

Ubisense Tag Module

This module provides the precise tracking capabilities of the standard Ubisense tags together with the ability to easily integrate that functionality into other devices. It is supplied with a 20-way (2x10) 1.27mm pin header, which provides for power supply, general input/output and serial data communication, enabling increased integration flexibility.

The Ubisense Tag Module has received certification as a plug-in radio device, simplifying emissions testing of finished products which include the module.



Features

Accurate Location

The Tag Module transmits ultra-wideband (UWB) radio pulses which can be used by the Ubisense location system to find its position to within 30 cm in 3D dependent on system configuration and environment. By using UWB, the system's accuracy is maintained even in cluttered, metallic indoor environments. The Ubisense UWB location system is the only one capable of measuring both Angle-of-Arrival (AoA) and Time-Difference-of-Arrival (TDoA) of the tag's signals, enabling it to generate accurate 3D tracking information even when only two sensors can detect the module.

Integration-ready Features

The Ubisense Tag Module is intended for direct integration into other products. It is compact, includes all required antennas (permanently attached to the module), and has a 20-way expansion header that can be used to supply power to the device. Furthermore, the header allows the module to communicate bidirectionally with a host device or external sensors and actuators.

Two Way Communication

Ubisense Tag Modules employ the unique dual-radio architecture used by other Ubisense tags. In addition to the one-way UWB radio used for tracking, modules have a conventional bi-directional 2.4GHz radio for control and telemetry. The two-way communication capability allows the Ubisense system to dynamically manage the module's update rate and wirelessly reprogram the module to enable new features. Additionally, the host device may use the module's radio to send and receive information wirelessly, so integrators do not need to include an additional wireless link in their product for this purpose.

Flexible Update Rates

The Ubisense software platform allows the module's update rate to be dynamically and automatically varied depending on module activity. If the module is moving quickly, a high update rate can be assigned for best tracking; if it is moving slowly the update can be reduced for best battery lifetime. When stationary, modules sleep to conserve power, and an in-built motion detector ensures the module transmits again as soon as it is moved.

Certification

The Ubisense Tag Module has received Modular Certification in the US and Canada, and is designed to meet plug-in radio module requirements in Europe. By following the instructions supplied with the Ubisense Tag Module, integrators will minimise the RF emissions testing required on their final product.

Specifications

Size and Weight

Dimensions 24.5mm x 24.5mm x 9.1mm

(1.0" x 1.0" x 0.36")

Weight 6g (0.21 oz)

Operating and Storage Temperature

-40 °C to 85 °C (-22 °F to 158 °F)

Humidity 0 to 95%, non-condensing

Update Rate 0.00225Hz up to 33.75Hz

(can be varied dynamically under software control)

Connectors

20-way expansion header

Radio Frequencies

Ultra-wideband 6GHz – 8GHz

Telemetry channel narrow-band
2.4GHz

Certifications

FCC Part 15 (FCC ID SEAMOD21)

CE marked

Industry Canada identifier 8673A-MOD21

Ubisense Part Code

UBIMOD7021

About Ubisense

Ubisense is the world leader in Precise Real-Time Location Systems, tracking unlimited numbers of people and objects in any space of any size. With unmatched 15cm 3D tracking accuracy and high reliability, its acclaimed open standards technology platform gives enterprises the power to bring visibility and control to previously intractable business processes. Together Ubisense consulting and its partners, such as Atlas Copco, Lockheed Martin and Raytheon deliver geospatial and RTLS systems, pioneering innovation whilst reducing costs, gaining competitive advantage and improving safety for companies across all vertical markets. With over 400 customers worldwide including BMW, Caterpillar, Airbus, Duke Energy, Deutsche Telekom and the US Army, Ubisense is revolutionising industries today. Visit www.ubisense.net

For further information please contact: enquiries@ubisense.net

Worldwide offices

Ubisense UK & Ireland

St Andrews House
90 St Andrews Road
Cambridge CB4 1DL, UK
Tel: +44 (0) 1223 535170

Ubisense Europe

ADAC Haus
Freie-Vogel-Str. 393
44269 Dortmund
Germany
Tel: +49 (0) 231 99955 500

Ubisense Americas

5445 DTC Parkway, Suite 1110
Denver, CO 80111, USA
Tel: +1 303 539 6922

Ubisense Asia Pacific

1 Fullerton Road
02-01 One Fullerton
Singapore 049213
Tel: +65 6472 0186

Ubisense Korea

Youngdong Tower #902
300-4, Sungsu-Dong 2-GA
Sungdong-Gu
Seoul, 133-120
Korea
Tel: +82 2 529 1472

Ubisense Canada

349 W. Georgia Street
PO Box 2690 Station Main
Vancouver, BC V6B3W8
Tel: +1 720 249 4149

Ubisense Australia

Level Twelve 200 Queen Street
Melbourne VIC 3000
Australia
Tel: +61 3 8681 0444

Ubisense New Zealand

Level 3, 10 O'Connell St
PO Box 6714 Wellesley St
Auckland 1010
New Zealand
Tel: +64 9 304 1048

Ubisense reserves the right to change technical specifications without prior notice.
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