

AeroScout™ T2 Tag

Model No. BWH3000

Operational Description

Version 1.0

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1. Introduction

The AeroScout™ T2 Tag is a key component of the AeroScout™ Location System. These dedicated battery-powered Tags send 802.11b compatible messages at pre-defined intervals and can be attached to non-802.11b assets in order to locate them. Tags send messages with their unique ID number that are detected by Location Receivers and used to estimate the Tag's location.

The AeroScout T2 Tag enables the wireless network infrastructure to locate assets which by nature are not connected to a wireless network.

2. Detailed Description

2.1. HW Description

The AeroScout T2 Tag HW includes 3 main sections:

1. RF Section – includes 2.4GHz ISM band DSSS Transceiver with a Power Amplifier and internal Antenna.
2. LF (Low Frequency) receiver – includes a 3D 125 KHz receiver with 2 axial coils for remotely Tag configuration.
3. Power and control – includes a microcontroller, voltage regulator and a 3.6 ½ AA Lithium battery.

2.2. Product Specifications

Table 1 describes the AeroScout T2 Tag Specifications

Index		Description
1	Frequency Band	2.412 to 2.462 GHz (channels 1-11)
2	Wireless Medium	802.11b: Direct sequence spread spectrum (DSSS);
3	Modulation	DSSS: DBPSK @ 1 Mbps
4	Transmit power	80mW (+19dBm)
5	Clear Channel Assessment (CCA)	RSSI (Receive Signal Strength Indication) Detection < Threshold
6	Input Power	3.6 ½ AA Lithium battery
7	802.11b message length	Up to 500µSec
8	Transmission Interval	From 128mSec up to 3.5h

Table 1 – product specifications

2.3. Operational Description

The Tag is designed to transmit a short (7) 1 Mbit/s DBPSK (3) modulated 802.11b DSSS (2) compliance message which includes its MAC ID every preprogrammed interval (8) to be received by the AeroScout Location Receivers.

The Tag Channel Frequency (1) and Transmission Interval (8) can be configured by its on-board serial interface or magnetically through its LF (125 KHz) Receiver. Before a message is being transmitted the Tag is sniffing (5) the channel, and in the case of no activity on this channel the Tag will transmit its short 802.11b message.

In between messages transmissions the Tag circuitry is shut down and only a Real Time clock is active for time counting.

Note: Numbers in brackets refer to Table 1 – product specifications