PACKETCRAFT™
WORLD-LEADING WIRELESS

Packetcraft Controller

Product Brief

Highlights:
- Bluetooth LE 5.3 qualified, including isochronous BIS, CIS, ISOAL, LE power control features, and supporting all device roles and states
- Full Bluetooth LE 5.2 and 5.1 feature sets including 2Mbps, long range, AoA/AoD distance ranging meas., and extended advertising & scanning
- Hardware abstraction layer offering portability to different CPUs, radios, OS
- Optimized for limited resource embedded systems
- Simultaneous BLE and IEEE 802.15.4 operation

Applications:
- Advanced Bluetooth audio: TWS earbuds, speakers, headphones, hearing aids
- Watches & activity monitors
- Auracast™ broadcast audio wireless infrastructure
- Ultra-low power Bluetooth semiconductors
- Multi-protocol wireless chips

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Highly Optimized Bluetooth Qualified LE Controller

Packetcraft's innovation and first-to-market Bluetooth qualifications support customers with early access to new features and mature solutions that are extensively tested. Their link layer achieved another world-first qualification with Bluetooth 5.3 isochronous channels, which enable the transfer of timing-sensitive data and ensures synchronization between multiple sink devices receiving data from the same source. Isochronous channels enable multi-stream audio and Auracast™ broadcast audio which are key to new LE Audio products and use cases.

Packetcraft Controller sets a high bar for embedded software features, robustness and efficiency. Packetcraft Controller implements a Bluetooth 5.3 link layer with optional 802.15.4 MAC, using a common radio event scheduler for simultaneous multi-protocol operation. Packetcraft Controller is ideal for Bluetooth chip companies looking to accelerate time-to-market with full access to source code.

When combined with Packetcraft Host and Packetcraft LC3, licensees receive a comprehensive, fully-integrated LE Audio solution from a single software supplier complemented with exceptional support.

Also offered is Packetcraft Controller Tester, a versatile tool for testing the link layer and 802.15.4 MAC. This Python-based tool includes scripts implementing thousands of test cases for Bluetooth qualification, with optional support for hundreds more Packetcraft developed test cases.

Features

- Full BLE 5.3 feature set including: LE enhanced connection update & LE channel classification
- Full BLE 5.2 feature set including: Isochronous BIS and CIS, ISOAL, and LE power control
- Full BLE 5.1 feature set including: 2Mbps, long range, extended advertising & scanning, and optional AoA / AoD support
- 802.15.4 MAC with concurrent LE & 15.4 operation (optional add-on)
- Architected for portability to different radios

Packetcraft, Inc

With more than 100 million devices enabled, Packetcraft continues to deliver a legacy of extensively used and well-tested embedded software and protocol stacks for Bluetooth Low Energy.
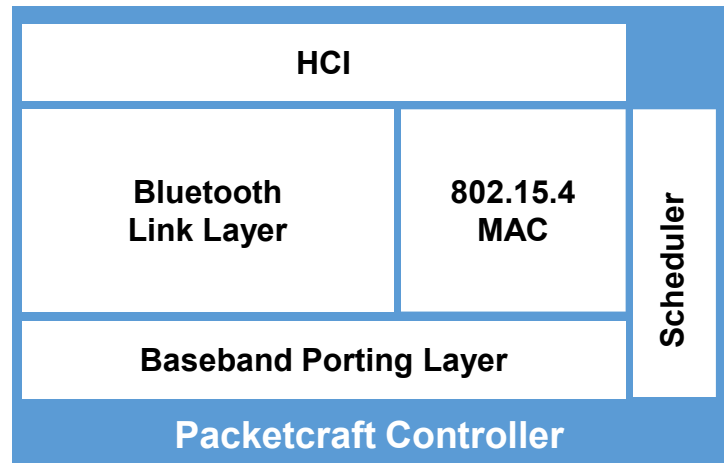
Packetcraft prides itself on both efficient design and achieving first-to-market qualifications which help ensure their customers are at the leading-edge for product innovation and distinction.

Packetcraft's leadership in Bluetooth LE began in 2009 with the founding of Wicentric, continued through Arm's ownership in 2015, and is maintained today as new technological innovations such as LE Audio come to market.

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Compliance

Packetcraft Controller is qualified to the Bluetooth LE specification v5.3. Fully qualified and listed with the Bluetooth SIG, QDID is 176381.

Deliverables

- API source code files

- Full source code or object code library (license tier)

- API documentation

- User's guide and release notes