

Product Name: ZX122MA – PCISIG M.2 NGFF passive breakout adapter module

Product Description: ZX122MA 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. ZX122MA 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.

ZX122MA 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

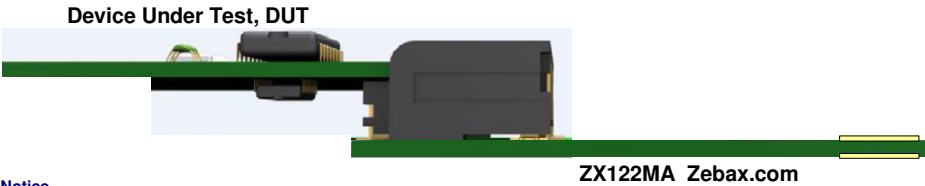
Application: Bringup, testing, emulation, development, modular design evaluations of PCISIG M.2.  
Manufacturing - Development loopback test. M.2 PCISIG module test & characterization.

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

Ground Access : The ZX122MA 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 ZX122MA GND test point.
- 2- Connect the GND test point to system GND.



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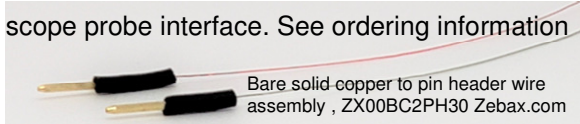
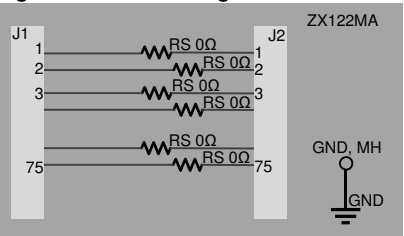
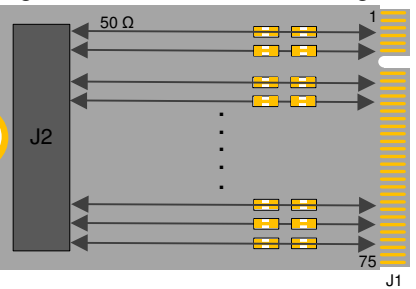


Figure 1 Circuit diagram



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 – ZX122MA 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

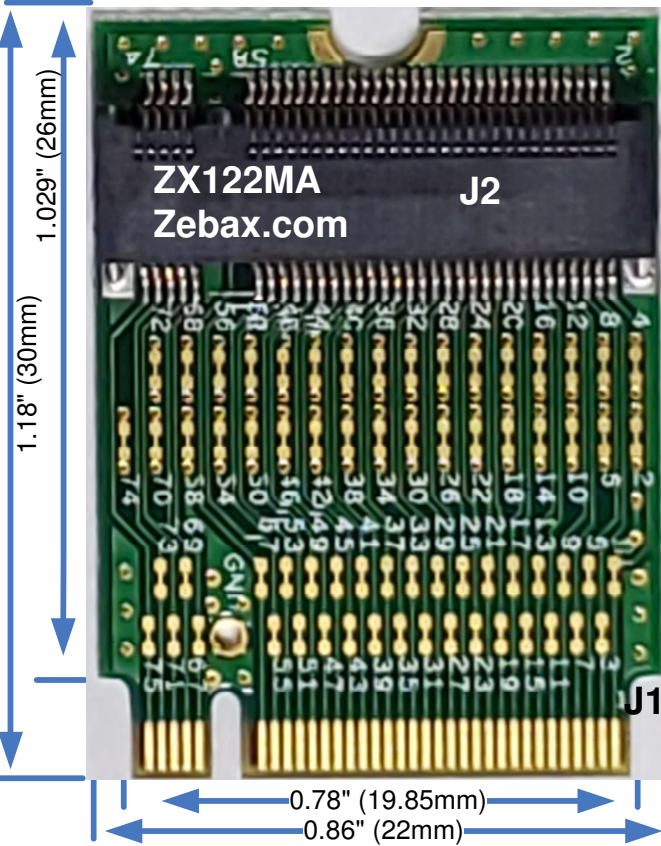
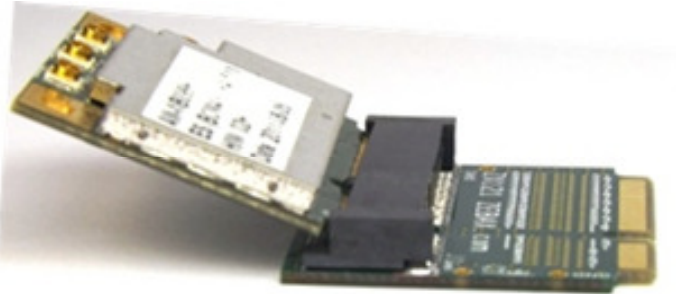
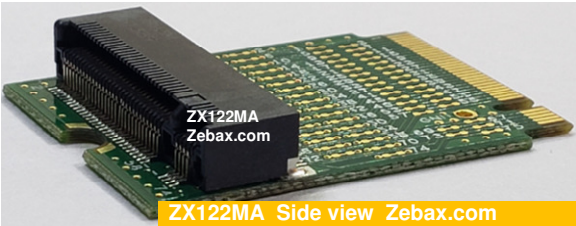


Figure 4- 0402 SMD shunt – not scaled

Typical signal connection:  
0402 SMD Package

Break signal path:

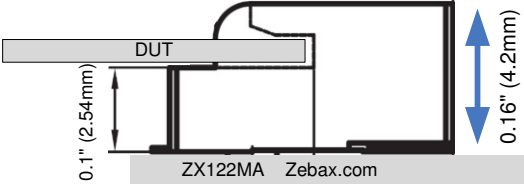


Figure 3- ZX122MA typical application

Ordering Information:

Part number	J1 Key ID	J2 Key ID	Description
ZX122MA	M	M	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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SPECIFIED DIMENSIONS ARE INCHES (MM). ROHS COMPLIANT	ASSEMBLY DRAWING ITEM: ZX122MA M.2 NGFF PCISIG
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DESCRIPTION: PCISIG M.2 NGFF passive breakout adapter module key ID M

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