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BCM1160
PRODUCT Brief

MOBILE VOIP PROCESSOR

FEATURES

- **ARM926EJ with Jazelle KVM acceleration**
- **Integrated analog voice band codec with direct microphone and high output speaker interface**
- **Optional external stereo DAC interface**
- **DMA controller**
- **Key scan controller**
- **Secure digital interface**
- **SPI interface**
- **USB 1.1 interface**
- **VGA camera interface (CCIR-656)**
- **262k color LCD interface with graphics accelerator and video postprocessor**
- **NOR or NAND flash support**
- **SRAM or SDRAM external memory support**
- **3.3V I/O and 2.5V core low power design**
- **0.25 um CMOS process technology**
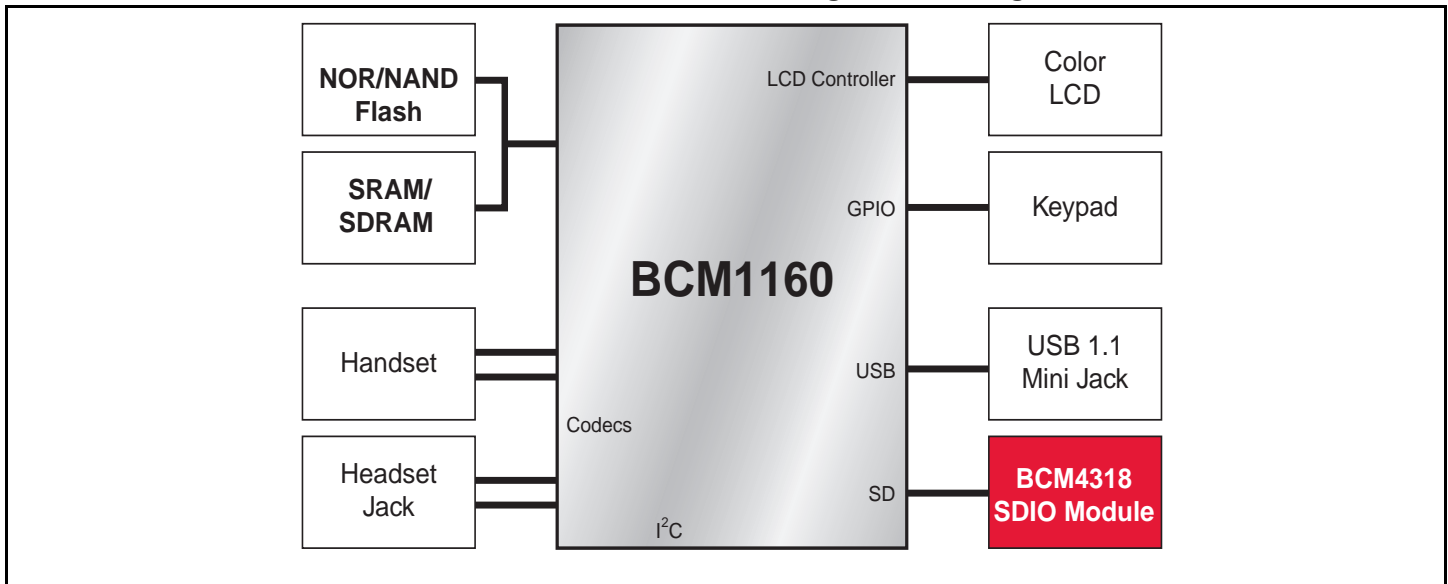- **276 ball, 12 mm x 12 mm FPGA package**

