

**Product Name:** ZX121G – PCISIG mini PCIe passive breakout extender adapter

**Product Description:** ZX121G is a mini PCIe passive breakout extender adapter module, providing access to all mini PCIe signals. ZX121G mates with host and device under test. It is designed for real-time Test & Measurement, signal integrity, characterization, manufacturing test and debug of any mini PCIe design interface. All reserved mini PCIe Ground signals are inner connected to GND planes as well as GND stitching vias. It is available at the GND Test Points, TP, and the Mounting Holes, MH.

- 1- Provides access to ALL mini PCIe PCISIG signals via onboard 0402 SMD shunt packages.
- 2- ZX121G is designed to be inserted into the host and interfaced to the target for purpose of debugging, development, testing and characterization.
- 3- Onboard 0402 SMD shunt package may be cut and redirected to another signal or probed for signal test & measurement
- 4- Listed number adjacent to each 0402 SMD shunt package represents the associated mini PCIe 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- Mates with any standard mini PCIe connector, Host and Device / DUT
- 8- Probing wire, ZX00BC2PH30, is offered to applications requiring scope probe interface. See ordering information

**Electrical:**  
 Insertion loss > -1.6dB @3GHz  
 Trace impedance: 50 Ω  
 Operating Temperature: -65°C to +170°C  
 mini PCIe Edge Connector type ( J1 ) : mini PCIe, 52 position  
 Mates with: mini PCIe, 52 position  
 Plating: Gold 75U  
 Receptacle ( J2 ) :  
 Type: mini PCIe, 52 position  
 Height: 0.16" (4.2mm)  
 Spacer : 0.1" (2.54mm) – See Figure 2  
 Plating: Gold 75U  
 Current per pin: 0.5A ( maximum)  
 Shunt:  
 Package: 0402 SMD

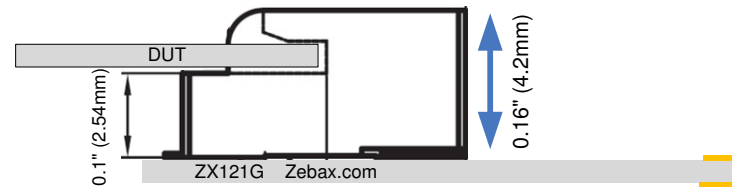
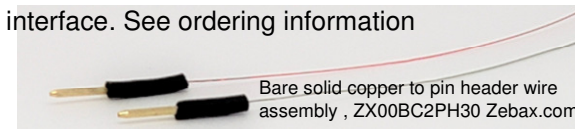


Figure 4- ZX121G mini PCIe – side view dimensions

**Application:** Bringup, testing, emulation, development, modular design evaluations, manufacturing loopback test.

**Mates with :** Any with any standard mini PCIe PCISIG host and device – TE 1775861 Molex SD-48338 and more

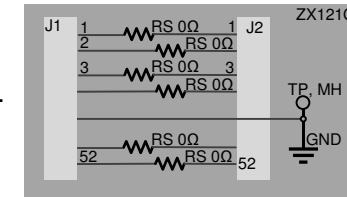
**Ground :** All reserved mini PCIe Ground signals are inner connected to GND planes as well as GND stitching vias. It is available at the GND Test Points, TP, and the Mounting Holes, MH.

**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)

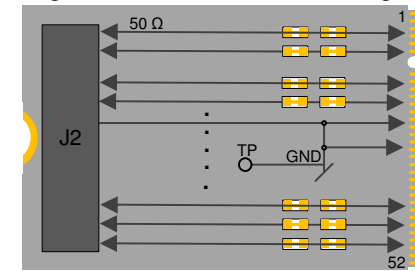
Certificate of Compliance for Radioactive substances  
 Certificate of Compliance for Asbestos  
 Certificate of Compliance for Ozone Depleting Substances, ODS  
 Certificate REACH SVHC  
 Certificate of Compliance RoHS\_EN\_CoC

Figure 1 Circuit diagram



RS - Shunt 0 Ω resistor, 0402 SMD package  
 50 Ω : All traces are designed 50 Ω trace impedance control  
 J1 : mini PCIe PCISIG edge connector  
 J2 : mini PCIe Receptacle connector  
 All reserved mini PCIe Ground signals are inner connected to GND planes as well as GND stitching vias. It is available at the GND Test Points, TP, and the Mounting Holes, MH.

