



Bluetooth[®] Tracker[™]

Ultra-Portable Bluetooth LE
Protocol Analyzer

Portable ■ Easy ■ Efficient



Sales Contact:



USA: +1 866 724 9185

Asia: +852 2272 2626

Europe: +41 22 777 77 89



sales@ellisys.com



www.ellisys.com/btr1

Powerful Ellisys Features

- **All-in-One:** Bluetooth LE sniffer with synchronized capture of Wi-Fi®, spectrum, HCI (UART, SPI), Generic UART and SPI, SWD, I2C, SPMI, CAN bus, UCI, WCI-2, logic signals, and Audio I2S
- **Wideband Capture:** Rock-solid capture of all Bluetooth Low Energy channels
- **Widely Acclaimed Software:** The Ellisys software application provides intuitive understandings of complex protocol and RF behaviors, and flexible configuration and control to give engineers the insights they need
- **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:** Evolvable by software to protect your investment
- **Wi-Fi:** Debug your Wi-Fi a/b/g/n and Bluetooth LE connections simultaneously, as well as coexistence
- **Integrated Audio Analysis:** Comprehensive feature set for audio developers. Listen to captured wireless audio, and audio over HCI and I2S. Audio Grabber accessory for analog audio inputs
- **LC3 Auto-Detect:** Proprietary technology to detect / decode LC3 traffic even without capture of configuration parameters
- **Raw RF Spectrum Capture:** Characterize the raw wireless environment and visualize co-ex issues
- **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 Bluetooth LE and Wi-Fi traffic
- **Free Maintenance:** Hassle-free, free lifetime software updates

Technical Specifications

Bluetooth Capture Characteristics

- Ellisys Rainbow™: Wideband, concurrent capture of all Bluetooth LE channels
- Frequency band: 2.402-2.480 GHz
- Sensitivity range: From -90 to +15 dBm
- Gain: Programmable from -30 to +15 dB
- Modulations: All Bluetooth LE 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
- 11n MCS 2.4 GHz 20 MHz channel: 0 to 7

Logic Capture Characteristics

- Maximum bandwidth: 20 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

Low-Speed Serial Capture Characteristics

- Generic Maximum Capture Rate 8Mbps
- Technologies supported include: UART/SPI HCI, generic SPI and UART, I2C, SWD, SPMI, WCI-2, Audio I2S, UCI, Ellisys Debug Port (UART and SPI), CAN bus, and logic signals

Timing

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

Connectors

- Capture: Standard SMA female
- Logic: 16 logic signals
- 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

- Windows® 10 (minimum recommended) & .NET framework 4.6.1
- macOS and Linux supported via Ellisys Runtime
- 8 GBytes of RAM
- USB 2.0 EHCI host controller

Ordering Information

Description	Code
Ellisys Bluetooth Tracker Basic	BTR1-LE-BAS
Ellisys Bluetooth Tracker Standard	BTR1-LE-STD
Ellisys Bluetooth Tracker Pro	BTR1-LE-PRO
Ellisys Bluetooth Tracker Enterprise	BTR1-LE-ENT

Configurations

Description	BAS	STD	PRO	ENT
Wideband BLE capture	✓	✓	✓	✓
BLE 1 Mbps	✓	✓	✓	✓
BLE 2 Mbps			✓	✓
BLE Long Range			✓	✓
BLE Advertising Extension			✓	✓
BLE Isochronous Channels			✓ ⁽¹⁾	✓
Spectrum capture				✓
Wi-Fi 11n 1x1				✓
Logic capture			✓	✓
HCI capture (UART, SPI)			✓	✓
Audio I2S capture				✓
WCI-2 capture				✓
Timing view		✓	✓	✓
Piconet view		✓	✓	✓
Channels view		✓	✓	✓
Throughput view		✓	✓	✓
Audio view		✓	✓	✓
Warranty	1 year	1 year	2 years	2 years

1. Isochronous Channels supported without Bluetooth t ZERO Tracking technology. For full Isochronous Channels / LE Audio support, see Ellisys Bluetooth Vanguard.

More information at: www.ellisys.com/btr1