

# 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 Cameras

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

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 a head start on your product design and time to market with a complete application development kit!



Ultra-Low System Power



Pre-Integrated Hardware & Software



Fast Time-to-Market

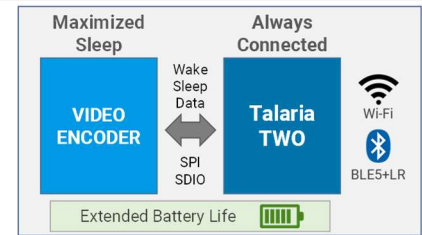
#### Talaria TWO Ultra-Low Power Wi-Fi + BLE5 Modules

PCB Antenna	U.FL Connector	RF Pad	Chip Antenna	PCB Antenna	U.FL Antenna
<b>INP1010</b> (21.6 x 19.1 x 2.5mm)	<b>INP1011</b> (21.6 x 19.1 x 2.5mm)	<b>INP1012</b> (15.0 x 12.8 x 2.5mm)	<b>INP1013</b> (20.0 x 12.8 x 3.08mm)	<b>INP1014</b> (20.0 x 12.8 x 2.5mm)	<b>INP1015</b> (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, RiscV 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

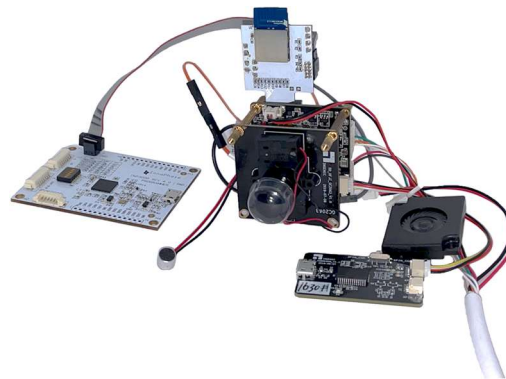
### Lumissil/Ingenic T31X + InnoPhase Talaria TWO Integrated Solution

#### Ingenic Content:

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

#### InnoPhase 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 at [sales@innophaseinc.com](mailto:sales@innophaseinc.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