



TrackFi telemetry system

Reliable long-distance telemetry using standard 5GHz WiFi frequency – used in ABD Driverless Test System

Introduction

Anthony Best Dynamics (ABD) has developed a proprietary telemetry system designed to offer reliable low-latency data transfer over distances of 1km or more. Using standard licence-free WiFi radio frequencies, TrackFi allows data to be transferred between moving vehicles or between a moving vehicle and a stationary base-station. This makes TrackFi the ideal telemetry tool for vehicle testing at proving grounds around the world.



Driverless testing ursine TrackFi telemetry (*with vacuum mounts for aluminium body)

ABD developed TrackFi to fulfil the telemetry requirements of its Driverless Test System (DTS) which needs reliable transfer of data between a base-station and one or more moving vehicles. Having tested existing telemetry solutions on the market, ABD identified a need for a telemetry solution combining reliable data transfer over long distances with the use of licence-free radio frequencies.

TrackFi uses the 5GHz wireless LAN (WLAN) frequency in accordance with the IEEE 802.11n, together with specially-designed high-gain antennae. This gives reliable data transfer for distances of 1km or more. High speed data transfer is possible with bandwidth of 6 Mbit/s, (higher rates would be possible over a reduced range).

Configuration software is included which includes a survey function and a real-time display of signal strength for each unit being used. The survey function allows the analysis of existing WLAN networks in operation at the proving ground, permitting the user to select the optimum frequency band to minimise interference.

Specifications

Range	>1 km in 360° horizontal plane with line-of-sight (assuming no interference is present)
Power requirements	10 – 30V DC, 5W
Data connection	via standard RJ45 Ethernet cable
Mounting options	available with rubberised magnetic pads or vacuum mounts (for non-ferrous roofs)

TrackFi is ideal for the following applications:

- Driverless Testing (for applications included vehicle dynamics, ADAS development, durability testing and mis-use tests)
- Transfer of real-time measurement data for relative vehicle position and speed (for example with the RT-Range from Oxford Technical Solutions) between two or more moving vehicles.
- Relay of test data from a moving vehicle to the laboratory for analysis while the tests are on-going



TrackFi Tx/Rx unit

