

Description of Operation

This Bluetooth™ device contains CSR BC4-CSP, which has complete radio part, base band controller section (16bits RISC processor, RAM) and ROM. Also, high accuracy reference oscillator and sub clock for extremely low power management are built in. Protocol software has been already downloaded into implemented ROM and interfaces to HCI layer of upper layer protocol stack on an appropriate host system. This Bluetooth™ device permits standard operating conditions according to the following table and will perform typical features described on the second table.

Bluetooth™ device has fully integrated 2.4GHz radio transceiver with Class2 power amplifier, receiver and frequency-hopping synthesizer. In order to facilitate power management, each section of the radio may be powered up and down separately. Various software controllable switches have been implemented to control power to the transmitter, the frequency synthesizer/VCO, the receiver and the LNA.

Bluetooth™ device contains link controller, which performs all the real-time functions of the Bluetooth™ baseband protocol layer, including data transfer and connection management. The device also controls states of operation enables sniff, park and hold modes of operation. Real-time functions such as frequency-hopping burst timing and clock synchronization are also implemented in this hardware. Further processing is required to format the data into the Bluetooth™ packet format before it may be applied to the GFSK modulator. On the receive side the controller performs error correction and de-scrambling before de-packetizing the incoming payload and storing it in RX buffers. The link controller hardware also implements the basic, repetitive actions of paging, inquiry, page or inquiry scans and the general Bluetooth™ modes of park and sniff. This ensures that the processor used to implement the Link Manager and other lower layer protocol can be kept inactive. Also base band contains the following functionality, including FEC, Whiten / De-whiten, Scramble/Unscramble, Encrypt/Decrypt, CRC, HEC, and Attention for FAA compliance and fit BT2.0 EDR spec..