ORICO PWDM2

ORICO M.2 NVMe SATA SSD Enclosure Adapter Instruction Manual

Model: PWDM2-WH

1. Product Overview

The ORICO M.2 NVMe SATA SSD Enclosure Adapter provides a tool-free solution for converting M.2 NVMe or SATA SSDs into a portable external storage device. It supports high-speed data transfer and features enhanced heat dissipation for optimal performance.

Figure 1: ORICO M.2 NVMe SATA SSD Enclosure Adapter and included components.

2. What's in the Box

- 1 x M.2 SSD Enclosure
- 1 x USB C to C cable
- 1 x Thermal Pad
- 2 x Rubber Fastener
- 1 x Cooling Vest (Heatsink)

Figure 2: Packaging and contents of the ORICO M.2 SSD Enclosure.

3. Product Specifications

Feature	Detail
Model Number	PWDM2-WH
Data Transfer Rate (NVMe)	Up to 10 Gbps
Data Transfer Rate (SATA)	Up to 5 Gbps
Max Memory Storage Capacity	4 TB
Compatible SSD Types	M.2 NVMe M Key / B+M Key, M.2 NGFF SATA B+M Key SSD
Supported SSD Sizes	2230, 2242, 2260, 2280
Compatible Operating Systems	Windows, Mac OS, Linux, Android
Material	Aluminum, Silicone
Product Dimensions	4.88 x 1.38 x 0.55 inches
Features	Tool-Free Design, UASP Support, TRIM Support, Heatsink Cooling Vest

4. Installation Guide (Tool-Free)

Follow these steps to install your M.2 SSD into the enclosure:

1. **Open the Enclosure:** Slide the button cover to the left and gently pull the aluminum shell out to open the enclosure.
2. **Apply Thermal Components:** Place the thermal silicone pad onto your M.2 SSD. Then, attach the cooling vest (heatsink) on top of the thermal pad and SSD.
3. **Insert SSD:** Insert the SSD into the enclosure's slot. Secure it firmly using the provided rubber fastener.
4. **Close the Enclosure:** Carefully place the aluminum shell back onto the enclosure and slide the button cover to the right until it locks into place.

