# Product Summary
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
- u-connect software for accelerated time to market
- Pin compatible with other NINA modules
- Global certification

Standard

Professional

Automotive

10.0 × 10.6 × 2.2 mm   10.0 × 14.0 × 3.8 mm
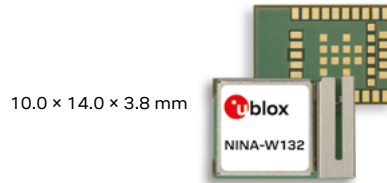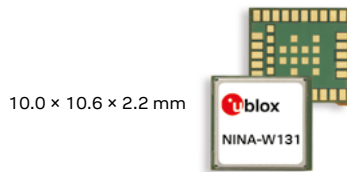
NINA-W131   NINA-W132

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-W13 modules are pre-flashed with u-connectXpress software. This software is easy to use and reduces the time, risk and cost to add Wi-Fi connectivity to the end product. The host system can set up and control the module through the AT command interface.

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 other NINA modules, thus offering maximum flexibility for development of similar devices offering different radio technologies.

The NINA-W13 series is globally certified and this reduces time to market for the end product. To ensure operation in harsh professional environments, the modules are industrial grade and qualified according to ISO 16750, supporting an extended temperature range of –40 °C to +85 °C.

	NINA-W131	NINA-W132
Grade		
Automotive		
Professional	•	•
Standard		
Radio		
Wi-Fi 2.4 / 5 [GHz]	2.4	2.4
Wi-Fi IEEE 802.11 standards	b/g/n	b/g/n
Wi-Fi output power EIRP [dBm]	19	19
Max Wi-Fi range [meters]	500	400
Antenna type	p	i
Application software		
u-connectXpress software	•	•
Interfaces		
UART	1	1
RMII	1	1
GPIO pins	13	13
Features		
AT command interface	•	•
Point-to-Point Protocol	•	•
Extended Data Mode	•	•
Wi-Fi throughput [Mbit/s]	20	20
Micro Access Point [max stations]	4	4
Wi-Fi enterprise security	•	•
Secure boot	•	•
WPA/WPA2	•	•

p = Antenna pin   i = Internal antenna

u-blox

NINA-W13 series

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Features

Wi-Fi standards	802.11b/g/n 802.11d/e/i/h
Wi-Fi channels	2.4 GHz channels 1-13
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-connectXpress software

Connectivity software features	Wi-Fi station Wi-Fi micro access point
Security features	WPA/WPA2 Enterprise security (EAP-TLS, 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

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 15 dBm: 125 mA Idle mode: 38 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), Brazil (Anatel), Australia (ACMA) [1], New Zealand [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.