WiLink™ 8.0 single-chip WLAN, GNSS, NFC, Bluetooth®, Bluetooth v4.0, ANT+ and FM Rx/Tx

Product Bulletin

WiLink™ 8.0 single-chip connectivity solutions

The WiLink 8.0 product family is a collection of 45-nanometer single-chip solutions that integrates up to five different radios, and sets the stage for next-generation mobile Wi-Fi®, GNSS, NFC, Bluetooth® and FM transmit/receive applications. The WiLink 8.0 architecture supports various combinations of these technologies, allowing for customized solutions to address the unique needs and price points of all mobile markets. Each chip variant comes in a compact WSP package that can be mounted directly on a PCB, and includes all required RF front ends, a complete power management system, and comprehensive coexistence mechanisms. At the system level, the five-radio WiLink 8.0 chip offers a 60 percent cost reduction, 45 percent decrease in size and 30 percent lower power consumption compared to traditional multi-chip offerings.

Key benefits

- Highest level of silicon integration, including the RF front ends for both 2.4 and 5GHz
  - Integrates seven leading mobile connectivity technologies: Wi-Fi, GNSS, NFC, Bluetooth, Bluetooth v4.0, ANT and FM cores
  - Provides flexible silicon configurations for various applications and use cases
  - Industry’s first integrated NFC controller solution for always-on operation
  - Decreases cost and size compared to current NFC solutions (~25mm²)
  - Includes “smart sense” power management
  - Enables secure, contactless use cases as standardized by the NFC Forum

- Ubiquitous positioning capabilities for always-aware hybrid location capabilities
  - Provides best-in-class outdoor positioning via blending of GNSS, Wi-Fi and sensor systems
  - Drives best-in-class indoor positioning via blending of Wi-Fi and sensor systems, complimented by Bluetooth low energy, ANT and NFC augmentation

- Mobile MIMO for fastest, highest throughput (20MHz 2x2 MIMO in 2.4 GHz)
  - Scales to support Wi-Fi throughput from 40MHz single-stream channels up to MIMO for mobile devices
  - Leverages the millions of installed access points available today
  - Enables faster streaming and higher-quality video content, including Wi-Fi Direct™, Wi-Fi-Display™
  - Yields 25 percent smaller size, 50 percent power savings as compared to 2x2 40MHz solutions

- Flexible 45-nanometer architecture, built on proven WiLink solution
  - Supports all categories and price tiers of Wi-Fi-enabled mobile devices
  - Enables easy product migration, with software driver reuse across entire family

[Diagram of WiLink™ 8.0 Solution]
WiLink 8.0 family: Fifteen product offerings, endless mobile opportunities

The WiLink 8.0 family includes highly integrated, five-radio WL189x solutions, tailored for smartphones, tablets, eBooks, ultrathin computing devices and other feature-rich mobile products. The WL187x, WL185x and WL183x solutions provide additional options for higher-to mid-tier devices, while the WL180x solutions address lower-cost mobile markets. The product family includes RF front ends for both 2.4 and 5GHz.

### Available technology options

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<th>WL187x solutions</th>
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### Key features and benefits

Best-in-class Wi-Fi for mobile applications: WiLink 8.0 solutions are available for all Wi-Fi throughput ranges, either using 2x2 MIMO or SISO 40MHz. Capable of reaching more than 100Mbps Wi-Fi TCP throughput on the 2.4GHz and 5GHz bands, the chips promise the fastest mobile streaming and high-definition (HD) mobile video capabilities, including Wi-Fi Direct™ and wireless display – all with low latency, low power consumption, and open source software support. WiLink 8.0 chips with integrated Wi-Fi MIMO yield 25 percent smaller size and 50 percent power savings as compared to other MIMO solutions.

Industry’s first integrated NFC controller solution: As the first combo chip family to embed a complete NFC controller solution, WiLink 8.0 devices make NFC integration possible – and more simplified – on any mobile device. The WiLink 8.0 combo chip with integrated NFC yields a more than 50 percent size reduction as compared to non-combo solutions, and is paired with best-in-class secure element solutions for highly protected transactions.

For more information: www.ti.com/wilink8

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