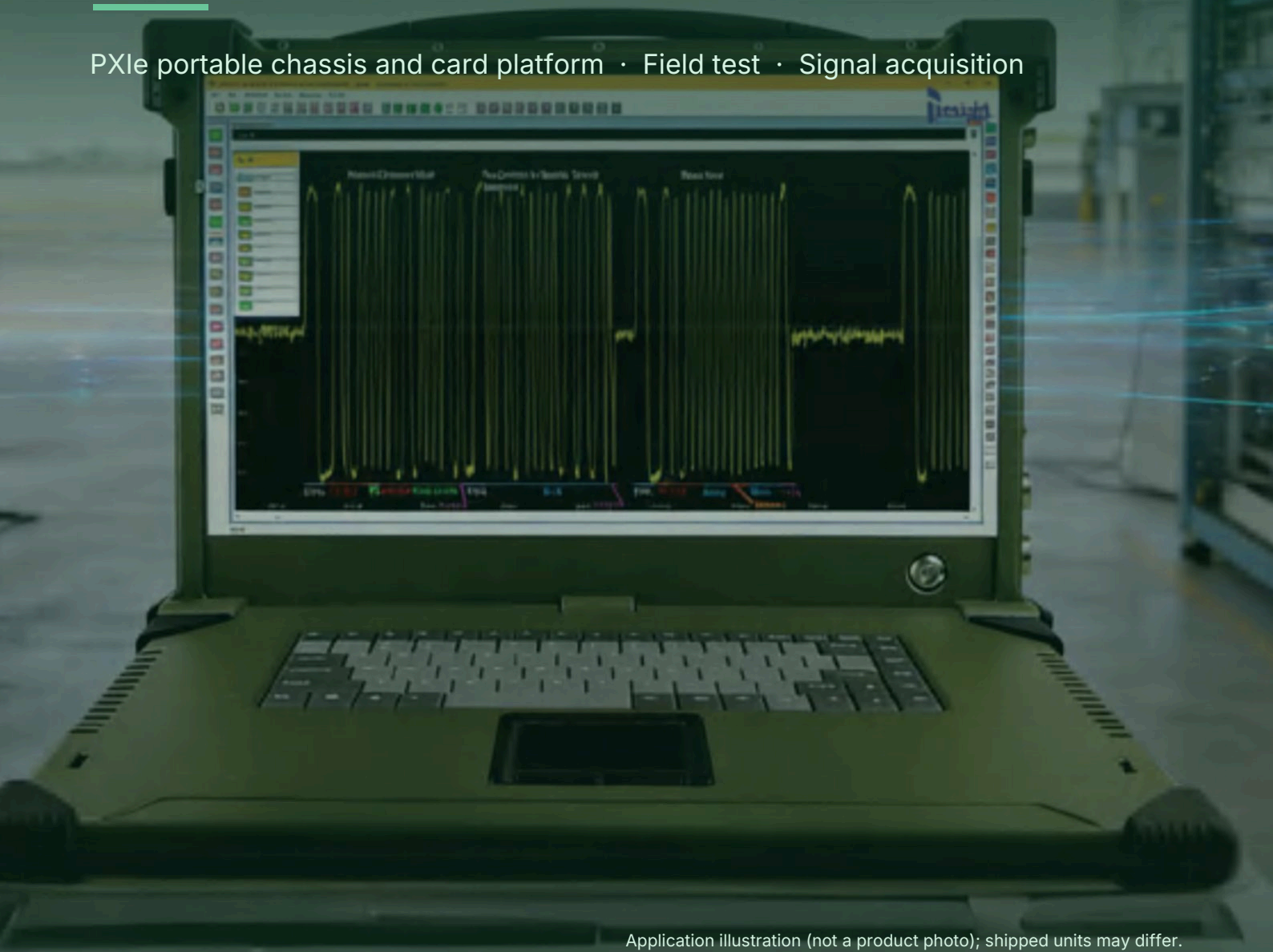
EQIO

# PXIe-RP3515

PRODUCT MANUAL

## 15.6-inch 3U Five-Slot PXIe Portable Chassis

PXIe portable chassis and card platform · Field test · Signal acquisition



Application illustration (not a product photo); shipped units may differ.

**Measurement and control, made easy.**

Easy · Quick · Input · Output

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01 OVERVIEW

# 15.6-inch 3U Five-Slot PXIe Portable Chassis

PXIe portable chassis and card platform · Field test · Signal acquisition · Portable measurement · PXI Express

PXIe-RP3515 integrates 15.6-inch industrial resistive touchscreen, 5-slot PXIe backplane and 300W power, provides 1 system slot and 4 hybrid peripheral slot, used for portable test, signal acquisition and field measurement.
Resistive touchscreen facilitates local viewing and operation, backplane provides shared clock and expansion path, AC input via circular connector attach. Chassis can combination controller, communications and acquisition module, display operation and card-cage system centralized layout, suited to equipment adjacent test and maintenance operation.




