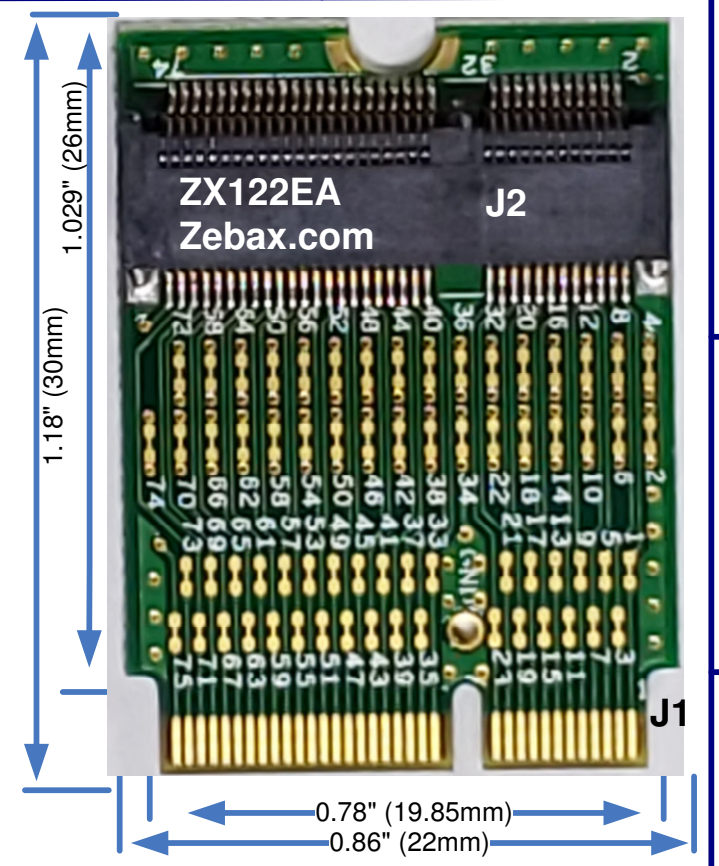
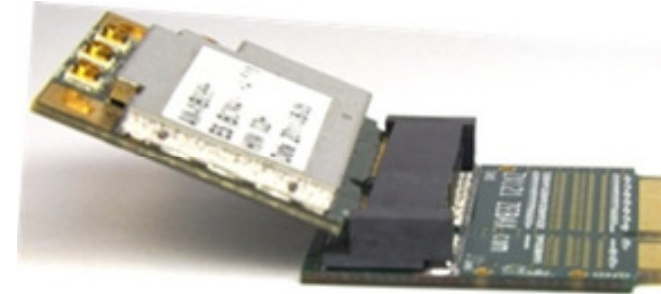
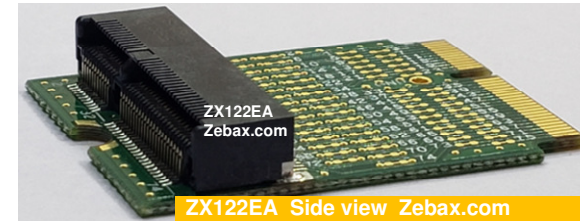


Product Name: ZX122EA – PCISIG M.2 NGFF passive breakout adapter module

Product Description: ZX122EA 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. ZX122EA 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.

ZX122EA 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



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

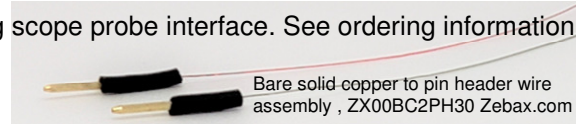
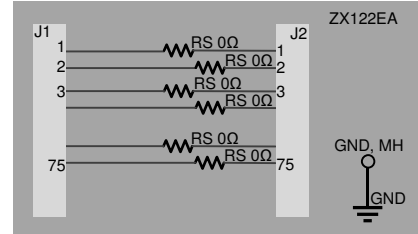
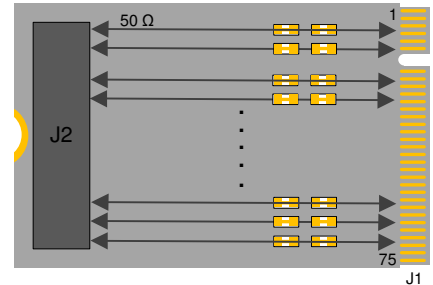


Figure 1 Circuit diagram



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 – ZX122EA 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 4- 0402 SMD shunt – not scaled
 Typical signal connection: 0402 SMD Package
 Break signal path:

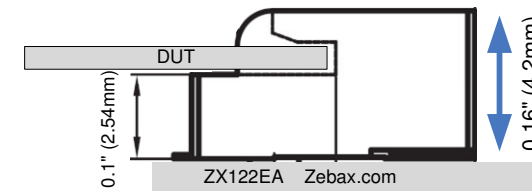


Figure 3- ZX122EA typical application

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.

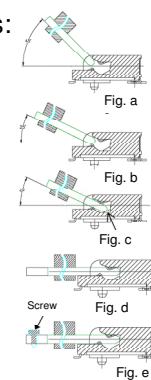
Ground Access : The ZX122EA is 4 layers PCB design where the 2 inner layers are ground reference planes. The Ground stitching vias, the top / bottom ground fills & the inner ground planes are all interconnected, hence referred as “GND”.

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

- 1- Ensure the Mounting Screw has full contact with ZX122EA 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)

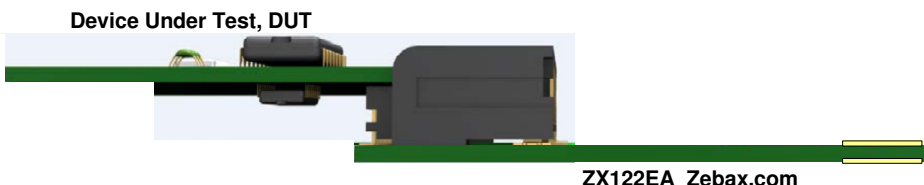
Certificate of Compliance for Radioactive substances
 Certificate of Compliance for Asbestos
 Certificate of Compliance for Ozone Depleting Substances, ODS
 Certificate REACH SVHC
 Certificate of Compliance RoHS_EN_CoC

Ordering Information:

Part number	J1 Key ID	J2 Key ID	Description
ZX122EA	E	E	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.



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 WWW.ZEBAX.COM

SPECIFIED DIMENSIONS ARE INCHES (MM). ROHS COMPLIANT	ASSEMBLY DRAWING	
	ITEM: ZX122EA M.2 NGFF PCISIG	
DESCRIPTION: PCISIG M.2 NGFF passive breakout adapter module key ID E		
CHECKED: M. MARINA	DRAWN: SONYA	REVISION: 1.0 SHEET: 1 OF 1