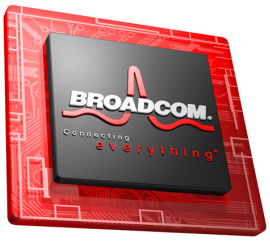
Connecting everything®

BCM1161 PRODUCT Brief



MOBILE VOIP PROCESSOR

FEATURES

- **ARM926EJ core at 156 MHz with 8 KB I/D caches**
- **Integrated analog voice band codec with direct microphone and high output speaker interface**
- **Interface to external stereo DAC through I^2S for MP3 music**
- **DMA controller with four simultaneous channels**
- **Key scan controller**
- **4-bit SDIO interface to BCM4318E Wi-Fi**
- **Bluetooth interface via UART and audio PCM**
- **SDIO, IrDA, 4-bit SD/MMC interfaces**
- **USB OTG at 12 Mbps**
- **2-Megapixel camera interface**
- **QCIF video encode and decode**
- **2D graphics, MPEG-4 SAD, and DCT accelerators**
- **Serial or parallel LCD interface for 256 K colors at 1.8V**
- **NOR or NAND Flash support**
- **SRAM or SDRAM external memory support**
- **Direct SIM connections at both 3V and 1.8V (no LDO required)**
- **Integrated 64-tone MIDI polyringer**

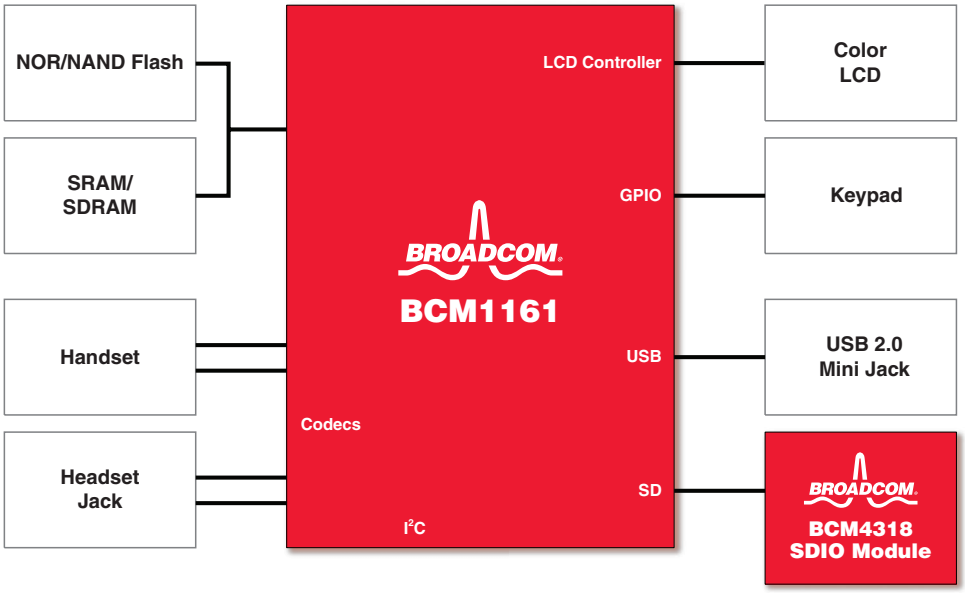
SUMMARY OF BENEFITS

- **WLAN IP Phone Reference Design**
  - BCM1161: VoIP processor for handheld devices
  - BCM4318E: Single chip 802.11b/g MAC, baseband and radio
- **VoIP Software Suite PhonexChange™**
  - G.711, G.729A/AB, G.726, G.722, G.723.1, AMR, BV32 voice codecs
  - Adaptive jitter buffer
  - Echo cancellation
  - RTP, UDP/IP packetization
  - SIP call signaling
- **802.11 Networking Support**
  - Security (WPA/WPA2)
  - QoS (WMM)
  - 802.1x Authentication
- **Advanced Telephony and Multimedia**
  - 3-way conference
  - Speakerphone
  - MPEG-4 video clips
  - JPEG/Motion JPEG

