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January 2022

## USING STANDARD PCIe SLOT TO DESIGN 150w PCIe DSR

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## *Using standard PCIe slot to design 150w PCIe DSR*

### **Abstract**

The 1U rack system is very size limitation especially config with standard form factor d-GFX. It typically connects a dual-slot riser (DSR) with MB to expand the d-GFX support quantity. Unless using a custom connector in both MB and DSR, otherwise unable to support d-GFX x2 because of the power budget. The disclosure provides a cheaper solution to make it happen.

### **Problems Solved**

To design both MB/DSR have extra PCIe x1 connector to support additional 75w power budget (Fig.2). The total cost will become cheaper than custom connector design (Fig. 1).

### **Operation**

The 1st PCIe slot offer PCIe x16 signal + 75w power+ sideband1 signal. The 2<sup>nd</sup> PCIe slot focus on additional 75w and sideband2 signal (optional).

- If only the J1 config the PCIe add-in-card, it will use the whole x16 bus.
- If load 2 PCIe add-in-cards, both cards share each x8 PCIe signal and have a dedicated 75w power budget from each slot.

### **Conclusion**

The idea has been proof in our lab and met the concept.

Figure list:

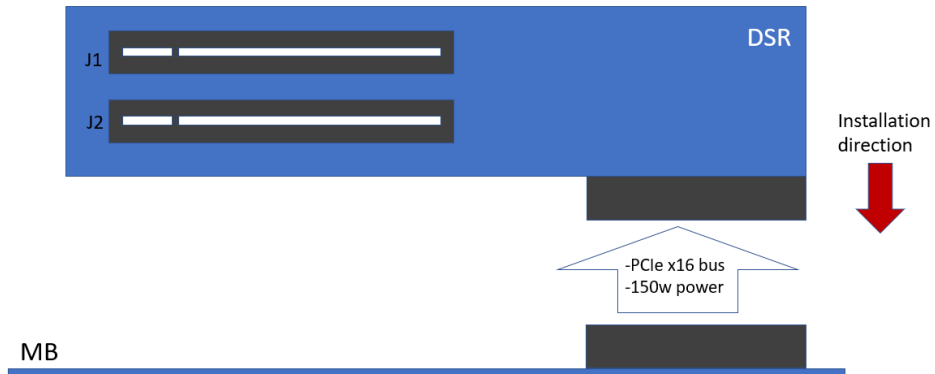


Fig. 1 Use customer PCIe connector to support both PCIe bus and 150w power

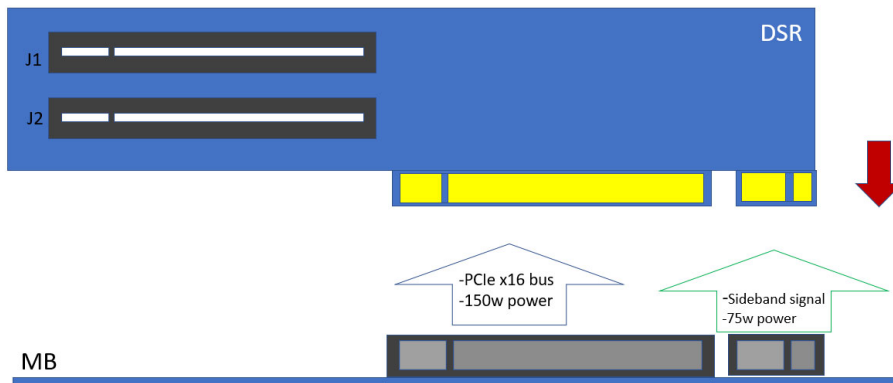


Fig. 2 standard PCIe socket to support up to 150w power

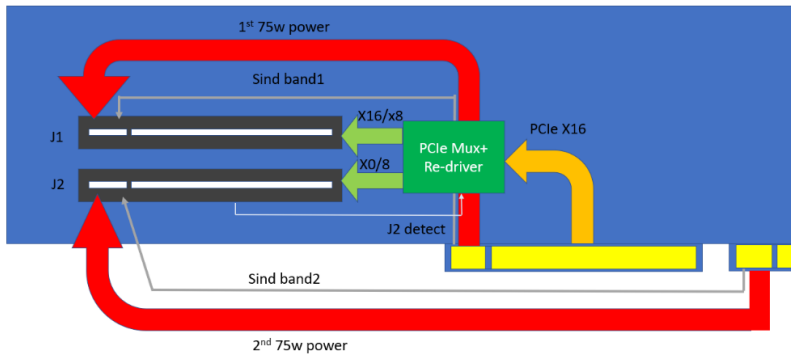


Fig. 3 Block diagram

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