

ANT-B10

Bluetooth Low Energy 5.1 antenna board

Self-contained Bluetooth Low Energy board for direction finding and indoor positioning

- Compact, eight-element antenna array
- Runs u-locateEmbed software for high-precision indoor positioning
- Outputs final angles, ready to be used on application level
- High immunity to multipath effects
- Bluetooth 5.1 compliant

Product description

The ANT-B10 is a compact antenna board designed specifically for Bluetooth angle of arrival (AoA) direction-finding systems. It features eight patch-antenna elements in an arrangement that offers optimal performance in the presence of multipath effects. It measures the angle of an incoming Bluetooth Low Energy (LE) radio signal with high accuracy, and in conjunction with at least two more ANT-B10 boards and positioning engine software, it can determine the precise position of a Bluetooth LE device in an indoor environment.

It features the NINA-B411 Bluetooth 5.1 standalone module running the u-locateEmbed software, which implements the unique u-blox direction-finding algorithm for high-precision indoor positioning.

ANT-B10 includes a widely available standard pin header that provides a digital interface to the application board, thus forming a complete AoA anchor point. The ANT-B10 antenna board together with the EVB-ANT-1 development platform comprise the XPLR-AOA-3 kit. The user can plug the two boards together and have an AoA anchor point within seconds.

Patch antenna characteristics

Frequency	2.402 – 2.480 GHz
Polarization	Dual (Horizontal/Vertical)
Peak gain	-14 dBi (includes RF switch and path losses)

Environmental data

Operating temperature	-40 °C to +85 °C
Storage temperature	-40 °C to +85 °C

* Note: u-locateEmbed was previously named u-connectLocate.

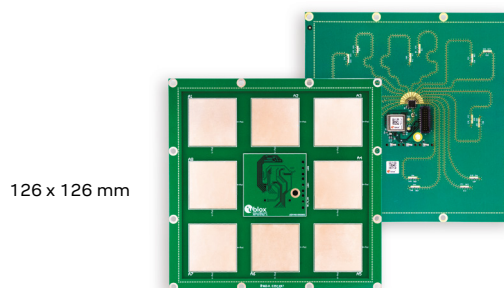
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UBX-21047856 - R05



126 x 126 mm

Mechanical data

Size	126 x 126 mm
Connector	20-pin surface mount header connector (1.27 mm pitch)
Mounting	3.2 mm holes for fastening to development/application boards

Certifications and approvals

Type approvals	Europe (ETSI RED); Canada (IC RSS); US (FCC/CFR 47 part 15 unlicensed modular transmitter approval); Great Britain (UKCA); South Korea (KCC); Japan (MIC) ¹ ; Australia (ACMA) ¹ ; New Zealand ¹ ; Taiwan (NCC) ¹ ; Brazil (Anatel) ¹ ; South Africa (ICASA) ¹
Health and safety	EN 62479, EN 62368-1, IEC 62368-1
Medical Electrical equipment	EN 60601-1-2:2015 ¹
Bluetooth qualification	5.1 (Bluetooth Low Energy)

¹ = Certification or approval pending

Support products

XPLR-AOA-3	Bluetooth 5.1 Direction Finding Explorer Kit with: u-locateEmbed software, ANT-B10 antenna board, EVB-ANT-1 development platform, and C209 tag
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Product variants

ANT-B10	Bluetooth 5.1 direction-finding antenna board with NINA-B411 standalone Bluetooth module and eight-element antenna array. Runs u-locateEmbed software.
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Further information

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

For more product details and ordering information, visit www.u-blox.com/product/ant-b10-antenna-board.