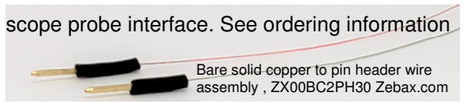
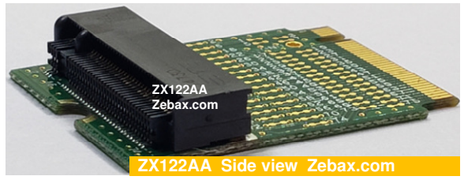
Product Name: **ZX122AA – PCISIG M.2 NGFF passive breakout adapter module**

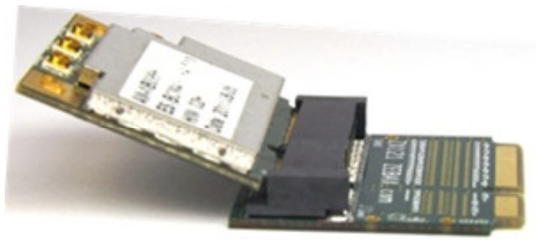
Product Description: ZX122AA is PCISIG M.2 (NGFF) breakout adapter providing access to all PCISIG M.2 signals. It is designed to be placed in between Host and Target for real-time test and measurements. ZX122AA is breakout adapter designed for Test & Measurement , signal integrity , characterization , test and debug of any PCISIG M.2 design via onboard 0405 SMD shunt landing pads.

ZX122AA features:

1- Provides access to ALL PCISIG signals via onboard 0402 SMD shunt packages, (67 signals on single M.2 Key design).
2- Each 0402 SMD shunt package may be cut and redirected to another signal (onboard or offboard) for test and debug.
3- Ideal breakout module for manufacturing / development loopback test.
4- Listed number adjacent to each 0402 SMD shunt package represents the PCISIG M.2 connector's pin number.
5- All traces are 50 Ohms impedance controlled with exceptional signal integrity & crosstalk.
6- Four layers PCB design, inner layers are GND planes with direct connection to GND stitching vias & top/bottom GND fills.
7- Accessible GND test point.
8- Mates with matching Host and Device (DUT) M.2 key.
9- Probing wire , ZX00BC2PH30, is offered to applications requiring scope probe interface. See ordering information







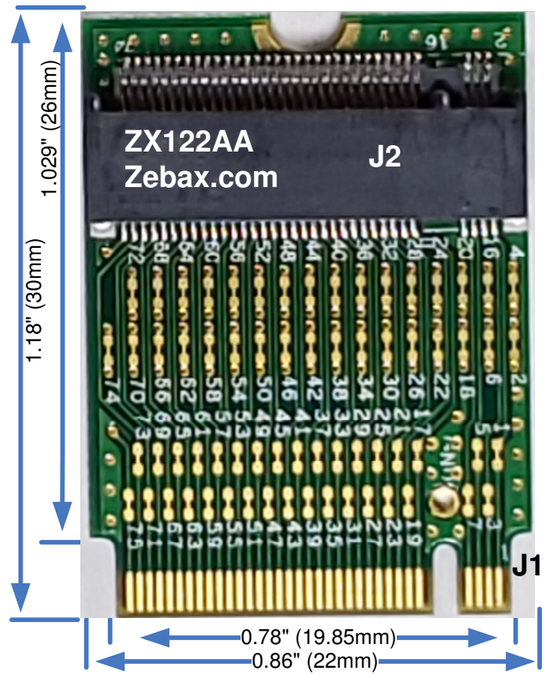


Figure 4- 0402 SMD shunt – not scaled

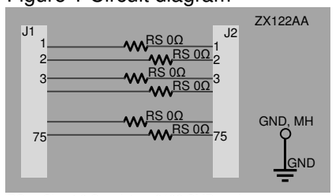
Typical signal connection:
0402 SMD Package

Break signal path:

Electrical:

