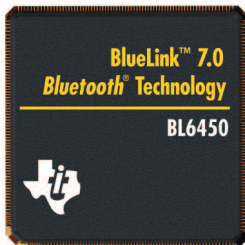


## BlueLink™ 7.0 WPAN solution: Bluetooth® and FM RX/TX single chip



### Key features

- Industry's smallest *Bluetooth*® and FM single-chip solution based on TI's 65-nm CMOS process and DRP™ technology with low power and cost
- Supports *Bluetooth* Specification 2.1+EDR and relevant features in next SIG releases
- Fully embedded FM and radio data system (RDS) receiver and transceiver, supporting U.S./European and Japanese FM band
- Enhanced performance:
  - Improved *Bluetooth* link robustness – supports power level higher than Class 2 without external power amplifier, best in class sensitivity level
  - Best in class FM RX sensitivity level and audio quality
  - Improved AFH algorithm with minimum adoption time
- Highly optimized for mobile phones systems
  - Single-ended *Bluetooth* RF interface
  - Low BOM count and small PCB layout area
  - WLAN coexistence mechanism enables substantial solution size and cost reduction
- Advanced power management for extended battery life and ease of design
  - Low power consumption for active, standby and scan modes
  - On-chip power management, including direct connection to battery support
- Flexibility for easy integration into various host system topologies:
  - Support both shared and separated interfaces for the *Bluetooth* and FM functions
- Supports multiple *Bluetooth* profile use-cases (complex scenarios) working concurrently with FM
  - FM receives/scans/sends RDS information to the host, while *Bluetooth* can be in any operational mode

## P R O D U C T B U L L E T I N

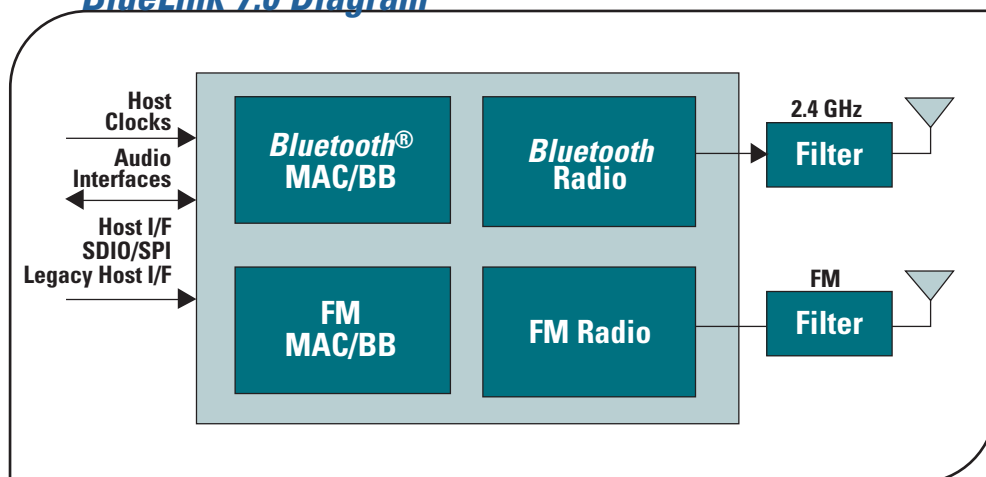
### BlueLink™ 7.0 Bluetooth® and FM single-chip solution

The BlueLink™ 7.0 platform provides a complete hardware and software solution for *Bluetooth* and FM, enabling ease of design and expediting time to market for mobile device manufacturers.

The BL6450 BlueLink™ 7.0 single chip is the industry's first *Bluetooth* solution manufactured in 65-nanometer (nm) CMOS. The solution's *Bluetooth* function is based on TI's fifth-generation *Bluetooth* core, and its FM function presents state-of-the-art performance in all critical FM parameters, such as current consumption, stereo signal-to-noise ratio (SNR), and sensitivity.

Since both the *Bluetooth* and FM functions are integrated on the same silicon, the solution ensures optimal RF coexistence. Consequently, the two functions can work simultaneously so that the FM function receives/scans/sends radio data system (RDS) information to a host, while the *Bluetooth* function is in any operational mode.

## BlueLink 7.0 Diagram



Compared to the BlueLink 6.0 *Bluetooth* and FM single chip, the BlueLink™ 7.0 solution adds support for FM transmit, including a programmable gain power amplifier with levels compliant to FCC and ETSI specifications, and higher power levels. It also includes FM analog and digital (I<sup>2</sup>S) data interfaces supporting voice quality sample rate and MP3 audio quality sample rates.

TI's power management hardware and software algorithms provide significant power savings in the most commonly used *Bluetooth* modes of operation, such as page and inquiry scan.

Leveraging TI's DRP™ technology and 65-nm process technology, the BL6450 is the industry's smallest *Bluetooth* and FM single-chip solution. This allows customers to realize significant cost and size savings due to:

- Significantly lower number of external components compared to discrete *Bluetooth* and FM solutions
- Significantly smaller number of interfaces (for the FM function) compared to a discrete *Bluetooth* and FM solutions

The BL6450 BlueLink 7.0 single chip also incorporates TI's *Bluetooth*/WLAN coexistence hardware and software solution, providing a collaborative interface with TI's WiLink™ mobile WLAN solutions for optimal bandwidth. TI's coexistence solution enables advanced usage scenarios such as VoIP over WLAN with *Bluetooth* voice using a shared antenna.

For more information

[www.ti.com/bluelink\\_7](http://www.ti.com/bluelink_7)

**Important Notice:** The products and services of Texas Instruments Incorporated and its subsidiaries described herein are sold subject to TI's standard terms and conditions of sale. Customers are advised to obtain the most current and complete information about TI products and services before placing orders. TI assumes no liability for applications assistance, customer's applications or product designs, software performance, or infringement of patents. The publication of information regarding any other company's products or services does not constitute TI's approval, warranty or endorsement thereof.

Technology for Innovators, the black/red banner, BlueLink and DRP are trademarks of Texas Instruments. The *Bluetooth* word mark and logos are owned by the *Bluetooth* SIG, Inc., and any use of such marks by Texas Instruments is under license. All other trademarks are the property of their respective owners.

A010307