



## **Module Offers Low Cost, High Quality, Advanced Bluetooth Technology**

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by Insight SiP

Following on from the success of its best-selling ISP 1507-AX module, Insight SiP, the specialist in ultra-miniature RF modules, is launching the ISP1507-AL module to give customers access to low cost, high quality, advanced Bluetooth technology. Based on the class-leading Nordic Semiconductor nRF52 series, this module offers a complete wireless connectivity solution, with an embedded antenna, integrated DC-DC converter, and includes both radio and synchronization crystals.

The ISP1507-AL module is ideal for situations where customers want to add wireless connectivity to an existing solution, or for new applications with basic memory requirements where nevertheless features, performance, and long battery life remain important.

The new ISP1507-AL module is perfect for mesh relay nodes and price sensitive solutions and suitable for IoT, wearable, industrial sensor and home network applications. This Bluetooth 5.0-ready module uses the latest nRF52 series chipset from Nordic Semiconductor, with Insight SiP adding its unique “System in Package” and “Antenna in Package” technology to provide a leading edge ready-to-use product. The module is the smallest on the market at only 8 x 8 mm in x/y dimensions, with a thickness less than 1mm (typ. 0.95 mm).

The ISP1507-AL module integrates the WLCSP nRF52810-CAAA chip from Nordic Semiconductor - offering a 32 bits ARM Cortex M4 CPU with floating point processor, 192 kB flash memory, 24 kB RAM, a complete set of 13 I/Os, analog and digital peripherals SPI, I2C and GPIO. Combined with its integrated 32 MHz / 32 KHz crystals, RF antenna and matching circuit and DC-DC converter, this module forms a standalone Bluetooth Low Energy node. Module certification for global market is pending. The ISP1507-AL is available today. All modules in the ISP1507 product range are pin-to-pin compatible.

Michel Beghin, CEO, Insight SiP said “We’re delighted to offer the ISP1507-AL to customers who want to integrate a high quality, low cost, ultra-miniature RF module into their products. We look forward to adding further new modules to the ISP1507 range in 2019.”

With its internal memory capacity and powerful processor, this module can act as the application hub, and replace additional microcontrollers required in previous generations of BLE products.

Despite the significant computing power on offer, power consumption is even lower than previous generations, with class leading performance at typically 5.8 mA for transmission, and reception, 0.8  $\mu$ A for standby mode and 0.3  $\mu$ A for deep sleep mode – and advanced power management enables battery lifetimes up to several years on a coin cell battery. Transmission output power reaches +4 dBm and reception sensitivity is also improved to -96 dBm.

The module runs the Nordic Bluetooth soft device which now supports a full Bluetooth V4.2 stack and is Bluetooth 5.0 ready. This product offers the very latest in Bluetooth Low Energy technology, with class leading performance in one single easy to use package.

To support product developers, Insight SIP offers a complete development kit together with sample software that provides everything required out of the box to start developing a solution on day one.

