What should we know when upgrading M.2 SSD?

Affected Models: All MSI notebooks and Vortex products that support M.2 SSD storage devices.

Q: If I want to buy and install a M.2 SSD to the notebook, what points should I pay attention to?

A: MSI recommends all the users to contact the authorized Service Centers and allow local personnel to help upgrade the approved M.2 SSD to the computers, in order to ensure that the system can keep up with a good performance and remain stable. There are many SSD manufacturers in the market and the brands and qualities of those M.2 SSDs are all different, if users use unapproved M.2 SSD in their notebooks, it may cause unexpected problems in the system. These are some points that need to be paid attention to when upgrading to M.2 SSDs:

1. **SSD Sizes and Specifications**

   There are specific types of insertion combinations when the M.2 SSDs are connected to the sockets of the notebook; this will depend on the type of edge connectors, sizes and specifications of the M.2 SSDs. Please refer to the following FAQ in order to understand which type of M.2 SSD is supported in your computer.

   Besides from SSD specifications not matching with the SSD sockets, it is necessary to pay attention to the electronic components of the SSD and check if they have any direct contact with the electronic parts of the motherboard, since this may create the risk of catching a short circuit, endangering the computer to become unbootable, or even worse, it may directly damage other components from the computer.

2. **Consideration of heat dissipation**

   M.2 SSD has two types of interfaces, one is SATA and the other one is PCI-e. The PCI-e interface runs at higher speeds in comparison to the SATA interface, however, if the PCI-e SSD is running under a high loading, it can raise its temperature to a high level, and if the temperature cannot be lowered quickly, the PCI-e SSD will enter to its protective mechanism by lowering the clocks to prevent the SSD to work unsteadily or even worse, it may cause the notebook shutdown by force. In the retail market, cooling pads may not come together with the M.2 SSDs due to the consideration of different types of assembly. However, if the user buys and upgrades the PCI-e SSDs through the Authorized Service Centers of MSI, MSI will add Thermal Pads to the PCI-e SSDs according to the specification and design of every notebook, allowing the PCI-e SSDs to be able to dissipate the heat with more efficiency when the SSD is running at high speeds under a high temperature.

3. **Compatibility**

   If the users install a non-approved SSD by MSI, the information of the SSD might not be shown correctly in the BIOS, the SSD might not be recognized in the Operating System, or the SSD might not be accessed in the Operating System's Storage Devices. Also, this may cause abnormal shutdowns, black screens or even blue screens that show incompatibility problems with the computer.

4. **Installation Problem**

   Incorrect handling when opening the notebook's case or when installing the SSD might cause damage to the mechanical components or hardware of the notebook, in worst cases, it may even cause the notebook to become unbootable. Therefore, we recommend taking your notebook to an MSI Authorized Service Center and allow the technicians to help you install the M.2 SSD, in order to prevent these kinds of risks that might happen to your computer.