Bluetooth 4.0 USB Dongle Specification

Features

Bluetooth V4.0 Class2
Fully qualified Bluetooth v4.0 specification system
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
Green (RoHS compliant and no antimony or halogenated flame retardants)
Design optimised for low-cost PCB manufacture
OS supported: windows 7, vista, XP
Plug and play
Bluetooth low energy Support Heart rate belt, Find me , Proximity , Generic Attribute Profile
Audio-GW, FAX, BPP and etc.
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
RoHS compliant CE and FCC

General Description

BlueCore CSR8510 A06 WLSCP is a product from CSR's Connectivity Centre. It is a single-chip radio and baseband IC for Bluetooth 2.4 GHz systems
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

General Specification:

Bluetooth Specification	
Standard	Bluetooth V4.0
Profiles	Bluetooth low energy Dual-mode Bluetooth
Frequency Band	2.402G-2.480G
Sensitivity	-90dBm@.01%BER
RF TX Prower	-0.85dBm(Class Π)
Prower	
Supply Voltage	5V DC(MAX5.75V)

Working Current	Depends on profiles, 22mA typical
Standby Current (Connected)	0.4uA
Operating Environment	
Temperature	-20℃ to +70℃
Humidity	10%-90% Non- Condensing

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user’s authority to operate the equipment.
NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.