

ZX230 USB 3.1 USB 3.0 USB 2.0 Test Fixture

Zebax USB 3.1 (Backward compatible with USB 3.0, USB 2.0) test fixture simplifies the USB electrical measurements process by providing access to high speed receiver and transmitter required by USB 3.1 USB 3.0 compliance testing. This document lists the USB 3.1 USB 3.0 test fixtures offered by Zebax Technologies, ZX230 series test fixture.

This document identifies:

1. Access points for transmitter measurement
2. Single-ended measurements as required by the USB specification for transmitter and receiver validation and pre-compliance testing.
3. Differential electrical signal measurements using active probes, enabling probing of active bus transactions for debug and verification testing.
4. USB power access point, measurement features, measuring transient and steady state power states.
5. An improved design test fixture over Keysight U7242A USB 3.0 or similar.

Revision History

Version	Date	Description
v01	Dec 8, 2016	Initial release -

1 Description

The Zebax USB test fixtures, ZX230x series, provide complete solution for USB compliance testing. ZX230x series USB test fixtures facilitate the USB 3.0 USB 3.1 measurement process by providing access to the transmitter and receiver measurement points required for USB 3.0 USB 3.1 compliance testing. It has been designed for direct SMA connections for easy access as well as high level of signal accuracy measurements with direct connections to the oscilloscope and J-Bert SMA connections. It also includes probing connections for InfiniiMax active differential probes for the characterization and testing of active bus signaling of USB 3.1 USB 3.0 and USB 2.0 traffic.

- I. Provides SMA connector access point for high performance transmitter signal integrity measurements
- II. Provides SMA connector access point for receiver test connections for receiver jitter tolerance testing
- III. Provides SMA connector access point DN+-
- IV. Differential measurements using active probes allow probing of active bus transactions for debug and verification testing

- V. USB power probing features via onboard 2 pin header - for measurement of transient and steady state power states

2 Zebax ZX230x USB Test Fixture

USB Transmitter and Receiver Test Fixture

ZX230x USB test fixture provides test point access via SMA connectors for transmitter and receiver as required by USB specification:

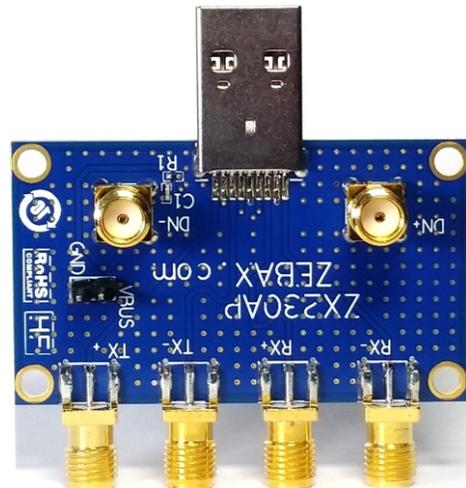
- Single-ended measurements for transmitter and receiver validation and pre-compliance testing.
- Differential measurements using active probes allow probing of active bus transactions for debug and verification testing.
- The USB power probing features is enabled via onboard 0.1" pitch header. It interfaces with any standard power supply or lab test equipment. It is an ideal USB power probing for easy measurement of transient and steady state power supply states.

ZX230x USB test fixture simplifies the USB electrical measurement process by providing access to the transmitter and receiver measurement points required for USB pre-compliance testing. It has been designed for direct interface with standard SMA connectors for easy and accurate measurements. Standard SMA connectors mate directly with oscilloscope and J-Bert SMA connections.

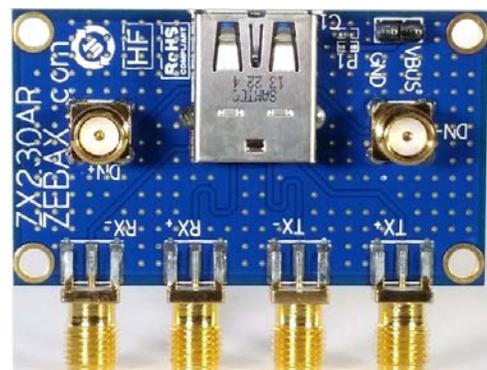
It also includes probing connections for InfiniiMax active differential probes for the characterization and testing of active bus signaling of USB traffic.

The ZX230x USB test fixtures comply with USB 3.0 and USB 3.1 SuperSpeed electrical test fixture providing signal accessibility and probing for USB devices, host and hub upstream and downstream ports.

The ZX230x USB test fixtures enable transmitter and receiver pre-compliance and validation testing on USB 3.1 USB 3.0 USB 2.0 products that implement the standard SuperSpeed connector types.



[ZX230AP Type A Plug USB Test Fixture S-Parameter](#)



Zebax - [ZX230 USB 3.1 USB 3.0 USB 2.0](#) [ZX230AR Type A Receptacle USB Test Fixture S-Parameter](#)

The ZX230x test fixture provide SMA signal breakout connections for convenient and reliable connection to Keysight Infiniium Series oscilloscope transmitter measurements and Keysight J-BERT receiver jitter tolerance signal injection.

