



Bluetooth Tracker™

Ultra-Portable Bluetooth® Low
Energy Protocol Analyzer

Portable ■ Easy ■ Efficient

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www.ellisys.com/btr1

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
Ellisys Bluetooth Tracker Basic Hardware unit with Basic features set	BTR1-LE-BAS
Ellisys Bluetooth Tracker Standard Hardware unit with Standard features set	BTR1-LE-STD
Ellisys Bluetooth Tracker PRO Hardware unit with PRO features set	BTR1-LE-PRO
Ellisys Bluetooth Tracker Enterprise 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 ¹			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 ²		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

More information at: www.ellisys.com/btr1

