

## BlueTunes2

### BlueCore5-Multimedia audio development kit

- BC5-MM audio development kit contains everything to design superior Bluetooth audio applications
- Based on best-in-class BC5-MM single chip Bluetooth audio solution
- On-chip audio codec, 64MIPS DSP, Bluetooth radio, SMPS and battery charger
- Superior audio performance and long battery life
- < 50 BOM count for low cost and small PCB footprint



The BlueTunes2 development kit contains everything for rapid evaluation and development of Bluetooth stereo and mono audio applications. It is based on CSR's latest generation single chip Bluetooth audio solution: BlueCore5-Multimedia. The BC5-MM chip offers best in class performance with an integrated 64 MIPS DSP, audio codec, SMPS, battery charger and Bluetooth radio, thereby enabling advanced and ultra-compact stereo and mono headset solutions with less than 50 external components. Users can start evaluating straight away as the BlueTunes2 kit comes pre-loaded with stereo headset application software, including CVC echo and noise cancellation.

Along with CSR's BlueLab 3.6 software development suite and the CSR headset configurator tools (available separately) the development kit provides a very flexible and powerful development platform for designing advanced, high-quality, Bluetooth stereo and mono headsets based on the BlueCore5-Multimedia single chip Bluetooth audio solution.

A wide range of 3rd party software is available for the BC5-MM's open platform Kalimba DSP through CSR's eXtension software partner program. Extra features provided by eXtension partners include single and dual microphone echo cancellation and noise reduction, music enhancement and speech processing. See [www.csr.com/eXtension](http://www.csr.com/eXtension) for details.

#### Key Features

- Complete Bluetooth audio solution
- Pre-loaded stereo headset application including single microphone CVC echo/noise cancellation
- Wide range of 3rd party DSP software available through eXtension partner program.
- Support for SBC, MP3 and AAC audio formats
- Hardware and software to support simultaneous music and voice calls from phone or VOIP
- Fully qualified Bluetooth v2.0+EDR system with support for A2DP and AVRCP profiles
- -95dB SNR integrated stereo CODEC
- Integrated 64 MIPS Kalimba DSP Co-processor for advanced audio processing schemes through eXtension program
- Integrated switched-mode regulator and battery charger
- 32Mbits external Flash

#### Key Applications

- High quality stereo headsets
- Low-cost stereo headsets
- High quality mono headsets
- Single and dual mic echo and noise cancellation
- Hands-free car kits
- Wireless speakers
- VOIP phones
- Analogue and USB multimedia dongles



# BlueTunes2 audio development kit contents

## BC5-MM Stereo headset application board



This board features the latest CSR BlueCore5-Multimedia Bluetooth audio solution. It interfaces with stereo headphones and microphones and has flexible LED and push-button assignments. Battery current measurements can be carried out with a standard multimeter, and a PIO header allows for connection of further application hardware, such as displays.

## VOIP & Music USB dongles



The BlueTunes2 kit comes with USB music and VOIP dongles for streaming music or VOIP voice calls (Skype) from a PC over Bluetooth.

## Applications

The BlueTunes2 boards come preloaded with firmware and application software for rapid evaluation of the following user scenarios:

### Streaming of high-quality stereo audio over Bluetooth:

- From Bluetooth enabled phone or music player
- Using analog audio Bluetooth adaptor board
- From a PC using included USB Multimedia Bluetooth dongle

### Take calls whilst streaming music from:

- Bluetooth enabled phone
- Skype VOIP network using included USB VOIP dongle

## Ordering Information

Description	Features	Order Number
BlueTunes2 Development Kit	Development system for Bluetooth stereo headset and other advanced audio applications using BlueCore5-Multimedia	BTN-002-2A

- Buy online at [www.csr.com/order](http://www.csr.com/order)
- Or contact your local CSR distributor, see [www.csr.com/distributor](http://www.csr.com/distributor)



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## Analogue Audio Adaptor board



The analogue audio adaptor board has a 3.5mm jack input for connection with analogue audio sources such as MP3 players or radios. This board will stream stereo audio from these sources over Bluetooth to A2DP Bluetooth audio sinks, such as the BC5-MM Stereo headset application board.

## Headset, cables and quick-start guide



Included in the kit are a pair of high-quality stereo headphones with microphones as well as a quick-start guide, cables and programming hardware.

