

Technical Info: TKL8255 and Compatible Trenton Backplanes

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TKL8255 and Compatible Trenton Backplanes

Trenton Systems recommends the PICMG 1.3 backplanes noted in **green** in the table below for use with the TKL8255 PICMG 1.3 system host board. The SHB will also function with a wide variety of non-Trenton, industry standard PICMG 1.3 backplanes. However, some non-Trenton backplanes may not utilize the full capabilities of the Trenton TKL8255 SHB. The table below illustrates the TKL8255 compatibility with the current listing of Trenton PICMG 1.3 backplanes. A “Yes” in the compatible column below means that all slots on the backplane will function with a TKL8255 board. The clarification column explains any limitations of using a TKL8255 single processor SHB with a particular backplane. Visit our website to learn about the [latest Trenton PICMG 1.3 backplane availability listings](#).

For more information on Trenton Systems’ backplanes and our expertise in designing exacting high performance embedded computing solutions, [see our whitepaper on designing for PCIe Gen3](#).

PICMG 1.3 Backplane	Compatible with TKL8255 (i.e. all backplane slots are functional)	Why not or clarification
2U Butterfly Backplanes		
BPC8219	Yes	All card slots operate at PCIe Gen2 speed
BPX8087	No	Multiple slots inactive due to no A1 link
BPG6714	Not recommended	EOL pending; Card slots operate at Gen1 speeds only
Combo Backplanes		
BPC7041	No	Multiple slots inactive due to no A1 link and no PCIe link expansion support
Server-Class Backplanes		
BPX8093	No, the TKL8255 does not support the PEX10 for PCIe link expansion	PEX10 needed to provide the links for BP slots PCIe1 and PCIe3*
BPX6806+	Yes	The B0 links do not pass the Intel Gen3 margining test*
BPX6610*	Not recommended	Erratic link to the PCIe2 card slot
BPX3/2*	Not recommended	Slot PCIe2 operates at Gen1 link speed
BPX5*	Not recommended	Card slots operate at Gen1 speeds only with erratic PCIe link widths
Graphics-Class Backplanes		
BPG8194	Yes	All slots operate at PCIe Gen3 speeds
BPG8155	Yes	All slots operate at PCIe Gen3 speeds*

BPG8150	No, the TKL8255 does not support the PEX10 for PCIe link expansion	PEX10 needed to provide the links for BP slots PCIe 1 and PCIe2
BPG8032	Yes	All slots operate at PCIe Gen2 speeds
BPG7087	Yes	
BPG6615	Not recommended	EOL pending; Erratic link to the PCIe2 card slot
BPG6600	Not recommended	EOL pending; Slot PCIe2 operates at Gen1 link speed
BPG6544	No	EOL pending
BPG6714	No	EOL pending
BPG2/2*	Not recommended	EOL pending; Slot PCIe2 operates at Gen1 link speed
BPG4*	Not recommended	EOL Pending

*Backplane does not have an SHB edge connector D slot. The backplane will function normally, but the system designer should ensure the exposed SHB edge connector D pins are protected from potential damage

*These backplanes successfully establish PCIe 3.0 links from the processor to the slots, however, the links are not fully within the Intel Margining Test Tolerances. These links may work at PCIe Gen3 or may train down to PCIe Gen2 in order to preserve link integrity, depending on the target card. Contact Trenton Systems for detailed PCIe link information or to discuss your particular application.

NOTE: Trenton SHBs that support the optional Ethernet routing to the card edge connectors support one backplane LAN interface. Some backplanes provide two optional LAN connectors as defined in the PICMG 1.3 specification, but *the second backplane LAN connector is not functional* with Trenton PICMG 1.3 system host boards.

For more information on the TKL8255, check out the [TKL8255 Datasheet](#).

Hopefully, you find this information helpful as you determine how the TKL8255 PICMG 1.3 single board computer can be deployed in your particular system application. For additional information contact Trenton toll-free in the U.S. at 1-800-875-6031 or worldwide at +1-770-287-3100. Please visit our website at www.TrentonSystems.com or follow us on:

