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