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)