Application illustration (not a product photo); shipped units may differ.

## Key features

- 15.6-inch Full HD resistive touchscreen
- 1 system slot and 4 hybrid peripheral slot
- 300W power, circular connector AC input
- PCIe3.0 and VCXO clock
- 420 × 320 × 225mm housing

02 FUNCTIONS

# Functions and engineering value

## Touch display and 5-slot integrates

PXIe-RP3515 15.6-inch Full HD industrial resistive touchscreen and 5-slot PXIe backplane centralized portable chassis internal, provides 1 system slot and 4 hybrid peripheral slot. Controller and function card per task configured with, can forms has local HMI capability field test platform.

## Power and backplane resources

Chassis configured with 300W power, uses 110–220VAC circular connector input, backplane PCIe3.0 two link topology and provides VCXO clock. Power rated value belongs to chassis power resources, option module when also requires confirm each channel assign, controller occupancy and product cooling conditions.

## Field operation and transmission conditions

1920 × 1080 touch display facilitates view field test UI, chassis rated system slot bandwidth 16GB/s, peripheral slot 4GB/s. Actual data transmission controlled control unit, module and shared topology affect, touch HMI and measurement synchronous also requires need selected operating system and board driver together with.

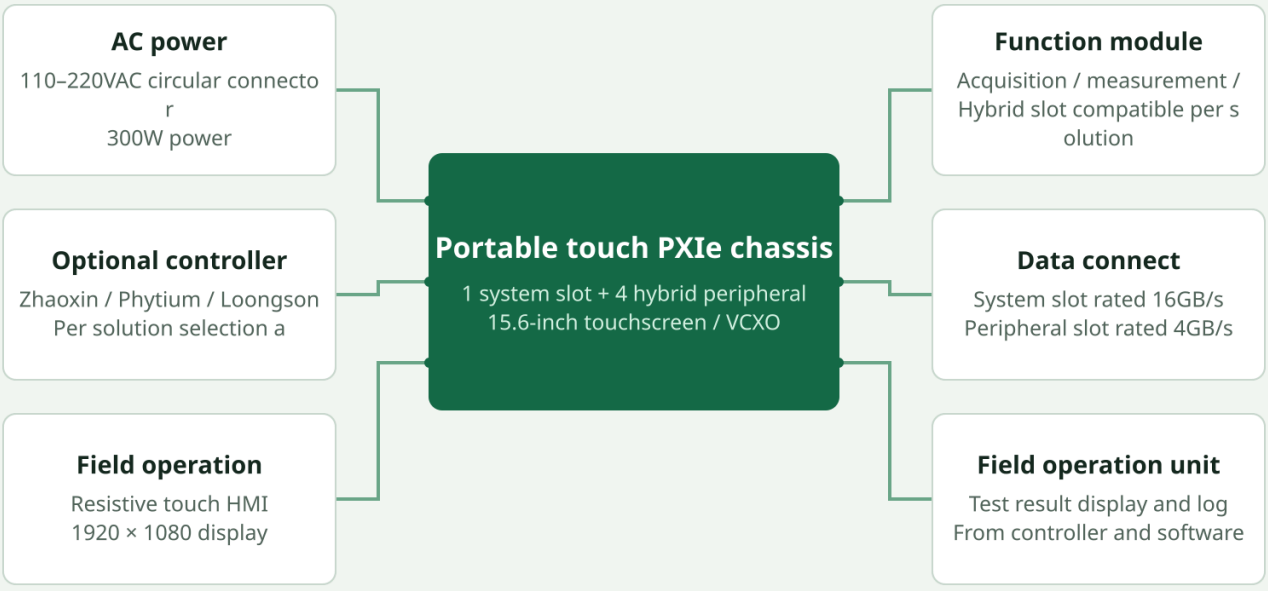
The functional notes explain the product’s role from published configuration. Optional functions, software and peripherals follow the project definition. Chip capability is not the same as implemented I/O.

03 ARCHITECTURE

# Functional blocks and system connections

FUNCTIONAL BLOCK DIAGRAM

PXIe-RP3515




Functional relationships · lines do not show internal circuits, pins or dedicated bus topology

Chassis function relationship illustration; controller and I/O board per solution option, in the diagram controller represent a optional configuration, not indicates at the same time installation all processing platform.

