BeagleBone Black Wireless is based on the extremely successful open-source hardware design of BeagleBone Black, a high-expansion, maker-focused, community-supported open hardware computer, created by the BeagleBoard.org Foundation. BeagleBone Black Wireless replaces the 10/100 Ethernet interface of BeagleBone Black with a high-performance flexible WiFi/Bluetooth WiLink™ interface manufactured by Texas Instruments. BeagleBone Black Wireless has onboard HDMI interface to connect directly to TVs and monitors, a serial debug port, a PC USB interface, an USB 2.0 host port, a reset button, a power button, and five indicating blue LEDs. BeagleBone Black Wireless has the ability to accept up to four expansion boards or capes that can be stacked onto the expansion headers. Capes designed for BeagleBone Black will work on BeagleBone Black Wireless. Built on a high-performance TI ARM processor, BeagleBone Black Wireless boots Linux in around 10 seconds and gets you started developing through your web browser in less than 5 minutes with just a single USB cable.

Specifications:

a. Processor:

    i. AM335x 1GHz ARM® Cortex-A8

    ii. SGX530 graphics accelerator

    iii. NEON floating-point accelerator

    iv. 2x PRU 32-bit 200MHz microcontrollers

b. Memory:

    i. 512MB 800MHZ DDR3 RAM

    ii. 4GB 8-bit eMMC on-board flash storage

    iii. SD/MMC Connector for microSD

c. Software Compatibility

    i. Debian

    ii. Android

    iii. Ubuntu

    iv. Cloud9 IDE on Node.js w/ BoneScript library

d. Connectivity

    i. High speed USB 2.0 Client port: Access to USB0, Client mode via microUSB

    ii. High speed USB 2.0 Host port: Access to USB1, Type A Socket, 500mA LS/FS/HS

    iii. Serial port: UART0 access via 6 pin 3.3V TTL Header. Header is populated

iv. WiLink 1835 WiFi 802.11 b/g/n 2.4GHz. Supports the following modes

    1.   ███████

    2.   AP

    3.   SmartConfig

    4.   STA

    5.   Wi-Fi Direct

    6.   Mesh over Wi-Fi based on 802.11s

v. Bluetooth 4.1 with BLE

e. Power management: TPS65217C PMIC is used along with a separate LDO to provide power to the system

f. Debug Support: Optional Onboard 20-pin CTI JTAG, Serial Header

g. Power Source

    i. microUSB USB or DC Jack

    ii. 5VDC External Via Expansion Header

h. User Input / Output

    i. Reset Button

    ii. Boot Button

    iii. Power Button

    iv. 4 user configurable LEDs; WiFi and BT LEDs; Power LED

    v. Video/Audio Interfaces

    vi. HDMI D type interface

    vii. LCD interface

    viii. Stereo audio over HDMI interface

    ix. Expansion Interfaces

    x. LCD, UART, eMMC

    xi. ADC, I2C, SPI, PWM