PLT-200A

Production Line Tool

The PLT is a box that loads firmware, runs automated tests, and logs the results in the cloud. It is designed to serve the needs of developers throughout the product life cycle. After an IoT device is designed and validated on a PLT, identical boxes are sent to the production line for programming and testing at manufacturing scale. The development team can see results directly from the production line and stay ahead of issues that delay the product build.

What is the PLT?

"PLT" stands for Production Line Tool. It is an Internet-connected box that does the following:

1. Loads firmware images into devices.
2. Runs automated tests.
3. Logs the results in the cloud.

Microcontroller (MCU) Support

Currently, out of the box, we support chips from the Microchip AVR ATmega family, the ST Micoelectronics STM32 family, Nordic nRF52 and nRF91 series and Espressif's ESP32 family.

Please consult the MCU Support section of the online PLT Support Center (plt.bcdevices.com) for specifics.

We are happy to look at your product to assess the workload of extending to what you are using as well.

- Program on-board MCU flash or MCU RAM.
- Programming via SWD, ISP, UART or JTAG.
- Additional MCU/RFSoC support on demand

Power and Relays

Power Control

The PLT-200A can power the device under test with either 3.3, 5 or 12 Volts at up to 2 Amp. The voltage and current provided to the PLT can be measured during test plan execution.

Short Control

The PLT-200A can short a test pin with ground, VDD or another test pin.

Electrical Measurements

The PLT-200A can perform several electrical measurements of up to 45 analog test points.

Electrical Measurements

Measurement	Range	Accuracy
Voltage	0-12V	+/- 0.1V
Continuity	<1Ω, >1MΩ	-
Impedance	470Ω - 2KΩ	+/- 5%
Current Draw	20mA-2A	+/- 5%
Frequency	32.768kHz, 8MHz	200ppm

Logic Measurements

The PLT-200A can measure and test up to 48 logic test points.

UART Testing

The PLT-200A allows testing UART interactions with the DUT, at speeds up to 1 Mbps.

- Speed: 300bps - 1 Mbps
- Flow Control: Xon/Xoff, DTR/CTS

PLT-200A

Electrical	
AC Supply	Dual-Fused 110-240 VAC, 50/60Hz

Connectors (Rear)	
AC Power	IEC 320 C13
SWD	6-pin TC2030-IDC
SIG	6-pin TC2030-IDC
JTAG	10-pin TC2050-IDC
ICT-PWR	4-pin
ICT-SIG	HD78
USB	4x High-Retention Type-A socket
Ethernet	RJ45 Cat6a
RF (SDR Option)	SMA

Ordering Information
PLT-200A and accessories can be ordered through our online store on bcdevices.com/shop

CAN Bus Testing

The PLT-200A allows testing CAN interactions with the DUT, at speeds up to 1 Mbps.

CAN Standards

CAN 2.0A	11-bit
CAN 2.0B	29-bit
ISO-11898-1	-
ISO-11898-2	1Mbps
ISO-11898-3	40..125 Kbps
ISO-11898-4	TTCAN
ISO-11898-5	1Mbps
ISO-11898-6	1Mbps

Bluetooth LE (BLE) Testing

The PLT-200A allows testing Bluetooth Low Energy (BLE) interactions with the DUT.

BLE Standards

BLE 4.0	-	Supported
BLE 4.1	-	Supported
BLE 4.2	-	Supported
BLE 5.0	-	Supported
GATT	-	Supported
GAP	-	Supported

WiFi Testing

The PLT-200A allows testing 2.4GHz WiFi interactions with the DUT.

WiFi Standards

802.11	2Mbps	Supported
802.11b	11Mbps	Supported
802.11g	54Mbps	Supported
802.11n	600Mbps	Supported
802.11ac	1300Mbps	-
802.11ad	7Gbps	-
802.11af	569Mbps	-

Barcode Scanning

The PLT-200A allow barcodes (EAN-13, QR, Code 128, UPC) to be scanned using a USB-attached barcode scanner.

Supported Barcode Scanners

Symbol LS2208	1D
Symbol LS4208	1D
Symbol DS4208	2D
Symbol DS6708	2D
Symbol DS8108	2D
Symbol DS9208	2D

Label printing

The PLT-200A allows labels to be printed using a USB-attached label printer.

Supported Label Printers

Zebra GX430t	medium-sized; benchtop
Zebra QLn220	small; portable

Security

The PLT contains a Secure Element to protect the integrity of the deployment process.

- FIPS 186-3 ECDSA
- FIPS SP800-56A ECDH
- NIST Standard P256 Elliptic Curve

All Cloud communication, including deployment of firmware and reporting of test results are protected using TLS1.2 mutual authentication.

Cloud Backend

Using the PLTcloud backend, developers can upload custom firmware and test plans to PLTs anywhere in the world. Live production data can be pulled from these same PLTs.

Options

ICT-100A Bed-of-Nails Fixture
> ICT Fixture for custom DUT-specific Pogo-Pin Cassette

Pogo Pin Cassette (PPC)
> Custom Bed-of-nails cassette for ICT-100A fixture

4-Wire Power Cable
> Power cable to hook up PLT-200A with Pogo-Pin Cassette

HD-78 Male-to-Male Cable
> Signal cable to hook up PLT-200A with Pogo-Pin Cassette

PLT Breakout Board
> Breakout board to connect PLT-200A with DUT during prototyping
> DAQ module with additional ports.

SDR module (LimeSDR)
> Software-Defined Radio (SDR) module for PLT200A. Can be used for RF frequency analysis, simulation of GNSS(GPS) or cellular networks.