

Bluetooth v4.0 Specification

CSR8510A10

Features

Fully qualified Bluetooth v4.0 specification system
Support for Bluetooth v3.0 only available with CSR8510A10
Dual-mode Bluetooth /Bluetooth low energy
Draft Bluetooth low energy HID boot mode support
Full-speed Bluetooth operation with full piconet and scatternet support
Integrated balun
No external regulators required for USB supply operation
Full- speed USB 2.0 interface
WLAN coexistence interface
Green (RoHS compliant and no antimony or halogenated flame retardants)
Design optimised for low-cost PCB manufacture

General Description

BlueCore CSR8510 A10 WLSCP is a product from CSR's Connectivity Centre. It is a single-chip radio and baseband IC for Bluetooth 2.4 GHz systems including EDR to 3 Mbps.

Dedicated signal and baseband processing is included for full Bluetooth operation.

CSR designed CSR8510 WLCSP to reduce PCB area and the number of external components , including no requirement for an external balun. This ensures that production costs are minimised.

Applications

PC notebooks , netbooks and desktops
TV set-top boxes
USB Bluetooth dongles
Bluetooth designs requiring the USB interface and an HCI interface
Bluetooth low energy

Device Details

Bluetooth low energy

Dual-mode Bluetooth low energy radio
Support for Bluetooth basic rate/EDR and low energy connections
3 Bluetooth low energy connections at the same time as basic rate A2DP

Bluetooth Radio

Integrated balun (50Ω impedance in TX and RX modes)

No external trimming is required in production

Bluetooth v4.0 specification compliant

Bluetooth Transmitter

9.5dBm RF transmit power with level control from on-chip 6-bit DAC over a dynamic range >30dB

Class 1, Class 2 and Class 3 support without need for external PA or TX/RX switch

Bluetooth Receiver

Receive sensitivity of -91 dBm for basic rate

Integrated channel filters

Digital demodulator for improved sensitivity and co-channel rejection

Real-time digitised RSSI available on HCI interface

Fast AGC for enhanced dynamic range

Channel classification for AFH

Bluetooth Stack

CSR's Bluetooth Protocol Stack runs on the on-chip MCU:

Support for Bluetooth v4.0 specification features :

- Master and slave operation

- Including encryption

Software stack in firmware includes :

- GAP

- L2CAP

- Security Manager

- Attribute protocol

- Attribute profile

- Bluetooth low energy profile support

Physical Interfaces

Full-speed (12Mbps) USB 2.0 interface

Bluetooth V4.0 Dongle Specification

Key Features :

Bluetooth V4.0 Class2 (also compliant Bluetooth 2.1+EDR)

OS supported: windows 7, vista, XP

Plug and play

Dual-mode Bluetooth low energy radio USB dongle

Full speed USB 2.0 interface

Bluetooth end product

Bluetooth low energy Support Heart rate belt, Find me , Proximity , Generic Attribute Profile

Bluetooth 2.1+EDR Support A2DP, AVRCP, DUN-GW, HSP , HFP A2DP AVTCP, FTP, OPP, Audio-GW, FAX, BPP and tec.

RoHS compliant BQB, CE, CE and FCC

Applications:

PC notebooks, netbooks and desktops USB Dongle

TV set-top boxes

General Specification:

Bluetooth Specification	
Standard	Bluetooth V4.0
Profiles	Bluetooth low energy Dual-mode Bluetooth
Frequency Band	2.402G-2.480G
Sensitivity	-86dBm@.01%BER
RF TX Power	+6dBm(Class II)
Power	
Supply Voltage	5V DC(MAX5.75V)

Working Current	Depends on profiles, 22mA typical
Standby Current (Connected)	0.4uA
Operating Environment	
Temperature	-20°C to +70°C
Humidity	10% -90% Non- Condensing
Certifications	BQB/FCC/CE

Environmental

RoHS Compliant

Product Description:

Bluetooth V4.0

Support network, dial-up , fax . LAN access

Operating system: windows98, 2000, Vista, windows7

Universal serial USB interface:USB2.0/3.0

Transmission speed:3mbps

Receiving/sending range:20m

Main Features:

Bluetooth low energy wireless USB adapter

Dual-mode bluetooth transmission

Low-power and selectable 1.2/3.6v input/output

Support bluetooth voice and data

Support multi-language

Wireless local area network share interface