# INP3010/3011EVB-A

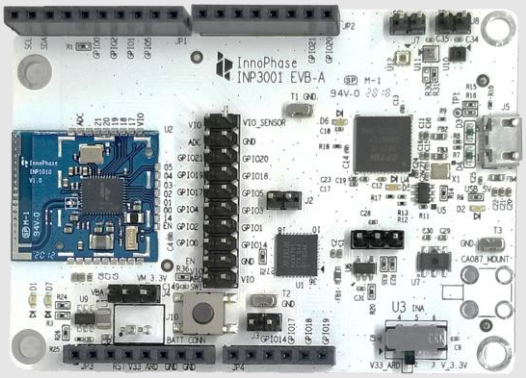
## Talaria TWO™ Evaluation Kits

### Complete Solution for Evaluating the Performance and Capability of Talaria TWO Modules

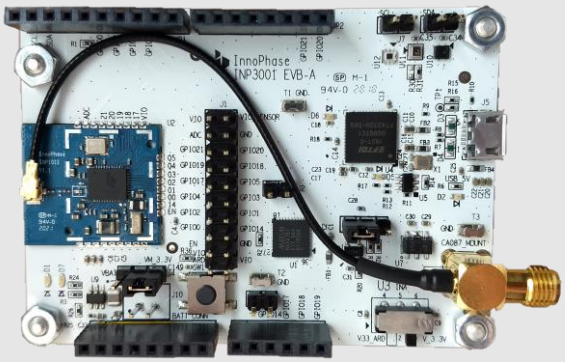
The INP3010/3011 EVB-A evaluation kits are available for measuring the performance and capability of the Talaria TWO INP1010/1010 modules. The modules use InnoPhase's award-winning Talaria TWO Multi-Protocol Platform with Wi-Fi and BLE for wireless data transfer, an embedded Arm Cortex-M3 for system control and user applications plus advanced security elements for device safeguards.

The kits include an Arduino UNO format baseboard with an INP1010 or INP1011 module attached. The boards can be used in stand-alone mode or attached to an Arduino UNO compatible host or shield board. The baseboards have all module GPIOs accessible through either an internal 20-pin header or the Arduino connectors. Power is supplied from USB, host Arduino board or battery connector. Also mounted on the baseboards are environmental sensors for capturing temperature, humidity, pressure and light.

**Ultra-Low Power Wireless Modules for Battery-Based IoT Designs**




**INP3010**
**(Includes INP1010 w/ PCB Antenna)**




**INP3011**
**(Includes INP1011 w/ U.FL Connector)**

## Ultra-Low Power

Industry's lowest Wi-Fi power consumption enables battery-based cloud-connected IoT products

## Superior Integration

Complete module solution including embedded microcontroller, clocks, passives and antenna connections

## Maximum Flexibility

Programmable radio protocols can be easily changed within microseconds through software APIs



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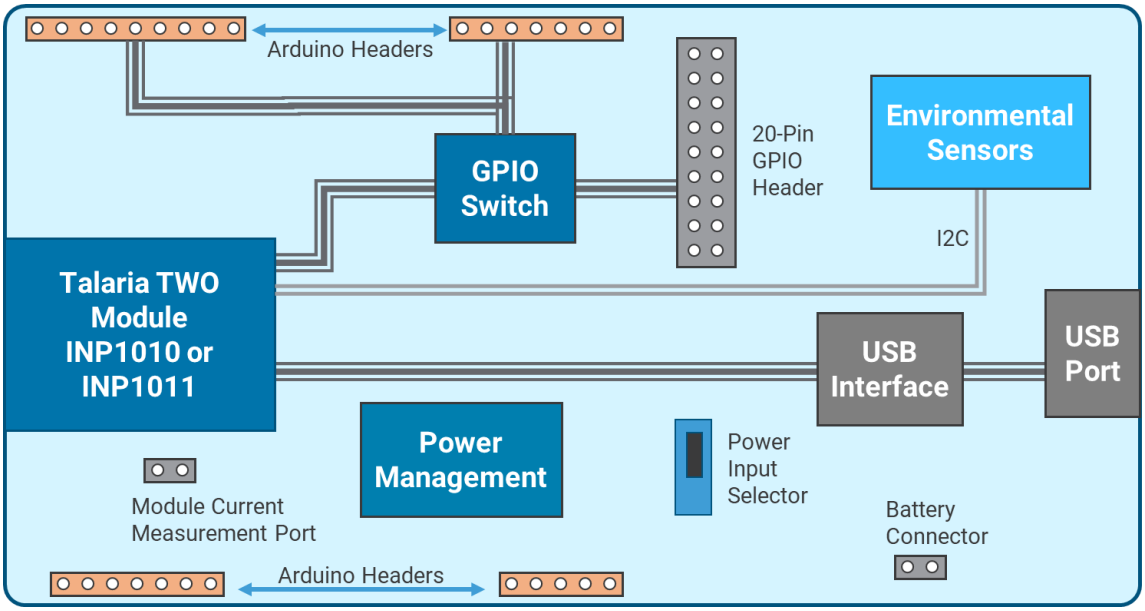
## INP3010/INP3011 Block Diagram




