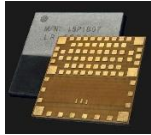


CONNECTIVITY

New miniature BLE smart module brought to market

By [ASPENCORE Network](#) Posted on November 23, 2018



Insight SiP, a specialist in ultra-miniature RF modules, recently introduced the ISP1807-LR, a Bluetooth 5.0 long-range compliant module in a miniature SIP package, which has been specially designed for complex IoT applications

The company is promoting it as the first fully Bluetooth 5.0 long-range compliant RF module in a miniature SIP package. Taking a closer look at the specs, the module is housed in an $8 \times 8 \times 1$ -mm footprint and is based on Nordic Semiconductor's nRF52840 chip.

Among its many noteworthy capabilities, the ISP1807-LR provides a complete Bluetooth 5 stack, including long range, high throughput, advertising extensions, and improved coexistence along with IPv6 connectivity and mesh capabilities. All told, the module is extremely well-suited as a hub for IoT solutions.

Author Gina Roos explains why:

The ISP1807-LR module targets IoT solutions that require complex applications, fast processing, and/or best-in-class power consumption, according to Insight SiP. These include advanced wearables, smart-home and industrial sensors, advanced remote controls, gaming controllers and beacons.

The BLE smart module also integrates 32-MHz/32-KHz crystals, RF antenna and matching circuit, and DC-DC converter, delivering power-saving efficiency. Thanks to an M4 floating-point processor, the ISP1807-LR can run fast and advanced calculations as well as support sophisticated applications with its 1-MB flash and 256-kB RAM memory. An embedded Arm Cryptocell-310 on-chip processor provides security and cryptographic functions, which reduces CPU processing time and energy consumption. A USB interface is also available.

Furthermore, according to Insight SiP: "The Nordic Semiconductor chip's BT5 long-range feature is perfectly complemented by Insight SiP's proven advanced 'Antenna-in-Package' technology, which allows customers to get the most out of the long-range capability. Bluetooth long range offers up to 4× the range of a standard BLE solution, enabling a new whole new set of use cases for BLE technology in domains such as smart buildings, lighting, agriculture, infrastructure management, and many others."

Among the protocols this module supports: BLE, THREAD, ANT/ANT+, and a range of proprietary 2.4-GHz protocols. An NFC Tag is available for OOB pairing. A full set of interfaces is integrated into the device for analog or digital peripherals including a configurable 46 GPIOs with 8 ADC and USB, SPI, I2C, and UART buses.

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