Figure 2 – ZX121G Circuit diagram



Shunt 0402 SMD package 0 Ω  
 50 Ω : All traces are designed 50 Ω trace impedance control  
 All reserved mini PCIe Ground signals are inner connected to GND planes as well as GND stitching vias. It is available at the GND Test Points, TP, and the Mounting Holes, MH.

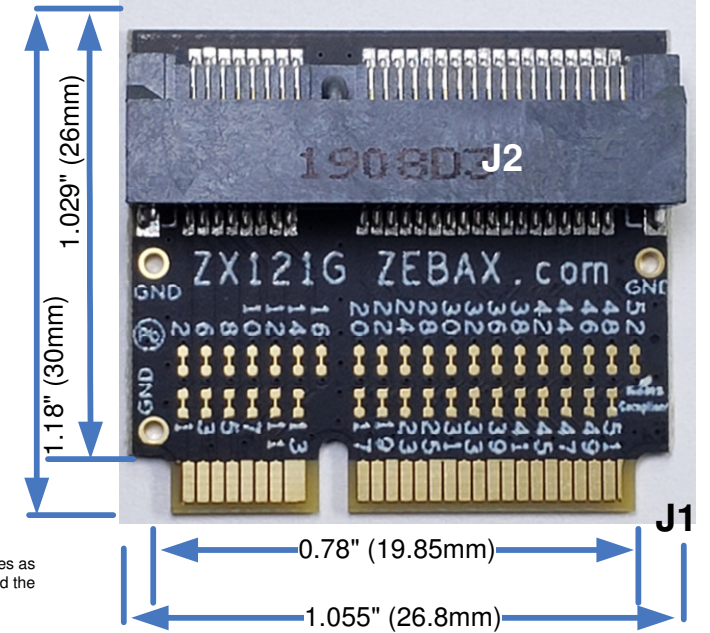
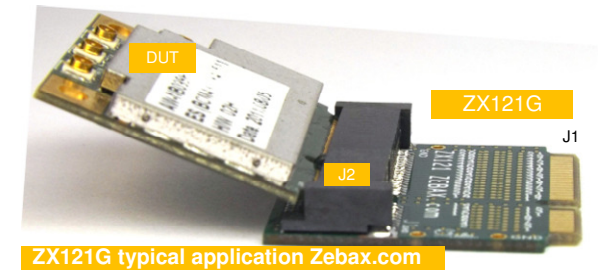
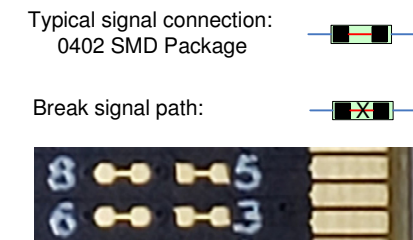


Figure 3- 0402 SMD shunt – not scaled



ZX121G typical application Zebax.com

Table 1 – Standard PCIe Signal assignments

Pin #	Name	Pin #	Name
51	Reserved	52	+3.3Vaux
49	Reserved	50	GND
47	Reserved	48	+1.5V
45	Reserved	46	LED_WPAN#
43	GND	44	LED_WLAN#
41	+3.3Vaux	42	LED_WWAN#
39	+3.3Vaux	40	GND
37	GND	38	USB_D+
35	GND	36	USB_D-
33	PETp0	34	GND
31	PETn0	32	SMB_DATA
29	GND	30	SMB_CLK
27	GND	28	+1.5V
25	PERp0	26	GND
23	PERn0	24	+3.3Vaux
21	GND	22	PERST#
19	Reserved* (UIM_C4)	20	W_DISABLE#
17	Reserved* (UIM_C8)	18	GND

Mechanical Key			
15	GND	16	UIM_VPP
13	REFCLK+	14	UIM_RESET
11	REFCLK-	12	UIM_CLK
9	GND	10	UIM_DATA
7	CLKREQ#	8	UIM_PWR
5	COEX2	6	1.5V
3	COEX1	4	GND
1	WAKE#	2	3.3Vaux

**Ordering Information:**

Part number	Description
ZX121G	mini PCIe PCISIG 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.

**ZEBAX TECHNOLOGIES**  
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SPECIFIED DIMENSIONS ARE INCHES (MM). ROHS COMPLIANT	ASSEMBLY DRAWING
	ITEM: ZX121G mini PCIe PCISIG

**DESCRIPTION:** PCISIG mini PCIe passive breakout extender adapter

<b>CHECKED:</b> M. MARINA	<b>DRAWN:</b> SONYA	<b>REVISION:</b> 1.0 <b>SHEET:</b> 1 OF 1
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