

u-locateAnchor



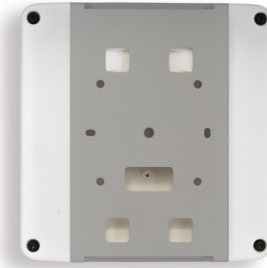
Bluetooth® Low Energy angle-of-arrival anchor point

Complete anchor point/locator for indoor positioning

- Optimal combination between accuracy, cost, and power consumption
- Fully compliant with Bluetooth LE 5.1 direction finding standard
- Features u-blox ANT-B10 Bluetooth LE AOA antenna board
- Ethernet and wireless connectivity for backhaul communications and configuration
- Durable, water-resistant casing with variety of mounting options



135 x 135 x 45 mm



u-locateAnchor
B10

Product description

The u-locateAnchor is the first complete anchor point offering from u-blox. An integral part of the comprehensive u-locate solution for indoor positioning, u-locateAnchor offers great performance down to 10 cm accuracy.

An embodiment of the u-blox world-leading positioning expertise, u-locateAnchor encompasses many years of research in the field of indoor positioning. It is packed with u-blox technology and products: It features the ANT-B10 antenna board for direction-finding, including the integrated NINA-B411 module that runs the advanced Bluetooth LE AoA algorithm. It also includes a host board with the IRIS-W106 module, which offers dual-band Wi-Fi 6, Bluetooth connectivity, and a powerful CPU.

u-locateAnchor allows the highest possible flexibility. The user can choose between Ethernet and Wi-Fi backhaul interfaces and can supply power via Power-over-Ethernet or USB-C.

Installing, setting up, and configuring a complete indoor positioning system are complex and time-consuming tasks. The u-locate solution has been designed with the goal of simplifying these as a priority. u-locateAnchor addresses this by means of its NFC chip for easy configuration and provisioning via the u-locate mobile app and with its inertial measurement unit (IMU) for detailed and automated anchor orientation.

Indoor, industrial environments can be challenging. Therefore, u-locateAnchor features an IP44 rated enclosure, offering great protection against solid objects and water resistance. Furthermore, it allows a variety of mounting options for walls, ceilings, pipes, and camera tripod mounts for even the most detailed orientation adjustments.

Grade	
Automotive	
Professional	
Standard	•
Direction finding antenna / radio board	
Bluetooth LE antenna board	ANT-B10
Antenna type	2-port patch antenna
Bluetooth LE module	NINA-B411
Manufacturer	u-blox AG
Bluetooth version	5.1
Band support	2.402 GHz – 2.480 GHz
Supported 2.4 GHz radio modes	Bluetooth Low Energy
Bluetooth output power [dBm]	TBD
Supported Bluetooth LE data rates	1 and 2 Mbit/s
Host board and interfaces	
Module inside	IRIS-W106
Backhaul interfaces	Ethernet RJ45 Wi-Fi 2.4 and 5 GHz
Provisioning interfaces (via app)	Bluetooth LE, NFC
Wi-Fi IEEE 802.11 standards	a/b/g/n/ac/ax
Wi-Fi output power EIRP [dBm]	TBD
Bluetooth version	5.3
Bluetooth Low Energy	Yes
Bluetooth output power EIRP [dBm]	TBD
Antenna type	Embedded PCB
Power supplies	Power-over-Ethernet, USB-C
FOTA	Yes
Software configuration API	MQTT client
Angle-of-arrival data API	MQTT client
WPA2/WPA3	Yes
Features	
Provisioning mobile app	Android, iOS
LED identification	Yes (RGB)
Inertial Measurement Unit (IMU)	BMI323
Magnetometer	BMM350
Enclosure	IP44
Mounting options	Wall, ceiling, pipe, camera tripod



Features - direction-finding board

Antenna	u-blox ANT-B10
Number of patch antennas	8
Patch antenna polarization	Dual (horizontal / vertical)
Peak gain	-14 dBi (includes RF switch and path losses)
Module inside	NINA-B411 standalone Bluetooth 5.1 low energy module

Features - host board

Wi-Fi standards	IEEE 802.11a/b/g/n/ac/ax
Wi-Fi channels	2.4 GHz channels 1-13 (depending on region) 5 GHz: 36-165, U-NII bands 1, 2, 2e, 3 (depending on region)
Wi-Fi maximum transfer rates	IEEE 802.11a/g: 54 Mbit/s IEEE 802.11b: 11 Mbit/s IEEE 802.11n: 72 Mbit/s IEEE 802.11ax: 115 Mbit/s
Output power (conducted)	Wi-Fi 2.4 GHz: 18 dBm Wi-Fi 5 GHz: 16 dBm Bluetooth: 13 dBm
Sensitivity (conducted)	Wi-Fi 2.4 GHz: -97 dBm Wi-Fi 5 GHz: -90 dBm Bluetooth: -96 dBm
Bluetooth (Host board)	v5.3 Bluetooth Low Energy
Bluetooth PHY rate	125 kbit/s, 500 kbit/s, 1 Mbit/s, 2 Mbit/s
Module inside	IRIS-W106 stand-alone Wi-Fi 6 multiradio module

Electrical data

Power supply	Power-over-Ethernet, USB-C
Power consumption	TBD

Package

Dimensions	135 x 135 x 45 mm
Weight	600 g
Mounting	Wall, ceiling, pipe, camera tripod

Environmental data, quality and reliability

Operating temperature	0 °C to +60 °C
Storage temperature	-20 °C to +70 °C
Humidity	Dry heat, +60 °C / < 50% RH / 8 h in operational mode Damp heat +60 °C / 85% RH / 1 week in operational mode, TBD
ESD Level	ESD Level 1

Certifications and approvals ¹

Type approvals (planned)	Europe (ETSI RED); Canada (IC RSS); US (FCC); Great Britain (UKCA), Japan (MIC), South Korea (KCC), Taiwan (NCC), Australia (ACMA), New Zealand, Brazil (Anatel), South Africa (CASA)
Health and safety	IEC 62368-1
Immunity and Emissions	IEC 61000-4
Bluetooth qualification	v5.1 (Bluetooth low energy)

¹ = Pending approvals

Product variants

u-locateAnchor B10	Bluetooth Low Energy angle-of-arrival anchor point for indoor positioning with ANT-B10 Bluetooth 5.1 direction finding antenna board
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Further information

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

For more product details and ordering information, see u-locate page.

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