

T22

Theory of operation

The T22 Bi-directional Asset Tag is a component of AeroScout Industrial's suite of enterprise visibility solutions for location-based applications. The T22 Tag adds further flexibility and scalability to track assets across a wide variety of applications. T22 operates on 2x3.6VDC battery

Once deployed, the tag uses its bi-directional functionality to receive firmware and configuration updates from MobileView. This removes the need to manually collect, update and re-deploy tags in the field.

T22 consist LF receiver and WiFi transceiver

LF receiver is used to turn-on the tag from sleep mode. Once a LF signal is detected by the LF receiver, the tag transmits its ID by WiFi back to the control, which gets its RSSI to estimate its location

Also T22 is used to complement the AeroScout Wi-Fi based solution by accurately triangulating Tags in areas where sub-meter accuracy is required.

Power

2x3.6VDC battery operated

3.3VDC regulator – used for WiFi chip

1.8VDC regulator - used for WiFi chip

WiFi receiver

A WiFi module (Qualcomm: AR4100P-BM2D) is served as a WiFi receiver in 802.11b/g (1 or 6 MBPS). Frequency bands: 2412-2462MHz. It has an internal 38.4MHz clock, and its RF is connected directly to an integral printed WiFi antenna.

LF receiver

LF receiver IC (AS3933) operates on 3.6VFC, and connected to 2 LF antennas (coils), ref clk=32KHz

MCU

Controls all signaling (Kinetis- MK22FX512VMC12), ref clk=32KHz

Sensors

Temperature, accelerometer, motion