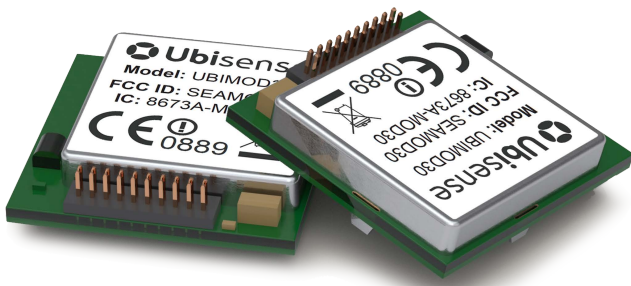# DIMENSION4

UWB Tag Module

Ubisense

OVERVIEW

The Ubisense DIMENSION4 Tag Module provides 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 (2 x 10) 1.27mm pin header, which provides for power supply, general input / output and serial data communication, enabling increased integration flexibility.

ACCURATE LOCATION

The tag module transmits ultra-wideband (UWB) radio pulses which can be used by the Ubisense location system to find its position. By using UWB, the system's high accuracy is maintained even in cluttered, multipath-rich 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 tag module.

Specifications

Dimensions:
25.4mm x 24.5mm x 9.1mm
(1" x 1" x 0.36")

Weight:
5g (0.18oz)

Temperature:
-40°C to 85°C (-40°F to 185°F)

Humidity:
0 to 95%, non-condensing

Enclosure:
N/A

Update rate:
Up to 30Hz (configured during commissioning)

Peripherals:
20-way expansion header, Motion detector

Radio frequencies:
Ultra-wideband channel: 6 - 7GHz
Configuration channel (optional): Narrow-band 2.4GHz

Certifications:
US: FCC Part 15; FCC ID SEAMOD31
EU: CE
Canada: RSS-Gen, RSS-210, RSS-220; IC: 8673A-MOD31
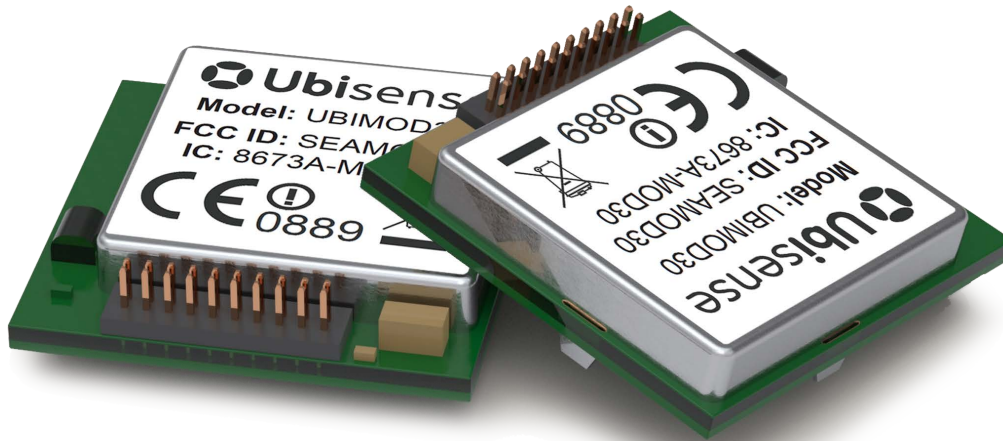
Power supply:
Powered by host device

Mounting options:
N/A

Ubisense part codes:
D4MODULE31

INTEGRATION-READY FEATURES

The DIMENSION4 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 bi-directionally with a host device or external sensors and actuators.

FLEXIBILE UPDATE RATES

The update rate of the Tag Module may be automatically varied depending on tag activity. An inbuilt motion detector ensures that when the tag is moving, a high update rate is assigned for best tracking; if it is stationary, the update rate may be reduced.

LOCATION AWARE DEVICES

DIMENSION4 is already integrated into several production-critical industrial tools and devices supporting location-aware process control. This includes high-end torque tools, barcode scanners and tablets.

CERTIFICATION

The DIMENSION4 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.

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