Broadcom Technology Advancements

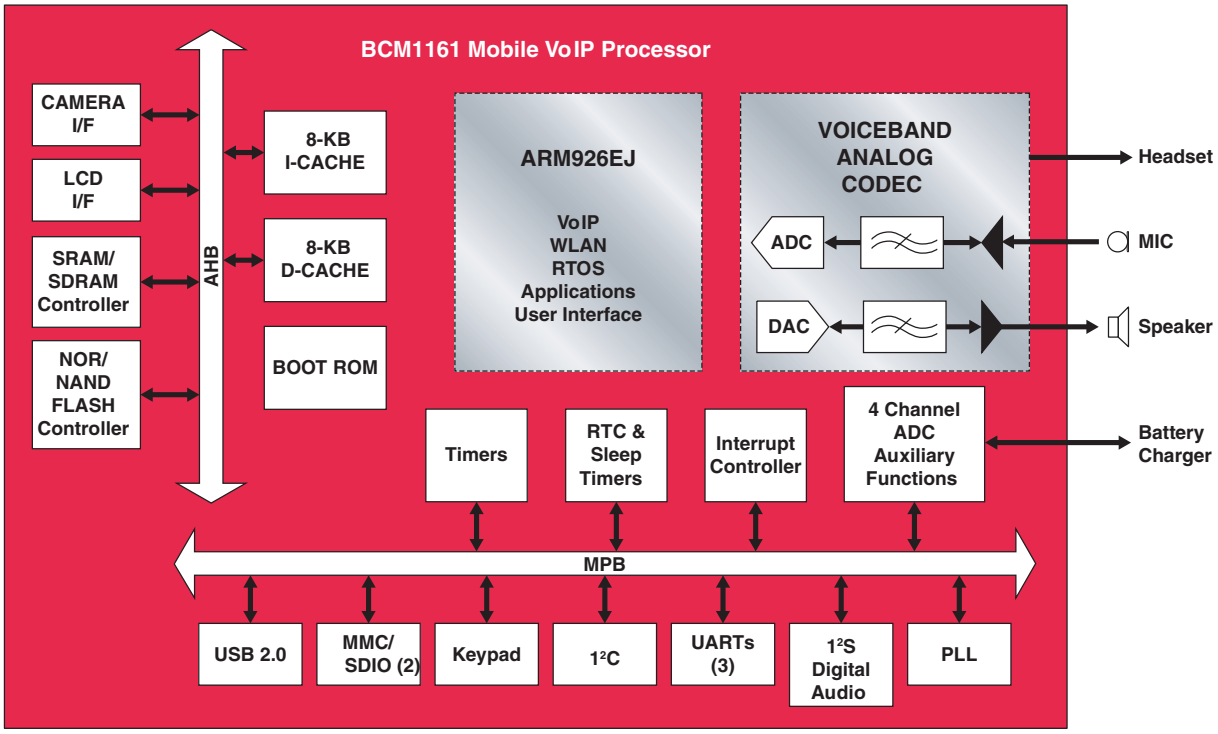
- BroadRange™
- SecureEasySetup™
- BroadVoice™

WLAN IP Phone Reference Design Block Diagram



BROADCOM.

OVERVIEW



The BCM1161 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 BCM1161 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 2.0, 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 BCM1161 device.

The BCM1161, with the BCM4318E, offers a highly optimized solution for WLAN IP phones. The BCM4318E 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, range, voice quality, and battery life.

WLAN IP Phone Reference Design

To accelerate the product development cycle and time to market, the BCM1161 comes complete with a reference design including schematics, layout, BOM and VoIP and 802.11 networking software.

Related Devices

BCM4318E	AirForce™, OneChip™ with integrated 802.11b/g Baseband, MAC, and Radio.
BCM94318SD	OneChip™ 802.11b/g SDIO Module.
BCM2045	Single-chip Bluetooth™ Baseband, MAC, and Radio.

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