

Specifications:

- a. Texas Instruments® Sitara™ AM3358 Processor (Integrated in the OSD3358-SM):
 - i. 1GHz ARM® Cortex-A8 with NEON floating-point accelerator
 - ii. SGX530 graphics accelerator
 - iii. 2x programmable real-time unit (PRU) 32-bit 200MHz microcontrollers with single-cycle I/O latency
 - iv. ARM® Cortex-M3 for power and security management functions
- b. Memory:
 - i. 512MB DDR3 800MHZ RAM (Integrated in the OSD3358-SM)
 - ii. 4kB I2C EEPROM (Integrated in the OSD3358-SM)
 - iii. SD/MMC Connector for microSD
- c. Software Compatibility
 - i. Debian GNU/Linux images customized for BeagleBone
 - ii. Cloud9 IDE on Node.js w/ BoneScript library
 - iii. Any BeagleBone Black software not needing access to unavailable expansion pins
- d. Connectivity
 - i. High speed USB 2.0 OTG (host/client) micro-B connector (USB0)
 - ii. Bootable microSD card slot (MMC0)
- e. Expansion header
 - i. High speed USB 2.0 OTG (host/client) control signals (USB1)
 - ii. 8 analog inputs with 6 at 1.8V and 2 at 3.3V along with 1.8V voltage references
 - iii. 44 digital GPIOs accessible with 18 enabled by default including 2 shared with the 3.3V analog input pins
 - iv. 3 UARTs accessible with 2 enabled by default (UART0, UART4)
 - v. 2 I2C busses enabled by default (I2C1, I2C2)
 - vi. 2 SPI busses with single chip selects enabled by default (SPI0, SPI1)
 - vii. 4 PWM outputs accessible with 2 enabled by default (PWM0A, PWM1A)
 - viii. 2 quadrature encoder inputs accessible
 - ix. 2 CAN bus controllers accessible
 - x. 23 programmable real-time unit (PRU) 32-bit microcontroller I/O pins including options for the PRU UART and eCAP accessible with 7 I/O pins enabled by default for PRU0 and 1 enabled by default for PRU1

xi. 3 voltage inputs with 1 for battery, 1 shared with the USB connector and 1 for power-line input and a battery temperature sense input

xii. 2 voltage outputs, 1 with a 3.3V LDO and 1 with switch from voltage input

xiii. Power and reset button I/Os

f. Power management:

i. TPS65217C PMIC is used along with a separate LDO to provide power to the system (Integrated in the OSD3358) with integrated 1-cell LiPo battery support

g. Debug Support:

i. JTAG test points

ii. gdb and other monitor-mode debug possible

h. Power Source

i. microUSB connector

ii. expansion header (3 options: battery, VIN or USB-VIN)

i. User Input / Output

i. Power Button with press detection interrupt via TPS65217C PMIC (hold for 10s to initiate hardware power cycle)

PocketBeagle Expansion Headers

		P1				P2	
SYS	VIN	1	2	87	6	AIN 3.3V	9
USB1 V EN	GPIO	109	3	4	89	PRU1	
VBUS	5	6	5	CS	11	PWM1	A
VIN	7	8	2	TX	PRU	PWM2	B
DN	9	10	3	CLK	RX	23	3
MISO	11	12	4	SPI0	UART4	4	58
MSI	13	14	3.3V	TX	TX	5	57
ID	15	16	GND	RX	UART2	6	60
GND	17	18	REF+	PRU	CAN1	7	60
AIN 1.8V	19	20	AIN 1.8V	16(in)	I2C1	8	52
0	21	22	GND	PRU0	SCL	10	52
VOUT	23	24	SYS	GPIO	SDA	11	52
AIN 1.8V	25	26	SDA	17	VOUT	12	PWR BTN
STRB A	27	28	I2C2	18	13	14	SYS
QEP0	29	30	TX	19	VIN	15	TEMP
PRU0	31	32	CANO	20	BAT	16	BAT
GPIO	33	34	42	21	15	17	STRB QEP2 15i
PWM0 B	35	36	43	22	16	18	PRU0
PRU1	37	38	44	23	24	47	14(in)
PRU1	39	40	45	24	25	48	14(out)
PRU1	41	42	46	25	26	NRST	SYS
PRU0	43	44	47	26	27	IDX	QEP0
PRU0	45	46	48	27	28	QEP2	6
PRU0	47	48	49	28	29	124	14(out)
PRU0	50	51	52	29	30	3	PRU0
PRU0	53	54	55	30	31	112	2
PRU0	55	56	57	31	32	113	PRU0
PRU1	57	58	59	32	33	115	5
PRU1	59	60	61	33	34	115	QEP0
PRU1	61	62	63	34	35	86	7
PRU1	63	64	65	35	36	87	AIN 1.8V