## Software and support

Please visit [www.csrsupport.com](http://www.csrsupport.com) for the latest support documentation, software and firmware.

Turn-key mono and stereo headset designs with configuration tools are available from CSR. Please visit [http://www.csr.com/development/bc\\_headsets](http://www.csr.com/development/bc_headsets)

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易迪拓培训([www.edatop.com](http://www.edatop.com))由数名来自于研发第一线的资深工程师发起成立，致力并专注于微波、射频、天线设计研发人才的培养；我们于 2006 年整合合并微波 EDA 网([www.mweda.com](http://www.mweda.com))，现已发展成为国内最大的微波射频和天线设计人才培养基地，成功推出多套微波射频以及天线设计经典培训课程和 ADS、HFSS 等专业软件使用培训课程，广受客户好评；并先后与人民邮电出版社、电子工业出版社合作出版了多本专业图书，帮助数万名工程师提升了专业技术能力。客户遍布中兴通讯、研通高频、埃威航电、国人通信等多家国内知名公司，以及台湾工业技术研究院、永业科技、全一电子等多家台湾地区企业。

易迪拓培训推荐课程列表：<http://www.edatop.com/peixun/tuijian/>



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该套装精选了射频专业基础培训课程、射频仿真设计培训课程和射频电路测量培训课程三个类别共 30 门视频培训课程和 3 本图书教材；旨在引领学员全面学习一个射频工程师需要熟悉、理解和掌握的专业知识和研发设计能力。通过套装的学习，能够让学员完全达到和胜任一个合格的射频工程师的要求…

课程网址：<http://www.edatop.com/peixun/rfe/110.html>

### 手机天线设计培训视频课程

该套课程全面讲授了当前手机天线相关设计技术，内容涵盖了早期的外置螺旋手机天线设计，最常用的几种手机内置天线类型——如 monopole 天线、PIFA 天线、Loop 天线和 FICA 天线的设计，以及当前高端智能手机中较常用的金属边框和全金属外壳手机天线的设计，通过该套课程的学习，可以帮助您快速、全面、系统地学习、了解和掌握各种类型的手机天线设计，以及天线及其匹配电路的设计和调试…

课程网址：<http://www.edatop.com/peixun/antenna/133.html>



### WiFi 和蓝牙天线设计培训课程

该套课程是李明洋老师应邀给惠普 (HP) 公司工程师讲授的 3 天员工内训课程录像，课程内容是李明洋老师十多年工作经验积累和总结，主要讲解了 WiFi 天线设计、HFSS 天线设计软件的使用，匹配电路设计调试、矢量网络分析仪的使用操作、WiFi 射频电路和 PCB Layout 知识，以及 EMC 问题的分析解决思路等内容。对于正在从事射频设计和天线设计领域工作的您，绝对值得拥有和学习！…

课程网址：<http://www.edatop.com/peixun/antenna/134.html>



## CST 学习培训课程套装

该培训套装由易迪拓培训联合微波 EDA 网共同推出, 是最全面、系统、专业的 CST 微波工作室培训课程套装, 所有课程都由经验丰富的专家授课, 视频教学, 可以帮助您从零开始, 全面系统地学习 CST 微波工作的各项功能及其在微波射频、天线设计等领域的设计应用。且购买该套装, 还可超值赠送 3 个月免费学习答疑…

课程网址: <http://www.edatop.com/peixun/cst/24.html>



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课程网址: <http://www.edatop.com/peixun/hfss/11.html>

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该套装是迄今国内最全面、最权威的 ADS 培训教程, 共包含 10 门 ADS 学习培训课程。课程是由具有多年 ADS 使用经验的微波射频与通信系统设计领域资深专家讲解, 并多结合设计实例, 由浅入深、详细而又全面地讲解了 ADS 在微波射频电路设计、通信系统设计和电磁仿真设计方面的内容。能让您在最短的时间内学会使用 ADS, 迅速提升个人技术能力, 把 ADS 真正应用到实际研发工作中去, 成为 ADS 设计专家…

课程网址: <http://www.edatop.com/peixun/ads/13.html>



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- ※ 一直致力并专注于微波射频和天线设计工程师的培养, 更了解该行业对人才的要求
- ※ 经验丰富的一线资深工程师讲授, 结合实际工程案例, 直观、实用、易学

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