

NINA-W13 series

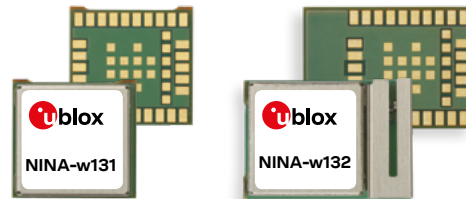


Stand-alone Wi-Fi modules



The most secure industrial Wi-Fi modules

- Wi-Fi 802.11b/g/n
- Superior security functionality with built-in secure boot
- Small footprint and multiple antenna options
- Feature rich, out-of-the-box connectivity software
- Pin compatible with other NINA modules
- Global certification



10.0 × 10.6 × 2.2 mm

10.0 × 14.0 × 3.8 mm

Product description

The NINA-W13 series is a small stand-alone wireless MCU module that integrates a powerful microcontroller (MCU) and a radio for wireless communication. The NINA-W13x modules come with pre-flashed application software, supporting 802.11b/g/n in the 2.4 GHz ISM band. The host system can set up and control the module through the AT command interface. This greatly reduces the time and complexity to add Wi-Fi connectivity to the end product.

The NINA-W13 modules provide top grade security, thanks to secure boot, which ensures the module boots up only with original u-blox software. In addition, they will provide end-to-end security on the wireless link with the latest 802.11i (WPA2) standard and enterprise security to provide a secure connection to the infrastructure. This makes NINA-W13 ideal for critical IoT applications where security is important.

Intended applications include telematics, low power sensors, connected factories, connected buildings (appliances and surveillance), point-of-sales, and health devices.

Device design is simplified as developers can choose to either use an external antenna (NINA-W131) or take advantage of the internal antenna (NINA-W132). Additionally, the NINA-W13 modules are pin-compatible with the NINA-B1 Bluetooth Low Energy modules, thus offering maximum flexibility for development of similar devices offering different radio technologies.

The NINA-W13 is designed for robust radio performance with plans for global certification. The modules will initially be certified for the US, Europe, Canada, and Taiwan. Certifications for other countries are planned. The modules will be qualified according to ISO 16750 for professional grade operation, supporting an extended temperature range of -40 °C to +85 °C.

Product selector

Model	Radio				Interfaces			Features				Security			Grade
	Wi-Fi IEEE 802.11 version	Wi-Fi output power EIRP (dBm)	Maximum Wi-Fi range (m)	Antenna type	UART	RMII *	GPIO	Wi-Fi Station	Wi-Fi Micro access point *	Point-to-Point Protocol (PPP) *	Extended Data Mode (EDM) TM	WPA / WPA2	Enterprise security *	Secure boot	Standard Professional Automotive
NINA-W131	b/g/n	19	400	P	•	•	13	•	•	•	•	•	•	•	•
NINA-W132	b/g/n	19	300	I	•	•	13	•	•	•	•	•	•	•	•

* = Planned features / P = antenna pin / I = internal antenna

NINA-W13 series



Features

Wi-Fi standards	802.11b/g/n 802.11d/e/i/h
Wi-Fi channels	2.4 GHz channels 1-11
Wi-Fi maximum transfer rates	802.11b: 11 Mbit/s 802.11g: 54 Mbit/s 802.11n: 72 Mbit/s
Output power	Wi-Fi: 19 dBm EIRP
Sensitivity (conducted)	Wi-Fi: -96 dBm
Antenna	Internal antenna or antenna pin for connecting to the external antenna

u-blox connectivity software

Connectivity software features	Wi-Fi station Wi-Fi micro access point*
Security features	WPA/WPA2 Enterprise security (EAP-TLS, LEAP, PEAP)* Secure boot
Extended Data Mode™	For individually controlled multipoint data channels
Point-to-Point Protocol	For UART-based IP connectivity between the host and the module; enables individually controlled data channels and AT commands in parallel*

Interfaces

NINA-W131 and NINA-W132	UART, GPIO, RMII*
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* Planned features

Package

Dimensions	NINA-W131: 10.0 x 10.6 x 2.2 mm NINA-W132: 10.0 x 14.0 x 3.8 mm
Weight	< 1 g
Mounting	Machine mountable Solder pins

Environmental data, quality & reliability

Operating temperature	-40 °C to +85 °C
Storage temperature	-40 °C to +85 °C
Humidity	RH 5-90% non-condensing

Electrical data

Power supply	3.0 V to 3.6 V
Power consumption	Wi-Fi 16 dBm: 190 mA Idle mode: 35 mA

Certifications and approvals

Type approvals	Europe (ETSI RED), US (FCC/CFR 47 part 15 unlicensed modular transmitter approval), Canada (IC RSS), Japan (MIC), Taiwan (NCC), South Korea (KCC) ¹ , Australia (ACMA) ¹ , New Zealand ¹ ; Brazil (Anatel) ¹ , South Africa (ICASA) ¹
Health and safety	EN 62479, EN 60950-1, IEC 60950-1
Medical Electrical Equipment	EN 60601-1-2

1 = Pending approvals

Support products

EVK-NINA-W131	Evaluation kit for NINA-W131 module with antenna pin
EVK-NINA-W132	Evaluation kit for NINA-W132 module with internal antenna

Product variants

NINA-W131	Wi-Fi module with antenna pin
NINA-W132	Wi-Fi module with internal antenna

Further information

For contact information, see www.u-blox.com/contact-us.

For more product details and ordering information, see the [product data sheet](#).

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