OrbitLink Consulting

UNLOCKING THE POTENTIAL OF SPACECRAFT CONTROL AND COMMUNICATIONS

DEFENSE-ALIGNED SUPPLY CHAIN / USA32 REV A DEVELOPMENT BOARD

DevKitC-1 footprint, Wi-Fi 6. No PRC-headquartered parts.

A development board that fits where an **ESP32-S3-DevKitC-1** goes, built around the **u-blox IRIS-W106** with no parts from PRC-headquartered makers. Same width and header positions, so a carrier board can stay as it is.

Wi-Fi 6
Dual-band, internal antenna

BLE 5.4 + 802.15.4
On the same NXP RW612 radio

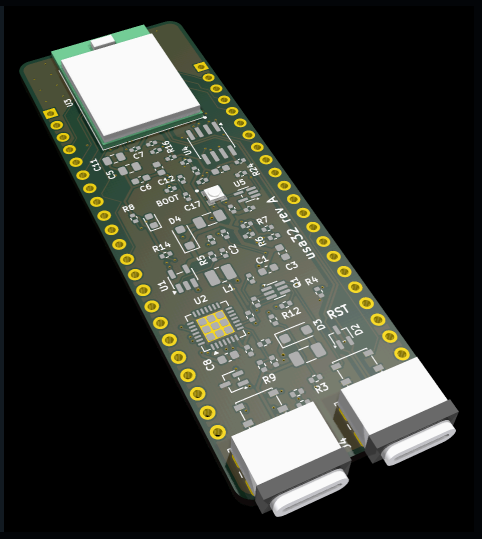
260 MHz
Arm Cortex-M33 in the RW612

25.4 × 73.3 mm
Same width, 10.5 mm longer to clear the antenna

2 × 22 pins
Same header positions, 22.86 mm apart

8 MB + 8 MB
Module flash plus on-board QSPI PSRAM

DESIGN RENDERING



01

Certified radio module

- **u-blox IRIS-W106** (NXP RW612), internal antenna
- FCC ID **XPYIRISW1**, IC **8595A-IRISW1** modular approval

02

Drop-in carrier fit

- Power, reset, UART0, BOOT and RGB LED on the **same pins**
- **22.86 mm** header spacing, as on the S3 DevKitC-1

03

USB

- Two **USB-C** ports replace micro-USB
- Port 1: Silicon Labs **CP2102N** USB-UART bridge
- Port 2: native **USB 2.0 High-Speed**

04

Development

- BOOT and RST buttons with auto-program
- ROM ISP boot over UART or USB with **blhost**
- Zephyr and MCUXpresso support on the RW612

05

Defense-aligned sourcing

- No parts from **PRC-headquartered makers**
- US or allied fab and per-lot origin set at order

06

Build

- Four-layer board with controlled-impedance USB
- USB-C ports at the same end as the S3 DevKitC-1

NOTICES

Figures are design values or estimates, not measurements. Available for US Government use and as evaluation kits for product developers, software developers and system integrators. Defense-aligned describes part selection, not NDAA, TAA or DFARS compliance.

Need a DevKitC-1 alternative?

Request a quote for a pilot build or a variant for your carrier.

orbitlink.org →