

## PRODUCT DETAILS

The IVY5661, measured only 6cm x 3cm, is a micro-development board manufactured by uCRobotics. IVY5661 follows the Linaro 96boards IoT hardware design specification.

- Utilizing the 28nm UniSoC UWP5661 SoC embedded with ARM Cortex-M4 CPU with a frequency range of 416MHz.
- Built-in 32Mbit storage space
- Supports Wi-Fi IEEE 802.11ac 2x2 and Bluetooth 5.
- High-capacity storage and rich RF capabilities help users develop more complex and diverse IoT software.

### Zephyr supported

When it comes to software issues that developers are most concerned about, IVY5661 supports the Zephyr operating system. We all know that Zephyr is a real-time operating system for IoT devices from the Linux Foundation. Zephyr's strengths are not only that it is born, but also that it

1. supports modularity: you can use the native Zephyr RTOS, or you can customize your own solution.
2. Improve the integrated communication protocol stack, including device-to-device connections. The Zephyr team has joined the networking capabilities. The low-power Bluetooth (BLE) implementation was written from the ground up, and the IP protocol stack in the open source Contiki RTOS was ported to support IPv6, including low-power 6LoWPAN. Thanks to Zephyr's comprehensive network protocol stack support, the IVY5661's dual-mode RF solution is being leveraged.
3. Security: A Zephyr image can only be run as a single application, statically linked at compile time, and run in a single address space. Dynamically loaded modules are not supported, which greatly reduces malware attacks.
4. Zephyr offers a wide range of services: multi-threaded services, interrupt services, synchronization between threads, data transfer services between threads, power management services, and more.
5. Lightweight: The size of the Zephyr program of IVY5661 is less than 200kb. The memory usage is low.
6. Real-time: The advantage of the real-time operating system compared to the traditional operating system is self-evident, and the application direction is also an area where the data transmission speed is relatively high, which cannot be applied by the traditional operating system.
7. Community Support: Zephyr is an open source system sponsored by the Linux Foundation. Community support is perfect.

### Features

- First 28 nm IEEE 802.11ac 2x2 and Bluetooth 5 combo MCU chip, built-in 416 MHz ARM Cortex-M4 application processor, high throughput, low power consumption characteristics;
- Support Wi-Fi 802.11ac 2x2 dual band with the co-processor, MU-MIMO Rx, 80MHz bandwidth up to 866Mbps PHY data rate, repeater mode, RTT indoor positioning, easy connect, easy mesh and data element features;
- Support Bluetooth 5 with high power mode, BT mesh, and AOD indoor positioning features;
- Used intelligent household, IP camera, repeater Wi-Fi amplifier, high-fidelity audio system, and other networking applications.

### Zephyr Support

The Zephyr Project is a scalable real-time operating system (RTOS) supporting multiple hardware architectures, optimized for resource-constrained devices, and built with security in mind.

**Classification: GeneMPublic**

SoC	UWP5661@28nm
CPU	ARM Cortex-M4 Dual Core
Clock freq	416MHz
Storage	32Mbit
Wi-Fi	IEEE802.11ac 2x2
Bluetooth	Bluetooth 5
USB	2 x MicroUSB
Expansion Interface	UART/I2C/SPI/I2S/GPIO
LED	4 user LED
Button	2 Reset and User button
Power Source	Micro USB
OS Support	Zephyr
Size	60 x 30mm