR
 SP3 ----> CONNECTED TO SP3 OF HEADBOARD CONNECTOR
 SP4 ----> SP10 PIN OF BOARD
 SP5 ----> CONNECTED TO SP5 OF HEADBOARD CONNECTOR

BASEBOARD CONNECTOR
 SP0 ----> STANDBY OF BOARD
 SP1 ----> CONNECTED TO SP1 OF HEADBOARD CONNECTOR
 SP2 ----> CONNECTED TO SP2 OF HEADBOARD CONNECTOR
 SP3 ----> CONNECTED TO SP3 OF HEADBOARD CONNECTOR
 SP4 ----> SENS_TRIGGER CONNECTED TO FRAME-EXT. PIN OF BOARD
 SP5 ----> CONNECTED TO SP5 OF HEADBOARD CONNECTOR

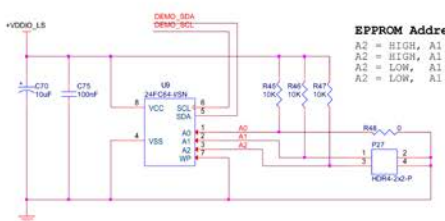
Demo Headboard Connector



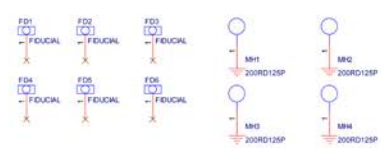
Demo Baseboard Connector



LENS CORRECTION EEPROM



EEPROM Address Switch Settings:
 A2 = HIGH, A1 = LOW, A0 = LOW; Address => 0xA8 (default)
 A2 = HIGH, A1 = HIGH, A0 = LOW; Address => 0xAC
 A2 = LOW, A1 = HIGH, A0 = LOW; Address => 0xA4
 A2 = LOW, A1 = LOW, A0 = LOW; Address => 0xA0

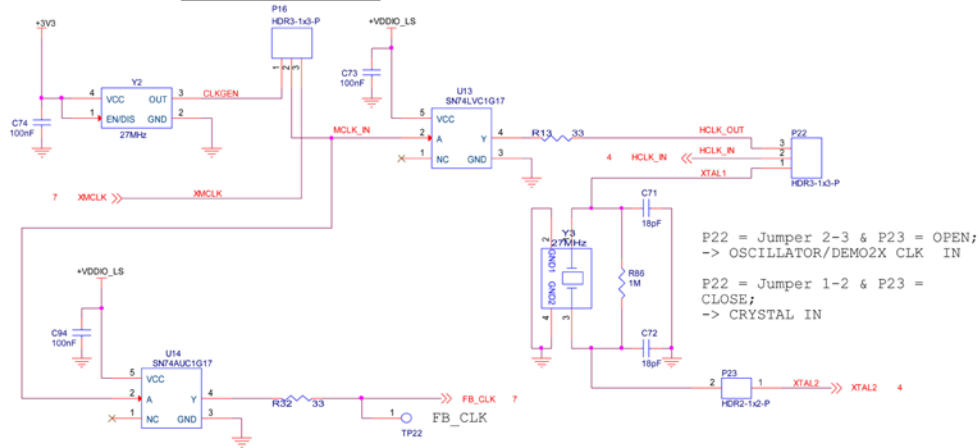


Clock/Reset

+1V2_DVDD		+1V2_DVDD
+1V2_DVDD_LDO		+1V2_DVDD_LDO
+1V8_VAA		+1V8_VAA
+VDDIO		+VDDIO
+2V8_VAA_OTPM		+2V8_VAA_OTPM
+2V8_VDDPHY		+2V8_VDDPHY
+VDDIO		+VDDIO
+VDDIO_SENSOR		+VDDIO_SENSOR
+5V0		+5V0
+3V3		+3V3

User Note: P16
 Jumper (1-2) : OSC CLK
 Jumper (2-3) : DEMO3 CLK

CLOCK CIRCUIT



RESET CIRCUIT

