Product summary

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
- Embedded AoA calculation with u-connectLocate
- 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, programmed with the u-connectLocate software, which implements the unique u-blox direction-finding algorithm. 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: -3 dBi

Environmental data
- Operating temperature: -40 °C to +85 °C
- Storage temperature: -40 °C to +85 °C

Mechanical data
- Size: 126 x 126 mm
- Connector: Samtec TFM-110-12-S-D-LC connector
- 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); Japan (MIC); Australia (ACMA); New Zealand; South Korea (KCC); Taiwan (NCC); Brazil (Anatel); South Africa (ICASA)
- Health and safety: EN 62479, EN 62368-1, IEC 62368-1
- Medical Electrical equipment: EN 60601-1-2:2015
- Bluetooth qualification: 5.1 (Bluetooth Low Energy)

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

Product variants
- ANT-B10-00C: Bluetooth 5.1 direction-finding antenna board with NINA-B411 standalone Bluetooth module and eight-element antenna array

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