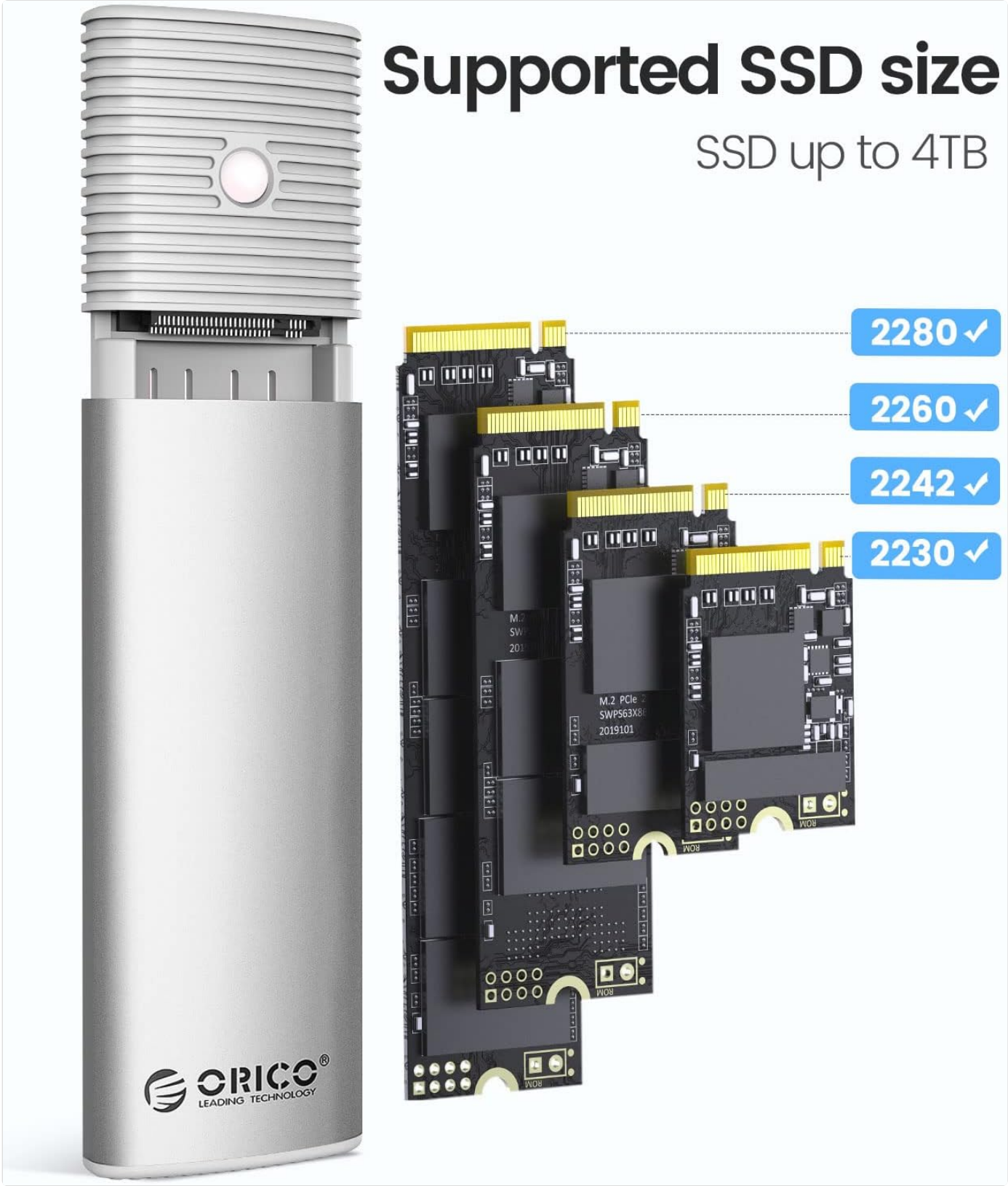

Figure 3: Visual guide for the tool-free SSD installation process.

5. Compatibility

5.1 SSD Compatibility

This enclosure is designed to be compatible with both M.2 NVMe and M.2 NGFF SATA SSDs. Ensure your SSD matches the supported key types and sizes:

- **NVMe SSDs:** Supports M Key and B+M Key (PCIe-based).
- **SATA SSDs:** Supports B+M Key (SATA-based). *Note: B Key SATA SSDs are not supported.*

- **Supported Sizes:** 2230, 2242, 2260, 2280.
- **Maximum Capacity:** Up to 4TB.

