



## Wireless Products Bluetooth® ICs



The BlueCore™ line of Bluetooth products for CSR integrate a radio and baseband along with peripherals to match your application requirements. Variants are available with integrated ROM or flash, Multimedia versions with integrated DSP and stereo codec, or Plug-n-Go™ with integrated balun, filter and matching.

**BlueCore™3:** CSR's complete v1.2 Bluetooth solution including eSCO (extended Synchronous Connections), which allows for retransmissions of dropped packets, allowing for a cleaner, better sound out of your Bluetooth device.

**BlueCore™4:** CSRs EDR (Enhanced Data Rate) v2.0 Bluetooth solution, it offers backwards compatibility with v1.1 and v1.2 Bluetooth devices. External Flash, ROM, Plug-n-Go™ and Headset versions are available to match your application. Offers up to 3 times the data rate as previous versions of Bluetooth with lower power consumption.

**BlueCore™5:** series offers the latest generation technology, offering compatibility with the next generation Bluetooth spec, v2.1.

| Memory Flash Type          | ROM (Mbits) | On-Chip (Mbits) | Features/Codec      | Operating Voltage   | Package   | Digi-Key Part No.                   | Cut Tape Pricing 1 10 50 | Digi-Key Part No.                   | Tape & Reel Pricing 2,000 | CSR Part No.       |
|----------------------------|-------------|-----------------|---------------------|---|-----------|-------------------------------------|--------------------------|-------------------------------------|---------------------------|--------------------|
| <b>BlueCore™3</b>          |             |                 |                     |   |           |                                     |                          |                                     |                           |                    |
| ROM                        | —           | 4               | PCM Interface       | Dual UART Ports, Self Test / 1.8V                                   | 42-CSP    | BC313141A18-IXF-E4CT-ND             | 5.15 45.32 175.10        | BC313141A18-IXF-E4TR-ND             | 2680.00/M                 | BC313141A18-IXF-E4 |
| ROM                        | —           | 4               | PCM Interface       | USB, Self Test / 1.8V   | 84-VFBGA  | BC313143A18-IRK-E4CT-ND             | 5.98 52.58 203.15        | BC313143A18-IRK-E4TR-ND             | 3100.00/M                 | BC313143A18-IRK-E4 |
| Multimedia External Flash  | —           | —               | 16-Bit Stereo Audio | DSP Co-Processor, Dual UART, Scattered / 1.8V                       | 120-VFBGA | BC352239A-IVQ-E4CT-ND               | 9.90 87.12 336.60        | BC352239A-IVQ-E4TR-ND               | 1550.00/M                 | BC352239A-IVQ-E4   |
| Multimedia, Plug-n-Go      | 8           | —               | 16-Bit Stereo Audio | DSP Co-Processor, Dual UART, Scattered, Regulator / 1.8V            | 96-LFBGA  | BC358239A-INN-E4CT-ND               | 18.50 162.80 629.00      | BC358239A-INN-E4TR-ND               | 9360.00/M                 | BC358239A-INN-E4   |
| Audio Flash                | 6           | —               | 15-Bit Linear Audio | UART, Scattered, On-Chip Regulator and Battery Charger / 1.8V       | 96-TFBGA  | BC31A223A-IVN-E4CT-ND               | 12.90 113.52 438.60      | BC31A223A-IVN-E4TR-ND               | 6710.00/M                 | BC31A223A-IVN-E4   |
| <b>BlueCore™4</b>          |             |                 |                     |   |           |                                     |                          |                                     |                           |                    |
| External Flash             | —           | —               | PCM Interface       | Dual UART Ports, USB, Scattered, Regulator, WiFi Coexistence / 1.8V | 96-TFBGA  | BC417143B-IQN-E4CT-ND               | 6.50 57.20 221.00        | BC417143B-IQN-E4TR-ND               | 3390.00/M                 | BC417143B-IQN-E4   |
