

Application Note DT-AN-MECH-1

Mounting the DTA-2154/2174 in a PC

1. Introduction

This application note provides guidelines for mounting the DTA-2154 and/or DTA-2174 in a (server) PC that has to be shipped to a customer site. Special support may be required to avoid mechanical stress due to jolts and vibration during transport of the PC containing these cards.

2. Susceptibility to Mechanical Stress

The DTA-2154 and DTA-2174 are low-profile PCI Express cards that are relatively long compared to other DekTec boards.

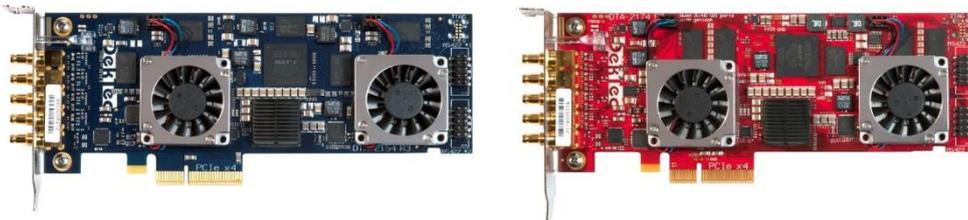


Figure 1. DTA-2154 (left) and DTA-2174 (right) SDI interfaces for PCI Express.

When mounted in a PC, the board is fixed to the PC at the PCI bracket and at the PCIe connector. The long end (the back) of the board is “free hanging”. The board may flex up and down under the influence of mechanical jolts and vibrations.

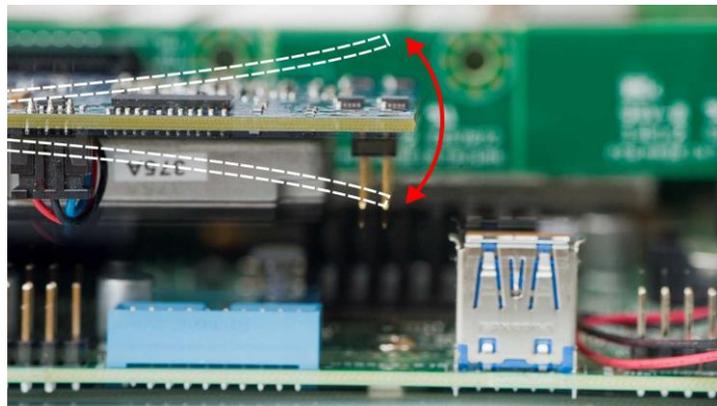


Figure 2. The free-hanging end of a DTA-2154/2174 is susceptible to jolts and vibrations.

If the DTA-2154 or DTA-2174 is installed in a PC at a stationary location, without transporting the PC, there is no problem. However, if the card is mounted in a PC that is transported to an end-user location, then the board flexing due to jolts and vibrations may lead to mechanical stress and even unrepairable damage if no appropriate action is taken.

The same problem may occur if the PC is mounted in a moving vehicle, e.g. an OB van.

3. Avoiding Board Flexing

3.1. Ship DTA-2154 / DTA-2174 separately

If feasible, avoid transporting the DTA-2154/2174 when mounted in a PC. This can be done by shipping the boards separately in DekTec-supplied boxes (or in any other protective package), and mounting the boards in the PC at the site of use.

Recommendation #1

If practical, assemble systems with the DTA-2154 or DTA-2174 at the site of use.

3.2. Fixing DTA-2154 / DTA-2174 in the PC

DekTec appreciates that integrators require to assemble their systems in the factory, and only ship qualified units to their customers. In this case it is important to avoid board flexing by fixing the position of the long end of the board.

Recommendation #2

If a DTA-2154 or DTA-2174 is transported while mounted in a PC, **FIX** the position of the long end of the board by attaching it mechanically to the PC.

4. Mounting Examples

4.1. DTA-2154 or DTA-2174 positioned horizontally in the PC

If the board is horizontally positioned in the PC, as is usually the case in a 1U or 2U PC, DekTec recommends to use a corner/edge locking support that is mounted on the PC bottom plate. An extra spacer may be required to extend the length of the support part used.

The figure below shows an example of using an Essentra (<http://uk.essentracomponents.com>) corner/edge locking support.

