ZX122AA – PCISIG M.2 NGFF passive breakout adapter module **Product Name:** ************************* (26mm) **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 ZX122AA integrity, characterization, test and debug of any PCISIG M.2 design via onboard 0405 SMD shunt landing pads. Zebax.com ZX122AA features: 1- Provides access to ALL PCISIG signals via onboard 0402 SMD shunt packages, (67 signals on single M.2 Key design). 1.18" (30mm) 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 Bare solid copper to pin header wire **Electrical:** Insertion loss > -2dB @6GHz assembly, ZX00BC2PH30 Zebax.com Trace impedance: 50Ω Operating Temperature: -65°C to +170°C Figure 1 Circuit diagram Figure 2 – ZX122AA block diagram M.2 Edge Connector type (J1): see Ordering INFO Mates with: see Ordering INFO Plating: Gold 100U 0.78" (19.85mm) M.2 Receptacle (J2): 0.86" (22mm) Key Type: see Ordering INFO Height: 0.16" (4.2mm) - See Figure 3 Figure 4- 0402 SMD shunt - not scaled Spacer: 0.1" (2.54mm) - See Figure 3 Typical signal connection: Plating: Gold 100U 0402 SMD Package RS - Shunt 0 Ω resistor, 0402 SMD package Current per pin: 0.5A (maximum) 50.0 · All traces are designed 50.0 trace impedance control J1: M.2 edge connector Shunt 0402 SMD package 0 Ω Break signal path: Shunt: J2: M.2 receptacle connector 50 Ω: All traces are designed 50 Ω trace impedance contro GND - Inner GND planes as well as GND stitching vias are available Package: 0402 SMD J2: PCISIG M.2 receptacle connector at the GND test point, and the Mounting Hole, MH Application: Bringup, testing, emulation, development, modular design evaluations of PCISIG M.2. ZX122AA Zebax.com Manufacturing - Development loopback test. M.2 PCISIG module test & characterization. Figure 3- ZX122AA typical application **Mates with:** Any standard M.2 matching Key ID on host and device. **Ordering Information:** Ground Access: The ZX122AA is 4 layers PCB design where the 2 inner layers are ground reference planes. The Ground stitching vias, Part number J1 Key ID J2 Key ID Description the top / bottom ground fills & the inner ground planes are all interconnected, hence referred as "GND". PCISIG M.2 passive breakout adapter ZX122AA For improved signal integrity, it is recommended to follow the below listed steps: ZX00BC2PH30 30AWG Bare Copper wire to pin header wire assembly Compliance: 1- Ensure the Mounting Screw has full contact with ZX122AA GND test point. ISO2001 certified В Module Insertion, Removal process: RoHs - Lead Free 1- Move the Module against the housing chamber, figure a ZX00BC2PH30 site page for viewing ZX00BC2PH30 wire assembly 2- Connect the GND test point to system GND. EU RoHS2 2- Rotate module to 25°, figure b 3- Insert the module until it reaches the ramp, figure of UL E111594 document 3- Rotate the module to horizontal position, figure d ELV- Vehicle Directive (Directive 2000/EC) Note ALL ZEBAX products are RoHS compliant and Lead Free unless otherwise indicated. 4- Fix the module by screw, see figure e European Union Directive (203/11/EC) Halogen Free per IEC-61249-2.21: 2003 ZEBAX TECHNOLOGIES RoHs Directive 2011/65/EU **Device Under Test, DUT** SANTA CRUZ, CA U.S.A (831) 2 2 2 - 0717 WEEE Directive (2012/12/EU) WWW.ZEBAX.COM Certificate of Compliance for Radioactive substances ASSEMBLY DRAWING Certificate of Compliance for Asbestos SPECIFIED DIMENSIONS **ZX122AA M.2 NGFF** Certificate of Compliance for Ozone Depleting Substances, ODS ARE INCHES (MM). 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