## INP3010/INP3011 EVB-A Kit Contents

| Product | INP3010 | INP3011 |
|---|---|---|
| Baseboard | EVB-A Baseboard, Arduino UNO Compatible (75.0mm x 53.3mm x 10mm) | |
| Talaria TWO Module Included (Mounted on Baseboard) | INP1010 (w/ PCB Antenna) | INP1011 (w/U.FL Antenna Connector) |
| Environmental Sensors (Mounted on Baseboard) | Temperature & Humidity (Sensirion SHTC3)<br>Pressure (Bosch BMP388)<br>Light (TI OPT3002) | |
| USB Interface | USB2.0 | |
| USB Cable | Male USB A to Male USB Micro-B | |
| Antenna | Not Included | Stub Antenna with Cable & U.FL Connector |
| Battery Holder | Dual "AA" Battery Holder with Wired Connector | |
| Accessories | 4x Stand-Offs and 4x Screw Nuts (Attached) | |
| Software | Available for Download at: http://www.innophaseinc.com/talaria-two-modules | |



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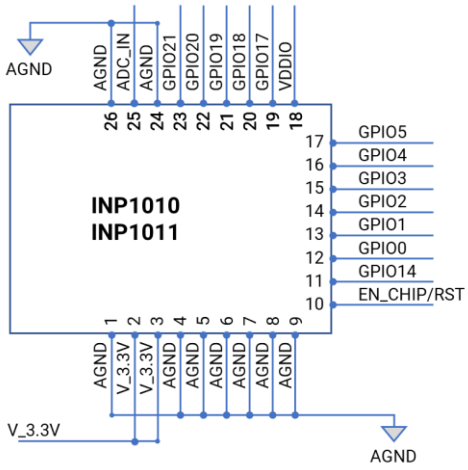
## INP1010/1011 Module Information




## INP1010/1011 Features

- Fully Integrated Module Including All Required Clocks & Passives
- Agency and Standards Certifications
- Hostless Operation Using Internal Arm Cortex-M3, or Connect to a Host MCU Through UART/SPI Ports
- Twelve (12) Configurable GPIO Ports
- Ultra-Low Power Wi-Fi Connectivity
- BLE5.0 with Advanced Features
- Full SDK Environment for Application Development
- Arduino Compatible EVB Available for Evaluation

## INP1010/INP1011 Product Specifications

| | |
|---|---|
| Wi-Fi Technology | 802.11 b/g/n, up to MCS7 Single-stream (1x1) |
| Bluetooth Technology | BLE 5.0<br>w/ Advanced Features: 2Mbps PHY, LE Coding (Long-Range), Extended Advertising |
| Frequency Band | 2.4GHz |
| Application Processor | Arm Cortex-M3, 80MHz |
| Embedded Memory | 512KB SRAM, 2MB Flash |
| Host Interface Options | UART, SPI (slave) |
| Peripherals | GPIO, 10-bit SAR ADC, PWM, PDM, SPI, UART JTAG, I2C, and I2S |
| Hardware Based Security | PUF (Physically Unclonable Function), Crypto Engines, Secure Boot |
| WiFi Active Mode Power/Performance (@ 3.3V) | TX Current Consumption/Output Power<br>802.11b DSSS 1 Mbps<br>129 mA (+14 dBm) 187 mA (+18 dBm)<br>802.11g OFDM 54 Mbps<br>105 mA (+12 dBm) 133 mA (+15.5 dBm)<br>802.11n OFDM 65 Mbps<br>92 mA (+9 dBm) 107 mA (+12 dBm)<br>RX Current Consumption/Sensitivity<br>802.11b DSSS 1Mbps<br>32 mA (-96 dBm) |
| WiFi Power Save Mode 802.11b, 1 Mbps (Clean Environment, @ 3.3V) | 150 µA (DTIM = 3)<br>97 µA (DTIM = 5)<br>57 µA (DTIM = 10) |
| BLE Active Mode Power Consumption (@ 3.3V) | 27 mA RX<br>52 mA TX (0dBm), 77mA TX (+10dBm) |
| Deep Sleep Mode (@ 3.3V) | 11-19µA (RTC, memory retained, depends on amount of memory retained) |
| Temperature Range | -40°C to +85°C |
| Antenna | PCB Antenna (INP1010) U.FL Connector (INP1011) |
| Packaging Information | 21.6mm x 19.1mm x 2.5mm (height includes shield)<br>26 Castellated Pins |



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