### Platform and I/O

Product positioning with display portable PXIe chassis, CPU, memory, storage and operating system all by selected controller determine. Chassis fixed resources including touchscreen, 5-slot backplane, 300W power and VCXO clock, option CPU chip capability should and these chassis parameters separate present, avoid error confirm as factory all assembly.

> **Reading the diagram**
>
> Solid lines show published functional relationships, not on-board buses, bridge chips or connector pins. Optional controllers, radios, storage and software follow the configuration and interface files.

04 SPECIFICATIONS

# Technical specifications

Compiled from published product data. Batch, I/O and environmental ratings follow the order confirmation.

## Chassis and backplane

| | |
|---|---|
| Module specification s | 3U |
| Slot layout | 1 system slot + 4 PXI/PXIe hybrid peripheral slot |
| Display | 15.6-inch industrial resistive touchscreen, 1920 × 1080 |
| Power | 300W, 110~220VAC input, circular connector connector |
| System slot bandwidth | 16GB/s |
| Peripheral slot bandwidth | 4GB/s |
| Backplane | PCIe3.0, two link topology, VCXO clock |
| Operating temperature | 0~50°C |
| Relative humidity | 5%~95%, non-condensing |
| Dimensions | 420×320×225mm |
| Weight | ≤12.0kg |
| Interface specification | PXI-5 PXI Express Hardware Specification Rev1.1 |

05 COMPONENTS

# Processor and device specifications

Device figures come from vendor publications and describe the chip or module. The implemented product follows the specification tables. Optional devices are supplied with the selected configuration.

### Zhaoxin KX-6000G series (Optional)

| | |
|---|---|
| Series CPU core count | 4-core |
| Series published high-speed cache | 4 MB |
| Series memory controller | Dual channel DDR4-3200 |
| ISA | X86 32/64-bit, SSE4.2/AVX |
| Display interfaces capability | DP/HDMI/VGA, 4K display |
| Native PCIe resources | 16 lanes PCIe3.0 |
| Native USB resources | 4×USB3.2 Gen1、2×USB2.0 |
| Native storage interfaces | 2×SATA3.2 |
| Low-speed expansion i/O | SPI, LPC etc. |

### Zhaoxin KX-6000G series (Optional) (continued)

| | |
|---|---|
| Acceleration command | SM2、SM3、SM4 |
| Hardware virtualization | Processor and IO virtualization |

### Zhaoxin KX-6640MA (Optional)

| | |
|---|---|
| Processor core count | 4-core |
| Hardware threads number | 4 threads |
| Website partnership data listed clock | 2.2 GHz |
| CPU series ISA | X86 32/64-bit; SSE4.2, AVX |
| Series memory controller | Dual channel DDR4-2666, chip series up to 64GB |

05 COMPONENTS

# Processor and device specifications (continued)

### Zhaoxin KX-6640MA (Optional) (continued)

| | |
|---|---|
| Series integrates graphics and display | Integrates 3D graphics and video de code; supports DP/HDMI/VGA category and 4K display |
| Series PCIe resources | Up to 16 lanes PCIe3.0 |
| Series native USB/SATA resources | 2×USB3.1、4×USB2.0、2×SATA 3.2 |
| Hardware virtualization | Processor and IO virtualization |
| Acceleration command | SM3、SM4 |

### Phytium D2000 (Optional) (continued)

| | |
|---|---|
| Hardware virtualization | Supports |
| Floating-point and SIMD | Single/dual accuracy floating-point and ASIMD |
| Chip safety architecture | PSPA 1.0 |

### Phytium D2000 (Optional)

| | |
|---|---|
| Processor core count | 8-core |
| Processor micro architecture | FTC663 |
| ISA and actuation mode | ARMv8; supports ARM64 and ARM32 actuation mode |
| Up to clock | 2.3 GHz |
| Layer-2 cache | 8 MB |
| L3 cache | 4 MB |
| CPU memory controller | 2 DDR4 I/O |
| CPU PCIe resources | 34 lanes PCIe 3.0 |
| CPU network controller | 2 Gigabit Ethernet I/O |
| Other on-chip I/O | 1 × SD2.0, 4 × UART, 32 × GPIO, 4 × I2C, 1 × QSPI, 2 × general-purpose SPI, 3 × CAN, 2 × WDT, 16 × external interrupt |

