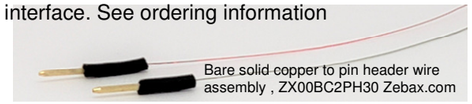
Product Name: **ZX120 – PCISIG mini PCIe passive breakout extender adapter**

Product Description: ZX120 is a mini PCIe passive breakout extender adapter module, providing access to all mini PCIe signals.
ZX120 Mates with host. It is designed for real-time Test & Measurement , signal integrity , characterization , manufacturing test and debug of any mini PCIe design interface.
All mini PCIe reserved Ground (GND) signals are pulled down to GND by onboard 0402 SMD shunts. The module's GND is accessible via onboard GND test point as well as the mounting holes.

1- Provides access to ALL mini PCIe PCISIG signals via standard through hole, TH, test points.
2- Onboard 0402 SMD shunt packages connect the reserved PCIe GND signals to GND planes & the GND test point. Any of the shunts may be cut and the associated signal reassigned.
3- ZX120 is designed to be inserted into the host for purpose of debugging, development, testing , characterization and manufacturing loopback.
4- Listed number adjacent to each TH test point 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 + the mounting holes.
7- Mates with any standard mini PCIe connector.
8- Probing wire , ZX00BC2PH30, is offered to applications requiring scope probe interface. See ordering information

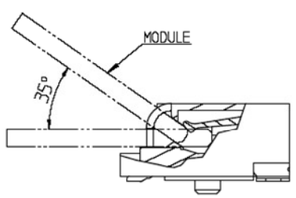


Electrical:
Insertion loss > -2dB @3GHz
Trace impedance: 50 Ω
Operating Temperature: -65°C to +170°C
mini PCIe Edge Connector type (J1) : mini PCIe, 52 position
Mates with: mini PCIe, 52 position
Plating: Gold 75U
Through Hole Test Point :
Diameter : Standard 0.1" (2.54mm) post - 0.025" (0.064mm) diameter
Plating: Gold 75U
Current per pin: 0.5A (maximum)
Shunt:
Package: 0402 SMD

Application: Bringup, testing, emulation, development, modular design evaluations , manufacturing loopback test, wifi GPS GYRO Compass BT FM sensor

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

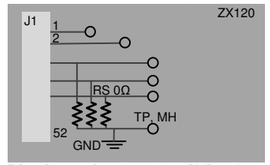
Ground : All mini PCIe reserved GND signals are pulled down to GND by onboard 0402 SMD shunts.
The Table 1 lists the reserved GND pin#. Any of the shunts may be cut and the associated signal reassigned as needed. ZX120 inner ground planes, stitching vias and the top & bottom GND fills are all connected together and accessible via the GND test point as well as the mounting holes.



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)

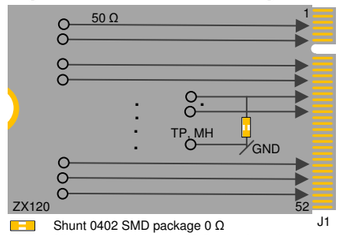
Certificate of Compliance for Radioactive substances
Certificate of Compliance for Asbestos
Certificate of Compliance for Ozone Depleting Substances, ODS
Certificate REACH SVHC
Certificate of Compliance RoHS_EN_CoC

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
GND – 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 – ZX120 Block diagram



Shunt 0402 SMD package 0 Ω
50 Ω : All traces are designed 50 Ω trace impedance control
J2 : mini PCIe PCISIG receptacle connector
GND – 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.

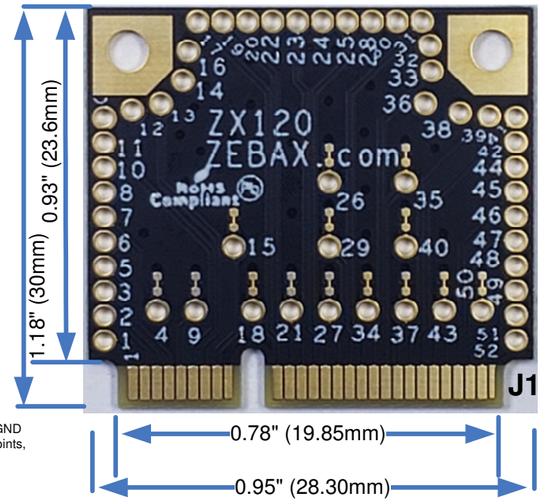


Figure 3- 0402 SMD shunt – not scaled

Typical signal connection:
0402 SMD Package

Break signal path:

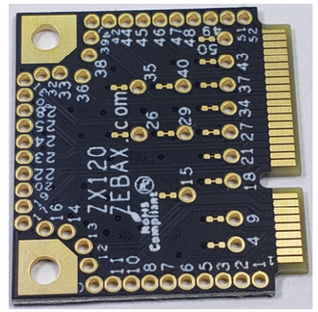


Table **1** – Standard PCIe Signal assignments

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
ZX120	mini PCIe PCISIG passive breakout adapter
ZX00BC2PH30	30AWG Bare Copper wire to pin header wire assembly

ZX00BC2PH30 site page for ordering ZX00BC2PH30 wire assembly

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

ZEBAX TECHNOLOGIES
SANTA CRUZ, CA U.S.A (831) 2 2 2 – 0717
WWW.ZEBAX.COM

SPECIFIED DIMENSIONS ARE INCHES (MM).
ROHS COMPLIANT

ASSEMBLY DRAWING

ITEM: ZX120 mini PCIe PCISIG

DESCRIPTION: PCISIG mini PCIe passive breakout extender adapter

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