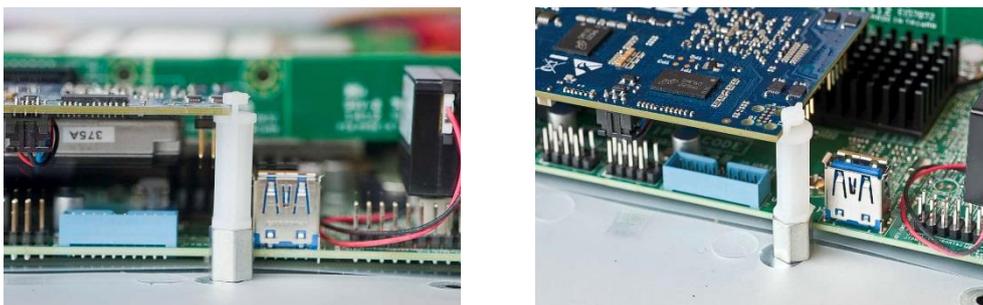


Figure 3. Fixing a DTA-2154 with a [22.2mm corner/edge locking support](#) and M4x10 spacer.

Another option is a custom-designed support part, adapted to the mechanical construction and mounting holes in the bottom plate of the PC.



Figure 4. Custom-made support part.

4.2. DTA-2154 or DTA-2174 positioned vertically in the PC

For PCs in which PCIe cards are mounted vertically, DekTec recommends to select a PC that contains clips to secure the position (low-profile) PCIe boards.

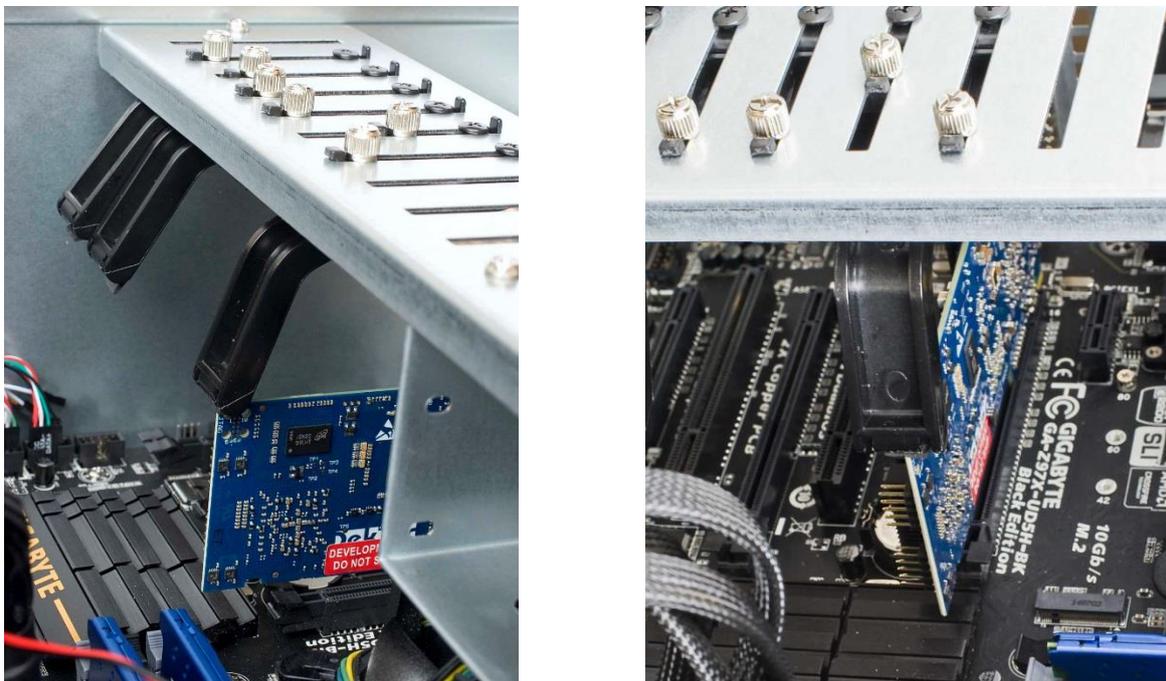


Figure 5. Vertically oriented DTA-2154, kept in position by a clip.