| External Flash             | —           | —               | PCM Interface       | Dual UART Ports, USB, Scattered, Regulator, WiFi Coexistence / 1.8V | 96-VFBGA  | BC417143B-IRN-E4CT-ND               | 6.50 57.20 221.00        | BC417143B-IRN-E4TR-ND               | 3390.00/M                 | BC417143B-IRN-E4   |
| ROM                        | —           | 4               | PCM Interface       | Dual UART Ports, USB, Scattered, Regulator, WiFi Coexistence / 1.8V | 84-VFBGA  | BC41B143A06-IRK-E4CT-ND             | 6.75 59.40 229.50        | BC41B143A06-IRK-E4TR-ND             | 3510.00/M                 | BC41B143A06-IRK-E4 |
| ROM                        | —           | 4               | PCM Interface       | USB, UART, Scattered, Regulator, WiFi Coexistence / 1.8V            | 47-CSP    | BC41B143A06-IXB-E4CT-ND             | 5.80 51.04 197.20        | BC41B143A06-IXB-E4TR-ND             | 3010.00/M                 | BC41B143A06-IXB-E4 |
| Headset                    | —           | 6               | 15-Bit Linear Audio | UART, Regulator, Battery Charger / 1.8V                             | 96-TFBGA  | BC413159A06-IPK-E4CT-ND             | 9.15 80.50 311.00        | BC413159A06-IPK-E4TR-ND             | 4940.00/M                 | BC413159A06-IPK-E4 |
| Flash, Plug-n-Go           | 8           | —               | PCM Interface       | Dual UART Ports / 1.8V  | 96-LFBGA  | BC419143B-ANN-E4CT-ND               | 18.25 160.60 620.50      | BC419143B-ANN-E4TR-ND               | 9480.00/M                 | BC419143B-ANN-E4   |
| ROM, Plug-n-Go             | —           | 4               | PCM Interface       | Dual UART Ports / 1.8V  | 96-LFBGA  | BC41B143A06-ANN-E4CT-ND             | 10.68 93.94 362.95       | BC41B143A06-ANN-E4TR-ND             | 5550.00/M                 | BC41B143A06-ANN-E4 |
| Headset                    | —           | 6               | 15-Bit Linear Audio | USB, UART, Regulator, Battery Charger / 1.8V                        | 96-TFBGA  | BC413159A10-IPK-E4CT-ND             | 8.70 76.56 295.80        | BC413159A10-IPK-E4TR-ND             | 4520.00/M                 | BC413159A10-IPK-E4 |
| Headset                    | —           | 6               | 15-Bit Linear       | USB, UART, Regulator, / 1.8V  | 56-QFN    | BC413159A11-1QA-E4CT-ND <b>NEW!</b> | 6.13 53.90 208.25        | BC413159A11-1QA-E4TR-ND <b>NEW!</b> | 3180.00/M                 | BC413159A11-1QA-E4 |
| Audio Flash                | 6           | —               | 15-Bit Linear       | UART, LED Driver, Regulator, Battery Charger / 1.8V                 | 96-TFBGA  | BC41C671A-IPK-E4CT-ND <b>NEW!</b>   | 12.15 106.92 413.10      | BC41C671A-IPK-E4TR-ND <b>NEW!</b>   | 6320.00/M                 | BC41C671A-IPK-E4   |
| <b>BlueCore™ 5</b>         |             |                 |                     |   |           |                                     |                          |                                     |                           |                    |
| Multimedia, External Flash | —           | —               | 16-Bit Stereo Audio | USB, UART, Regulator, Battery Charger / 1.5V                        | 169-TFBGA | BC57E687B-ITB-E4CT-ND <b>NEW!</b>   | 11.10 97.68 377.40       | BC57E687B-ITB-E4TR-ND <b>NEW!</b>   | 5770.00/M                 | BC57E687B-ITB-E4   |

## Bluetooth® Application Development Kits and Reference Design Kits

Bluetooth Development Kits and Reference Design Kits provide hardware to evaluate many different application possibilities and give you the opportunity to develop with different BlueCore™ devices. Kits provide components with the Bluetooth application profile(s) along with CD with PSKEY editing software.

