

Functional Description

The primary component on the module is the Broadcom BCM2042, which is a Bluetooth 2.0 compliant single-chip device. The baseband and radio are integrated into a single chip implemented in standard digital CMOS.

The BCM2042 has an integrated 8051 microprocessor core that runs software from the link control layer up to the Host Control Interface (HCI). The baseband portion of the BCM2042 performs all time-critical functions required for high-performance Bluetooth operation.

The radio incorporates complete receive and transmit functions, including PLL, VCO, LNA, PA, up-converter, down-converter, modulator, demodulator, and channel select filtering.

The BCM2042 on-chip keyboard scanner is designed to sample the keys and store them into buffer registers without the need for the host micro controller to intervene. A state machine of three states – Idle, Scan, and Scan-End – controls the key scan block.