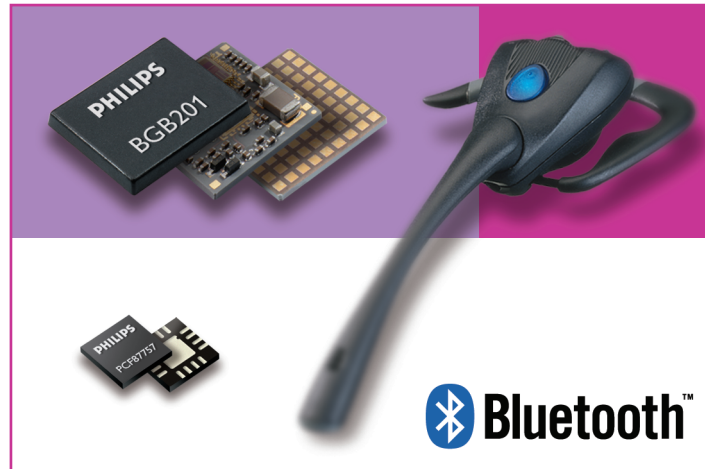


Philips *Bluetooth*™ Voice Solution

The *Bluetooth* Voice Solution includes everything required to add wireless voice capability to headsets and car kits. It is a low-cost, low-power approach that speeds time-to-market for products that deliver very long talk and standby times.



Key benefits

- Faster time-to-market for voice-enabled wireless headsets
- Very long talk and standby times
- Flexible design options
- Low total cost of ownership

Key Features

- Flexible *Bluetooth* options
 - TrueBlue BGB201 module
 - Blueberry PCF87752 and TrueBlue BGB101 module
 - Blueberry PCF87752 and UAA3559 transceiver
- Blueberry PCF87757 1.8V voice codec
 - Designed for use in *Bluetooth* applications
 - Low-power, low-noise support for microphone and headphones
- Baseband with 224 kB embedded Flash memory
- TEA1202 battery power unit
 - High-efficiency DC/DC converter for two cells or single-cell NiCd or NiMH
 - Two LDO voltage regulators for baseband and RF supplies
- Software stack
 - Takes advantage of hardware's low-power features
 - Includes headset and handsfree profiles

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Low-cost, low-power solution for *Bluetooth*™ wireless headsets

Semiconductors

The Philips *Bluetooth* Voice Solution is a fast, efficient way to add *Bluetooth* wireless connectivity to headsets and car kits. The solution combines a voice codec and a power unit with second-generation *Bluetooth* technology that can be optimized for a given application. The accompanying software stack takes full advantage of the hardware's low-power features, and includes headset and handsfree profiles.

Headsets built around the *Bluetooth* Voice Solution offer excellent talk and standby times. In a headset powered by a 150 mAh battery, for example, the *Bluetooth* Voice Solution delivers an impressive five hours of talk time and 150 hours of standby time.

Flexible *Bluetooth* options

Bluetooth Voice Solution can be customized to fit different application requirements, optimizing the *Bluetooth* function for board area, cost, or design complexity. The Blueberry™ PCF87757 voice codec and the TEA1202 power unit can be combined with one of the following:

- TrueBlue™ BGB201, full module including baseband and RF
- Blueberry PCF87752 baseband and TrueBlue BGB101 RF module
- Blueberry PCF87752 baseband and UAA3559 transceiver

TrueBlue BGB201 baseband and RF module

For the simplest design-in and the lowest chip-count, the TrueBlue BGB201 module is a drop-in solution that delivers complete *Bluetooth* functionality. Even engineers with limited knowledge of RF can successfully work with the BGB201.

Blueberry PCF87752 and TrueBlue BGB101 module

This *Bluetooth* option places baseband and RF functions on separate ICs. The PCF87752 Blueberry baseband IC integrates an enhanced version of the Ericsson *Bluetooth* Core (EBC) – the Philips *Bluetooth* Core (PBC) – and interfaces seamlessly with the TrueBlue BGB101 RF module.

PHILIPS

Philips *Bluetooth*[™] Voice Solution

Low-cost, low-power solution for *Bluetooth*[™] wireless headsets



The BGB101 integrates all the critical RF parts (baluns, TX/RX switch, bandpass filter, etc.), thus making the complexities of RF technology invisible to the designer. The RF functions are pre-tested, which prevents the need for tuning during design.

Blueberry PCF87752 and UAA3559 transceiver

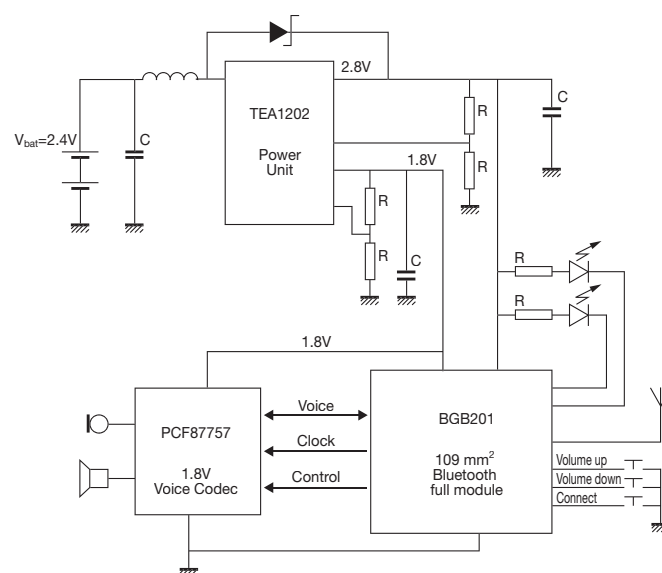
For designers with extensive RF knowledge who are comfortable working in the 2.4 GHz range, this *Bluetooth* option combines Blueberry PCF87752 with the UAA3559 transceiver. The UAA3559 is a low-cost, low-power *Bluetooth* radio IC with integrated VCO coils. Its LIF architecture eliminates SAW and crystal filters, and keeps external chip count to a minimum.

Blueberry PCF87757 voice codec

Designed for use in *Bluetooth* enabled systems, the Blueberry PCF87757 codec uses a fully differential structure that guarantees maximum noise resistance on the power-supply lines, thereby ensuring optimal voice quality with low power consumption. The audio input range meets telephony standards (300Hz to 3.4kHz). Integrated low-noise microphone supply and output drivers make for a compact, interoperable design. Headphone support includes 16 Ω (16mW) headphone drivers that offer a very wide range of volume control.

TEA1202 battery power unit

The TEA1202, a fully integrated battery power unit, includes a high-efficiency DC/DC converter, so applications can use two cells or a single-cell NiCd or NiMH battery. The TEA1202 also incorporates two low drop-out (LDO) voltage regulators (used for the baseband and RF supplies), and needs only a few external components. The TEA1202's DC/DC converter uses a novel digital-control concept to deliver efficient power conversion. The converter operates at a switching frequency of 600 kHz, enabling the use of external components with minimal board space requirements.



BlueberryVoice block diagram (TrueBlue BGB201 option)

For further reading:

BGB201	9397 750 10439
BGB101	9397 750 09786
PCF87752	9397 750 09789

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