**AUTOSIRA-01** provides a hardware reference design utilizing the headset and hands-free profiles for car kits and hands-free kits for wireless audio. **BC2ABCD** provides a hardware reference design of a Bluetooth USB Dongle, Authorized Bluetooth Control Device for WHQL (Windows Hardware Qualification Lab) testing. **BTN-001A** BlueTunes1 Development Kit provides a hardware reference design for wireless stereo audio (headset, speakers), using the BlueCore™3 Multimedia Bluetooth IC. **BTN-002-2A** BlueTunes2 Development Kit provides a hardware reference design for wireless audio, comes with headset and a USB Music/Voice Dongle for VOIP calling and music streaming. **DEV-SYS-1487-1B** provides a UART and SPI Interface to your PC for your UniFi™ or BlueCore prototype boards. **DEV-RR-001-1A** provides a hardware reference design and complete solution for developing a hands-free application. Can be used with the **DEV-RR-SDK-01A** Software Development Kit to develop your user interface including custom ring tones and text-to-speech for PIN IDs and incoming Caller ID notification. The Software Development Kit provides you with source code and allows you to customize the software features and user interface to match your application.

|   |   |           |
|---|---|-----------|
| <b>AUTOSIRA-01-ND</b>                   | Hands Free Car Kit Reference Design, BlueCore2  | \$1250.00 |
| <b>BC2ABCD-USB-ND</b>                   | USB Dongle Reference Design, BlueCore2  | \$119.00  |
| <b>BTN-001A-ND</b>                      | BlueTunes1 Development Kit for Wireless Stereo Audio, BlueCore3 Multimedia                  | \$500.00  |
| <b>BTN-002-2A-ND</b>                    | BlueTunes2 Development Kit for Wireless Stereo Audio, BlueCore5 Multimedia                  | \$1000.00 |
| <b>DEV-SYS-164583-1A-ND <b>NEW!</b></b> | BC5-MM Development Board only   | \$400.00  |
| <b>BV-001-3A-ND</b>                     | BlueVox Development Board, Wireless Audio   | \$600.00  |
| <b>DEV-SYS-1487-1B-ND</b>               | USB Dongle Bluetooth EDR Reference Design, Nanosira, BlueCore4 External                     | \$100.00  |
| <b>DEV-SYS-1504-1A-ND</b>               | UART and SPI Level Shifter Interface Board for UniFi or BlueCore                            | \$300.00  |
| <b>DEV-RR-001-1A-ND</b>                 | RoadRunner Plug-n-Talk Reference Design Hardware, vehicle plug in for hands-free evaluation | \$1000.00 |
| <b>DEV-RR-SDK-01A-ND</b>                | Road Runner Plug-n-Talk Software Development Kit  | \$2000.00 |

## Wi-Fi Voice Development Kit

The DEV-SYS-UNIVOX-1A Development Kit provides a complete Voice-over-Wi-Fi phone reference platform. The UniVox platform provides the hardware design, with no license or royalty payment required. You can configure the MMI or leave it as is to develop your complete Voice-over-Wi-Fi Solution.