05 COMPONENTS

# Processor and device specifications (continued)

### Loongson Chinese Academy 3A6000 (Optional)

| | |
|---|---|
| ISA | LoongArch |
| Physical core number | 4-core |
| Logic processor number | 8 threads |
| Processor core | 64-bitLA664, 6-issue out-of-order actuation |
| Frequency | 2.0–2.5GHz |
| Vector unit | 128-bit and 256-bit |
| Per core layer-1 command cache | 64 KB/core |
| Per core layer-1 data cache | 64 KB/core |
| Per-core private has layer-2 cache | 256 KB/core |
| Shared L3 cache | 16 MB |

### Loongson Chinese Academy 3A6000 (Optional) (continued)

| | |
|---|---|
| Memory controller | 2-ch72-bitDDR4-3200, supports ECC |
| High-speed bridge chip interconnect | 1-chHyperTransport 3.0 |
| Native low-speed I/O | 1-chSPI, 1-chUART, 2-chI2C, 16-chGPIO |
| Package | BGA, 35 × 35mm, 1190 pins |
| Typical power consumption | 38W@2.5GHz |
| Dual accuracy peak compute | 240 GFLOPS |

Sources: Shanghai Zhaoxin integrates Co., Ltd., KX KX-6000G series processor; Shanghai Zhaoxin integrates Co., Ltd., Lenovo Zhaoyang CF4620 custom model parameters (website case study); Shanghai Zhaoxin integrates Co., Ltd., High-performance Micro ATX industrial main board (website technical news); Shanghai Zhaoxin integrates Co., Ltd., KX KX-6000 series processor; Phytium IT Co., Ltd., Phytium Tengrui D2000 high-performance desktop CPU; Loongson Chinese Academy, Loongson 3A6000 product parameters.

06 APPLICATIONS

# From product capability to applications

## Field signal acquisition

Can 1 system slot and 4 hybrid slot in combination controller, acquisition and communications module, using touchscreen completes field parameters settings and result view. Requires continuous save original data when, should follow log duration selection controller storage, and verification module, backplane and write program overall data capability.

## Equipment maintenance measurement

Suited to multi type measurement board centralized into portable equipment maintenance platform, via local touch UI switch measurement task, reduce spread instrument connect operation. Actual portable use should consider no more than 12kg chassis weight and already fitted module increment, at the same time reserved AC power and necessary test cables.

## Portable bring-up system

Can around DUT equipment combination communications, measurement and trigger module, VCXO backplane clock resources auxiliary organize system timing. Chassis provides installation, power and HMI conditions, control algorithm, measurement accuracy and synchronous performance from option controller, I/O board and software solution together implements.

### Integration checks

| | |
|---|---|
| Model distinguish | RP3515 15.6-inch 1920 × 1080 resistive touchscreen and 300W AC power, not apply RP3515P parameters. |
| Slot position and controller | 1 system slot plus 4 hybrid peripheral slot; controller and I/O board respectively configured with, check 8HP placeholder. |
| Power and bandwidth | 110–220VAC circular connector input; system slot 16GB/s, peripheral slot 4GB/s website rated value. |
| Portable environment | 420 × 320 × 225mm, ≤12kg, operation 0–50°C, non-condensing; check portable use and cooling space. |

07 CONFIGURATION

# Configuration, options and selection

### Configuration

System controller and I/O board respectively configured with, supports different PXIe compute platform, operating temperature 0–50°C.

| | |
|---|---|
| System controller | Zhaoxin KX-6000G / Zhaoxin KX-6640MA / Phytium D2000 / Loongson 3A6000 |

### Selection guide

| | |
|---|---|
| Order confirmation | Batch, I/O and environmental ratings follow the order confirmation |
| Published data | Compiled from published product data; EQIO provides selection and system integration |
| Configuration talk | Share the application, I/O count, environment and software so a configuration can be proposed |

**Request a quotation and selection support**

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Web eqio.com

EQIO

Easy · Quick · Input · Output

BRAND

# Measurement and control, made easy.




EQIO product family · concept rendering

## Brand story

EQIO builds measurement and control products and systems. The name stands for Easy Quick Input Output: Easy is a clear structure that is quick to learn, Quick is a direct path to efficient delivery, and Input / Output is every link between the device under test and the control system.
The soft single-cycle wave inside the Q links the brand to signals, acquisition and I/O. “Measurement and control, made easy” is our promise for every selection, integration and delivery.

## What we do

### Products

Data acquisition, test instruments, control and I/O, modular platforms, software, cables

### Systems

Configured to the measurand, channels, accuracy and software, from design to commissioning

### Support

Selection advice, training, maintenance and calibration

## How we deliver

01
### Requirements

02
### Solution design

03
### Build & integration

04
### Factory test

05
### Delivery & training

06
### Ongoing support

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