

Smart Video Application Development Kit

Ultra-Low Power Wi-Fi plus H.265+AI Video Processor

Accelerating Time-to-Market for Battery-Based Wi-Fi Video Cameras

InnoPhase IoT and Lumissil/Ingenic have partnered to develop the industry's leading smart wireless video solution. The system combines the InnoPhase IoT Talaria TWO™ ultra-low power Wi-Fi module and Ingenic's T31 Video Processor with deep learning algorithms to create a cutting-edge solution.

The cloud connected, battery-based video platform incorporates AI processing for new "Vision As a Sensor" applications, such as "smarter" security cameras, baby monitors, access control and identity verification systems.

Get to market quickly with application development kits that include hardware, software and design files to give your product design a head-start.



Ultra-Low System Power



Pre-Integrated Hardware & Software



Fast Time-to-Market

Talaria TWO Ultra-Low Power Wi-Fi + BLE5 Modules

PCB Antenna



INP1010

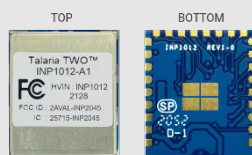
(21.6 x 19.1 x 2.5mm)

U.FL Connector



INP1011

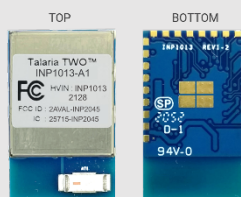
RF Pad



INP1012

(15.0 x 12.8 x 2.5mm)

Chip Antenna



INP1013

(20.0 x 12.8 x 3.08mm)

PCB Antenna



INP1014

(20.0 x 12.8 x 2.5mm)

U.FL Antenna



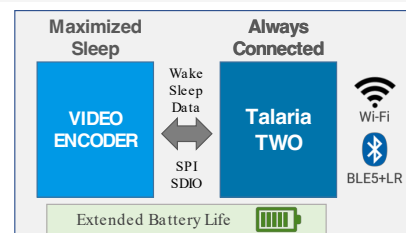
INP1015

(17.0 x 12.8 x 2.5mm)



Smart Video Cameras

- ✓ Exclusive Dual-Stack implementation Optimizes System Sleep
- ✓ Extended battery life while remaining cloud-connected
- ✓ “Cut the Cord” - deploy anywhere with over 1-year battery life *



Battery-Based Wi-Fi Cameras Video Surveillance Baby Monitors Video Doorbells Access Control

Ingenic T31 Video Processor

- **CPU:** Ultra high frequency, up to 1.5GHz, Vector Deep Learning accelerator base on SIMD128, RISC-V independent lite core
- **Video Encoder:** H.264/H.265/MJPEG encoder, Maximum 2592*1920@30fps
- **Starlight ISP:** Dedicated optimizations for low light and surveillance scenarios, Upgraded 2D / 3D noise reduction, Distortion correction
- **AI Algorithm:** Supports deep learning algorithms with high precision and good flexibility - Human detection, Facial detection/recognition, Cry detection, Vehicle detection, Pet detection
- **Memory:** Capacity of 512Mbit or 1Gbit
- **Audio:** Integrated Audio Codec, Support I2S Interface, Echo cancellation

Learn More: [Ingenic T31](#)

InnoPhase Talaria TWO Wi-Fi+BLE

- **Wi-Fi:** 802.11 b/g/n, up to MCS7 Single-stream (1x1)
- **BLE:** BLE 5.0 w/ Advanced Features: 2Mbps PHY, LE Coding (Long-Range), Extended Advertising
- **Frequency Supported:** 2.4GHz
- **Application Processor:** Arm Cortex-M3, 80MHz
- **Embedded Memories:** 512KB SRAM, 2MB Flash
- **Peripheral Interface to T31:** SDIO
- **Power Consumption:** Ultra-low power Wi-Fi to maintain internet/cloud connectivity for battery-based products
- **Ultra-Low Power Wi-Fi:** 57uA (DTIM10), 31mA (Rx, 802.11b), 81mA (Tx, 802.11n)
- **Optimized Software:** exclusive “Dual-Stack” SW implementation shares processing responsibilities between Talaria TWO and T31 to reduce system current consumption to the lowest level

Learn More: [Talaria TWO Modules](#)

Smart Video ADK Components

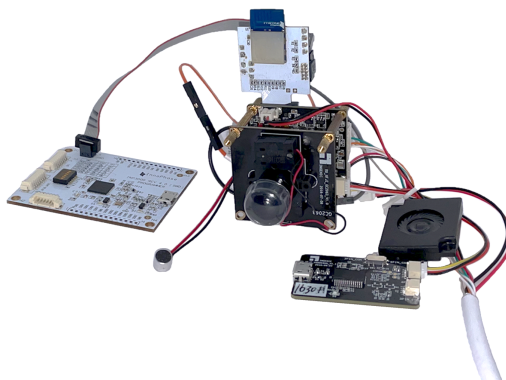
Lumissil/Ingenic T31X + InnoPhase Talaria TWO Integrated Solution

Ingenic Content:

- Ingenic T31 Video Processor
- 2M pixel, Full-HD @ 30fps image sensor
- USB Debug
- 12V Power Supply

InnoPhase IoT Content:

- InnoPhase Talaria TWO SDIO Adapter Board
 - Includes INP1014 module with PCB Antenna
 - JTAG Programming & Debug Header
- Linux SW Drivers for T31
- INP3000 Programmer Board w/ Cables
- Quick Start & User Guides



Supporting Software for Talaria TWO

Integrate these software components to further expand functionality:

- Device Provisioning over BLE
- AWS Cloud Connectivity
- Azure Cloud Connectivity
- Firmware Over-the-Air Updates (FOTA)

Contact InnoPhase IoT at sales@innophaseiot.com for a demonstration and access to the Smart Video ADK
(send an email and our global sales team will respond)

* Based on 3000mAh battery