



# Bluetooth Tracker™

Ultra-Portable Bluetooth® Low  
Energy Protocol Analyzer

Portable ■ Easy ■ Efficient

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## Powerful Ellisys Features

- **All-in-One:** Concurrent capture of Bluetooth Low Energy, Wi-Fi 1x1, raw spectrum, HCI and logic, generic UART, SWD, SPI and I2C, all synchronized to nanoseconds precision.
- **Wideband Capture:** Rock-solid capture of all Bluetooth Low Energy channels
- **Extremely Compact:** Pocket-sized at 75 x 75 x 17 mm (2.9 x 2.9 x 0.7")
- **USB Powered:** Ultimately portable, convenient and environmentally friendly
- **Reprogrammable Digital Radio:** Support for new specifications with a simple software update, without hardware changes
- **Wi-Fi:** Debug your Wi-Fi a/b/g/n and BLE connections simultaneously, as well as coexistence
- **Raw RF Spectrum Capture:** Characterize the wireless environment and visualize coexistence issues
- **Professional Software:** Use the acclaimed, widely adopted and highly flexible Ellisys multi-protocol analysis software
- **All Protocols and Profiles:** Best-of-breed protocol decoding
- **Logic Analysis:** Visualize digital signals such as GPIOs, interrupts, debug ports, etc, concurrently and perfectly synchronized with your BLE and Wi-Fi traffic
- **Free Maintenance:** Free lifetime software updates as well as free fully-featured viewer software with unlocked hardware that can be used on any computer

## Technical Specifications

### Bluetooth Capture Characteristics

- Ellisys Rainbow™: Wideband, concurrent capture of all BLE channels
- Frequency band: 2.402-2.480 GHz
- Sensitivity range: From -90 to +15 dBm
- Gain: Programmable from -30 to +15 dB
- Modulations: All BLE modulations (GFSK 1 Mbps and 2 Mbps)
- Baseband: Support of Bluetooth 5.x, upgradeable by software

### Wi-Fi Capture Characteristics

- 802.11 a/b/g/n
- Channel width 2.4GHz: 20 MHz
- Channel width 5GHz: 20 MHz
- 11n MCS 2.4 GHz 20 MHz channel: 0 to 7
- 11n MCS 5 GHz 20 MHz channel: 0 to 7

### Logic Capture Characteristics

- Maximum bandwidth: 50 MHz
- Sampling precision: 5 ns
- Supported input voltage: 1.8 to 3.3V

### HCI Capture Characteristics

- UART/SPI transports: Up to 8 Mbit/s, automatic detection of all parameters

### Embedded Memory

- 128 MB of FIFO memory
- Data is stored in highly optimized format
- Analyzed data is uploaded in real time through USB 2.0 connection

### Timing

- Clock: ±10 ppm frequency accuracy over -10 to +60 degrees Celsius range
- BLE timestamp accuracy: 125 ns
- Wi-Fi timestamp accuracy: 1 us
- Logic timestamp accuracy: 5 ns

### Connectors

- Capture: Standard SMA female
- Logic: 16 logic signals
- Sync: Multi-unit synchronization ports
- Control: USB 2.0 connection to control PC
- Power: Optional 5V power input, max 3W

### Enclosure

- 75 x 75 x 17 mm (2.9 x 2.9 x 0.7")
- 100 g (0.2 lbs)

### Hardware Upgrade

- The Ellisys Rainbow™ engine is automatically updated with each software release (no user intervention required)

### Maintenance and Licensing

- Free lifetime updates – no maintenance fees
- Free full-featured viewer application
- Use Ellisys hardware on any computer – no additional licenses needed

### Warranty

- Two-year limited warranty for Professional and Enterprise editions
- One-year limited warranty for Basic and Standard editions

### Minimum Requirements

- Intel Pentium 4, 1 GHz or compatible processor
- 1 GBytes of RAM
- 1280 x 1024 display resolution with at least 65,536 colors
- USB 2.0 EHCI host controller
- Windows® 7 or higher .net framework 4.6.1

## Ordering Information

Description	Code
<b>Ellisys Bluetooth Tracker Basic</b> Hardware unit with Basic features set	BTR1-LE-BAS
<b>Ellisys Bluetooth Tracker Standard</b> Hardware unit with Standard features set	BTR1-LE-STD
<b>Ellisys Bluetooth Tracker PRO</b> Hardware unit with PRO features set	BTR1-LE-PRO
<b>Ellisys Bluetooth Tracker Enterprise</b> Hardware unit with Enterprise features set	BTR1-LE-ENT

## Configurations

Editions	BAS	STD	PRO	ENT
Wideband BLE Capture	X	X	X	X
BLE 1 Mbps	X	X	X	X
Bluetooth 5 Capture <sup>1</sup>			X	X
Isochronous Channels			X	X
Wi-Fi 11n 1x1 Capture				X
Spectrum Capture				X
HCI Capture (UART, SPI)			X	X
Logic Capture			X	X
WCI-2 Capture				X
Audio I2S Capture				X
Protocol Decoding	X	X	X	X
Advanced Software Features <sup>2</sup>		X	X	X
Warranty	1yr	1yr	2yr	2yr

1. BLE 2Mbps, BLE Coded (Long Range) and BLE Advertising Extensions
2. Instant Timing, Instant Piconet, Instant Channels, Instant Throughput, and Instant Audio features