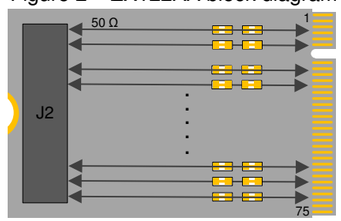
Insertion loss > -2dB @6GHz
Trace impedance: 50 Ω
Operating Temperature: -65°C to +170°C
M.2 Edge Connector type (J1) : see Ordering INFO
Mates with: see Ordering INFO
Plating: Gold 100U
M.2 Receptacle (J2) :
Key Type: see Ordering INFO
Height: 0.16" (4.2mm) – See Figure 3
Spacer : 0.1" (2.54mm) – See Figure 3
Plating: Gold 100U
Current per pin: 0.5A (maximum)
Shunt:
Package: 0402 SMD

Figure 1 Circuit diagram



RS - Shunt 0 Ω resistor , 0402 SMD package
50 Ω : All traces are designed 50 Ω trace impedance control
J1 : M.2 edge connector
J2 : M.2 receptacle connector
GND – Inner GND planes as well as GND stitching vias are available at the GND test point , and the Mounting Hole, MH.

Figure 2 – ZX122AA block diagram



Shunt 0402 SMD package 0 Ω
50 Ω : All traces are designed 50 Ω trace impedance control
J2 : PCISIG M.2 receptacle connector

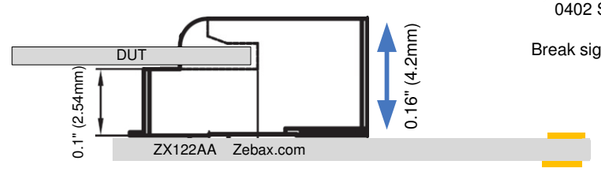


Figure 3- ZX122AA typical application

Application: Bringup, testing, emulation, development, modular design evaluations of PCISIG M.2.
Manufacturing - Development loopback test. M.2 PCISIG module test & characterization.

Mates with : Any standard M.2 matching Key ID on host and device.

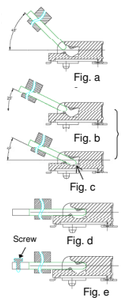
Ground Access : The ZX122AA is 4 layers PCB design where the 2 inner layers are ground reference planes. The Ground stitching vias, the top / bottom ground fills & the inner ground planes are all interconnected, hence referred as "GND".

For improved signal integrity, it is recommended to follow the below listed steps:

1- Ensure the Mounting Screw has full contact with ZX122AA GND test point.
2- Connect the GND test point to system GND.

Module Insertion, Removal process:

1- Move the Module against the housing chamber, figure a
2- Rotate module to 25°, figure b
3- Insert the module until it reaches the ramp, figure c
3- Rotate the module to horizontal position, figure d
4- Fix the module by screw, see figure e



Compliance:

ISO2001 certified
RoHs - Lead Free
EU RoHS2
UL E111594 document
ELV- Vehicle Directive (Directive 2000/EC)
European Union Directive (203/11/EC)
Halogen Free per IEC-61249-2.21 : 2003
RoHs Directive 2011/65/EU
WEEE Directive (2012/12/EU)

Certificate of Compliance for Radioactive substances
Certificate of Compliance for Asbestos
Certificate of Compliance for Ozone Depleting Substances, ODS
Certificate REACH SVHC
Certificate of Compliance RoHS_EN_CoC

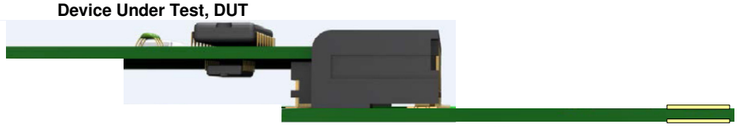
Ordering Information:

Part number	J1 Key ID	J2 Key ID	Description
ZX122AA	A	A	PCISIG M.2 passive breakout adapter
ZX00BC2PH30			30AWG Bare Copper wire to pin header wire assembly

ZX00BC2PH30 site page for viewing ZX00BC2PH30 wire assembly

Note ALL ZEBAX products are **RoHS** compliant and **Lead Free** unless otherwise indicated.

Device Under Test, DUT



Notice

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WWW.ZEBAX.COM

SPECIFIED DIMENSIONS ARE INCHES (MM).
ROHS COMPLIANT

ASSEMBLY DRAWING
ITEM: ZX122AA M.2 NGFF PCISIG

DESCRIPTION: PCISIG M.2 NGFF passive breakout adapter module key ID A

CHECKED: M. MARINA
DRAWN: SONYA
REVISSION: 1.0
SHEET: 1 OF 1