

Insight SiP claims module is first Bluetooth 5.0 long range-compliant option



Believed to be the first fully Bluetooth 5.0 long range-compliant RF module in a miniature SiP package, the ISP1807-LR module was launched by Insight SiP at Electronica 2018.

The module measures only 8.0 x 8.0 x 1.0mm. The Bluetooth low energy module is based on the nRF52840 chip from Nordic Semiconductor and offers a Bluetooth 5 stack including long range, high throughput, advertising extensions and improved co-existence, IPv6 connectivity and Bluetooth Mesh capabilities. These capabilities make the ISP1807-LR module particularly well-equipped to form the hub of IoT solutions, says Insight SiP.

The ISP1807-LR module is suitable for IoT solutions requiring complex applications, fast processing and/or effective power consumption, e.g. advanced wearables, smart home and industrial sensors, advanced remote controls, gaming controllers and beacons.

The Bluetooth low energy part of the ISP1807-LR integrates the nRF52840 chip, with 32MHz / 32kHz crystals, RF antenna and matching circuit and DC/DC converter, for power saving efficiency.

The ISP1807-LR Bluetooth Smart Module use its M4 floating point processor to run fast, advanced calculations and support applications with a memory capacity of 1Mbyte flash and 256kbyte RAM. The embedded Arm Cryptocell-310 on-chip processor provides security and cryptographic functions, saves CPU processing time and reduces energy consumption, adds Insight SiP. A USB interface is also available.

The nRF52840chip's Bluetooth 5 long range feature is complemented by Insight SiP's "Antenna in Package" technology, says the company. Bluetooth long range offers up to four times the range of a standard Bluetooth low energy device, for use in a new set of applications, such as smart buildings, lighting, agriculture and infrastructure management.

The ISP1807-LR supports protocols including Bluetooth low energy, Thread, ANT/ANT+ and a range of proprietary 2.4 GHz protocols. A near field communications (NFC) tag is available.

Free qualified Bluetooth low energy stacks for nRF52840 are implemented in the S140 SoftDevices and enable ISP1807-LR to be used in central, peripheral, observer or broadcaster with up to 20 connections. A full set of interfaces is integrated into the device for analogue or digital peripherals including a configurable 46 general purpose I/Os with eight ADC and USB, SPI, I2C and UART buses.

<http://www.insightsip.com>