SUMMARY OF BENEFITS

- **Highly integrated processor optimized for low power**
- **Glueless interface to Broadcom WLAN and Bluetooth® devices**
- **Low power and small size - ideal for handheld devices**
- **Utilized in WLAN IP Phone Reference Design**
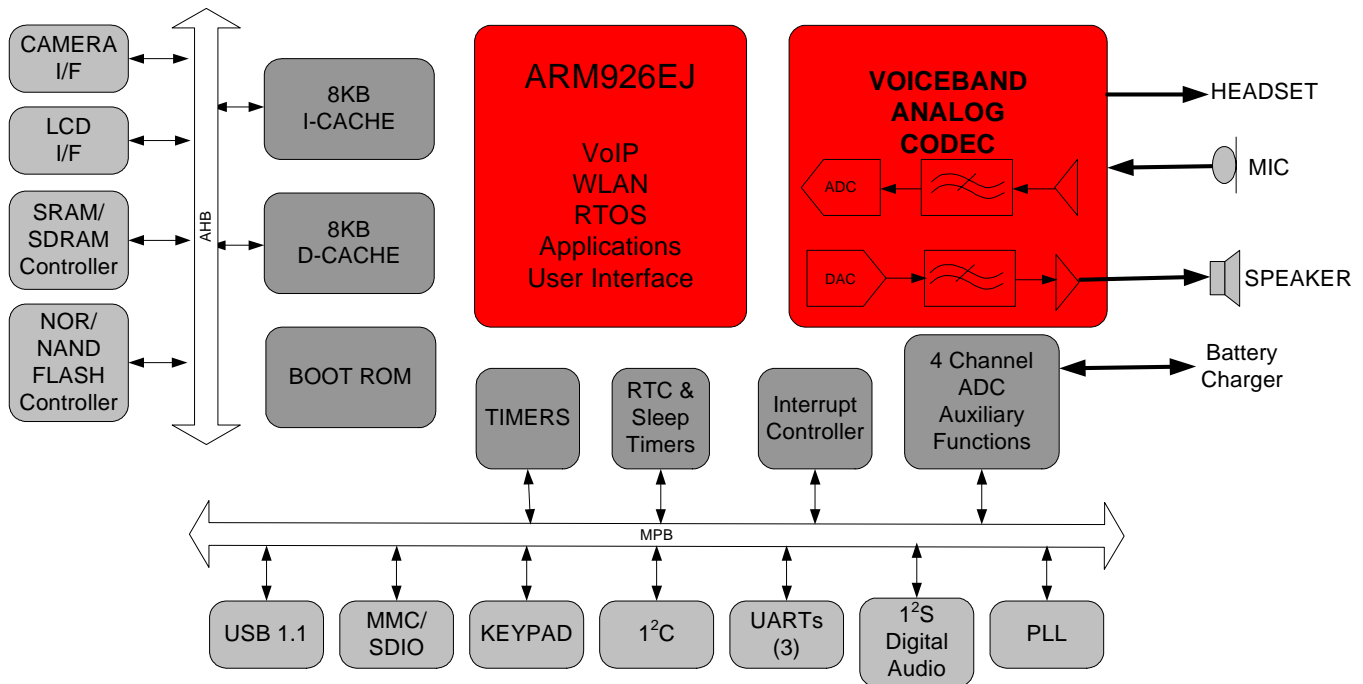
REFERENCE DESIGN

- **WLAN IP Phone Reference Design: Two- chip solution**
  - BCM1160: VoIP processor for handheld devices
  - BCM4318: Single chip 802.11b/g MAC, baseband and radio
- **VoIP software suite PhonexChange**
  - G.711, G.729A/AB, G.726 voice codecs
  - Adaptive jitter buffer
  - Echo cancellation
  - RTP, UDP/IP packetization
  - SIP call signaling
- **802.11 networking support for QoS, security and roaming**

WLAN IP Phone Reference Design Block Diagram

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BCM1160 MOBILE VOIP PROCESSOR

The BCM1160 VoIP processor offers a high level of system integration, performance, and features for wireless IP Phone handsets. The chip architecture was designed specifically with low-power and small footprint in mind for wireless handheld applications.

The BCM1160 is a highly integrated Mobile VoIP processor based on an ARM9 CPU architecture and integrated analog voice band codec. The device integrates all phone peripherals such as keyscan and USB 1.1, as well as an external memory interface supporting NOR or NAND Flash and SRAM or SDRAM. Also included are interface functions and drivers to enable auxiliary components, such as microphone and speaker, to connect directly to the BCM1160 device.

The BCM1160, with the BCM4318, offers a highly optimized two-chip solution for WLAN IP Phones. The BCM4318 is a single-chip 802.11b/g baseband, MAC, and radio device. This two-chip solution enables best-in-class WLAN IP Phone design in terms of total component count, size, and battery life.

WLAN IP Phone Reference Design

To accelerate the product development cycle and time to market, the BCM1160 comes complete with a reference design including schematics, layout, BOM and VoIP and 802.11 networking software.

Related Devices

BCM4318	AirForce™, OneChip™ with integrated 802.11b/g Baseband, MAC, and Radio.
BCM94318SD	OneChip™ 802.11b/g SDIO Module.
BCM2035	Single-chip Bluetooth™ Baseband, MAC, and Radio.

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