**DEV-SYS-UNIVOX-1A-ND** UniVox Voice over Wi-Fi Reference Design Development Solution UniFi™ ..... \$500.00

## Bluetooth® Development Tools

### Casira™

The Casira Development Kit allows for the development and testing of your Bluetooth design. This kit includes: 2 Casira development pods (each pod includes a BlueCore™ based module), power supplies and cords, programming and RS232 cables, 2 headsets and a CD with documentation and BlueSuite Software. BlueSuite includes drivers to communicate with the BlueCore devices at the HCI and RFCOMM layers, and programs such as BlueChat for establishing a data or voice link, and BlueTest which can be used to put the BlueCore device into test modes for radio development and qualification. BlueSuite also provides a Flash ROM loader and Device Firmware upgrade Wizard.

|                                      |   |           |
|--------------------------------------|---|-----------|
| <b>BCES01-ND</b>                     | Bluetooth Development Kit                       | \$3000.00 |
| <b>BCES01-EP-ND</b>                  | Casira End Point (Development Pod)              | \$700.00  |
| <b>ANT001-ND</b>                     | Antenna for Casira Module                       | \$18.26   |
| <b>CK001-ND</b>                      | Connector Kit (as fitted to Casira Motherboard) | \$24.60   |
| <b>CK003-ND</b>                      | DEV-PC-1264 board and cable                     | \$26.25   |
| <b>STK-417143B-1B-ND <b>NEW!</b></b> | Module (2) for Casira Development Kit           | \$250.00  |

### BlueLab™ SDK

The BlueLab SDK (Software Development Kit) provides developers with a graphical user interface to develop their Bluetooth application on the microcontroller that is on the BlueCore devices, providing for applications without a separate host processor. The xIDE development environment provides a Project Manager Interface to make development easier. BlueLab also provides source codes for several Bluetooth application profiles: SPP (Serial Port Profile), DUN (Dial-Up Networking), HID (Human Interface Devices), A2DP (Advanced Audio Distribution Profile), AVRCP (Audio Video Remote Control Profile) and others.

|                   |                                    |           |
|-------------------|------------------------------------|-----------|
| <b>BLUELAB-ND</b> | Bluetooth Software Development Kit | \$3000.00 |
|-------------------|------------------------------------|-----------|

## **NEW!** UniFi™ WLAN ICs

| WLAN Support | Interface | Features | Supply Voltage | Package | Digi-Key Part No.                          | Price Each 1 10 50                  | CSR Part No.                 |
|--------------|-----------|----------|----------------|---------|--|-------------------------------------|------------------------------|
| 802.11b/g    | SDIO/SPI  | OFDM/CCK | 1.5V           | 88-CSP  | UF1050A-IC-ECT-ND\$<br>UF1050A-IC-ETR-ND\$ | 15.48 13.62 10.53<br>16100.00/2,000 | UF1050A-IC-E<br>UF1050A-IC-E |

\$ Cut Tape    ‡ Tape and Reel

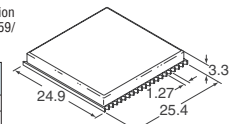
## **NEW!** **DELORME GPS Module and Kit**

The GPS2056-10 module is a high sensitivity, low power, SMD type 12-channel GPS receiver designed for a broad spectrum of OEM applications. Based on the fast and deep GPS signal search capabilities of the STMicroelectronics STA2056V-Paluniro chip, it features an integrated RF block combined with

the high performance CPU of ARM7TDMI microprocessor. The end result provides excellent navigation performance in the most challenging urban environments. The GPS2056-10 offers RTCA-SC159/WAAS/EGNOS support and provides excellent sensitivity and high configurability in a small package.

| Description                       | Frequency (MHz) | Hot/Warm/Cold Start (Seconds) | Package    | Digi-Key Part No.                        | Price Each 1 25 100         | Digi-Key Part No.    | Tape and Reel Pricing |
|-----------------------------------|-----------------|-------------------------------|------------|--|-----------------------------|----------------------|-----------------------|
| 12-Channel L1 GPS Receiver Module | 1575.42         | 1/38/114                      | 40-Pin SMD | GM-205610-000CT-ND\$<br>GM-2056EV-101-ND | 38.08 29.30 27.35<br>495.00 | GM-205610-000TR-ND\$ | 8710.00/335           |

\$ Cut Tape    ‡ Tape and Reel



~ Exclusive Preview ~  
**New Product Available Now!**

**B**