The ZX230 series USB test fixtures include access points at SMA connectors, probing to measure active bus traffic and bus states.

As part of power measurement feature, the ZX230x test fixture offer current measurement capabilities via onboard 0.1" pitch header. The current measurement connection is used for the following power states measurements:

- 1- Active power
- 2- Suspend power
- 3- Inrush current

ZX230 series USB test fixture facilitates utilization of external lab equipments such as;

- 1. External power supply
- 2. Current meter
- 3. Electronic load

simulating test case conditions for typical and worst case system operating conditions.

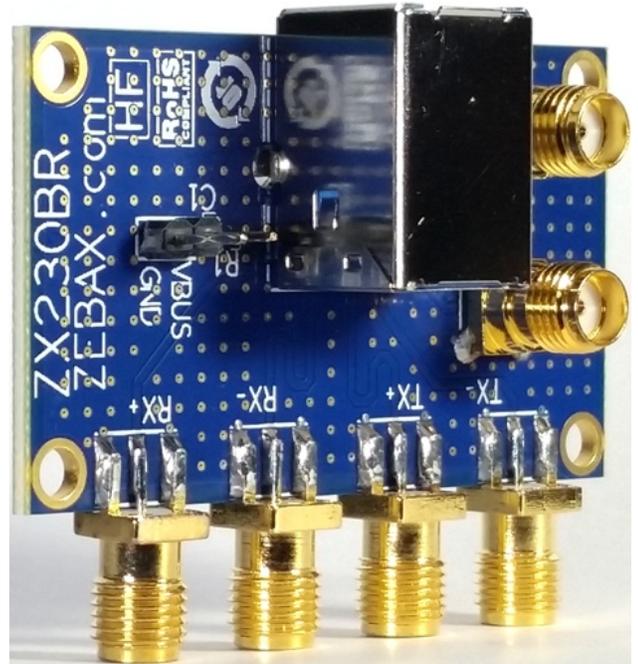
ZX230 series USB test fixtures are offered in the following connector series.

ZX230AP	USB type A Plug USB test fixture
ZX230AR	USB type A Receptacle test fixture
ZX230BR	USB type B Receptacle test fixture
ZX230BP	USB type B Plug test fixture
ZX230ABR	USB type AB Receptacle
ZX230ABP	USB type AB Plug

ZX230 series USB test fixture exhibit excellent signal characteristics supporting all USB bandwidth :

- 1. USB Low Speed
- 2. Full Speed
- 3. High Speed
- 4. SuperSpeed.

S-Parameter for the ZX230 series USB test fixture is available for mated configuration, where S12 data is provided for each signal.



[ZX230BR Type B Receptacle USB Test Fixture S-Parameter](#)



[ZX230ABR Type AB Receptacle USB Test Fixture S-Parameter](#)

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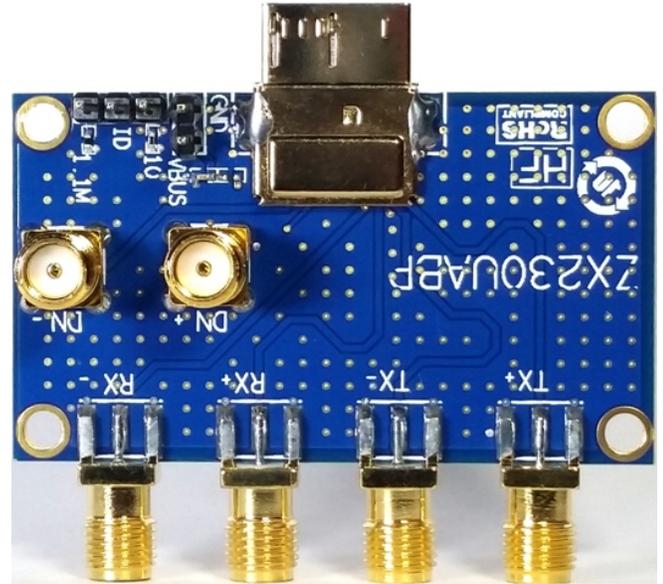
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ZX230AR	USB type A Receptacle test fixture
ZX230BR	USB type B Receptacle test fixture
ZX230BP	USB type B Plug test fixture
ZX230ABR	USB type AB Receptacle
ZX230ABP	USB type AB Plug

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[ZX230ABP Type AB Plug USB Test Fixture S-Parameter](#)

DOCUMENT : [USB Test Fixture](#)

SUBJECT: [ZX230 USB 3.1 USB 3.0 USB 2.0 Test Fixture](#)

Zebax offers best in class USB 2.0 and USB 3.1+ test fixture (a.k.a. test board breakout adapter) supporting USB 2.0 as well as USB 3.1 standards.

Zebax is dedicated in providing best in class solutions supporting engineering and technical communities in test and measurements disciplines.

In addition Zebax offers best in class [HDMI](#) [Display Port \(DP \)](#) and [USB type C](#) test fixture breakout adapter test board.

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