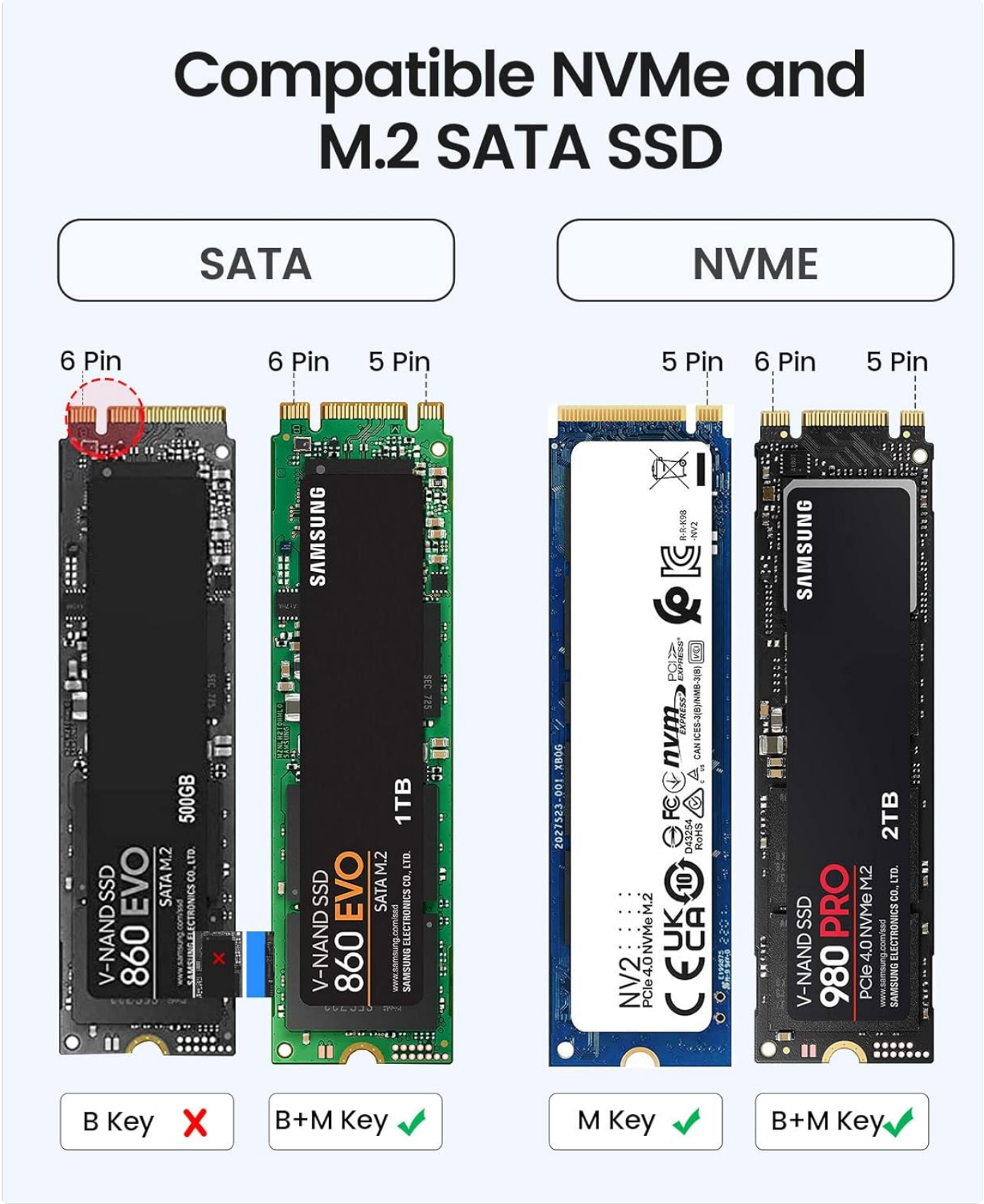

Figure 4: M.2 SSD key type compatibility chart.

Figure 5: Supported M.2 SSD form factors.

5.2 Operating System Compatibility

The enclosure is compatible with various operating systems, including Windows, Mac OS, Linux, and Android, ensuring broad usability across different devices.

6. Operating Instructions

6.1 Connecting to a Device

Connect the ORICO M.2 SSD Enclosure to your computer or compatible device using the provided USB-C to USB-C cable. The enclosure supports USB 3.2 Gen 2 for optimal performance.

Figure 6: Enclosure connected to a laptop, demonstrating data transfer capabilities.

6.2 Data Transfer Speeds

- **NVMe SSD:** Achieves transmission rates of up to 10Gbps, with read/write speeds around 1000MB/s.
- **SATA SSD:** Achieves transmission rates of up to 5Gbps, with read/write speeds around 450MB/s.

The enclosure supports UASP (USB Attached SCSI Protocol) and TRIM commands, which enhance data transfer efficiency and prolong SSD lifespan.

7. Maintenance and Heat Dissipation

The ORICO M.2 SSD Enclosure is designed with a professional heatsink cooling vest and thermal silicone pad, combined with an aluminum shell, to effectively dissipate heat. This design helps maintain optimal operating temperatures for your SSD, especially during prolonged use or high-speed data transfers, preventing performance throttling and extending the life of your drive.

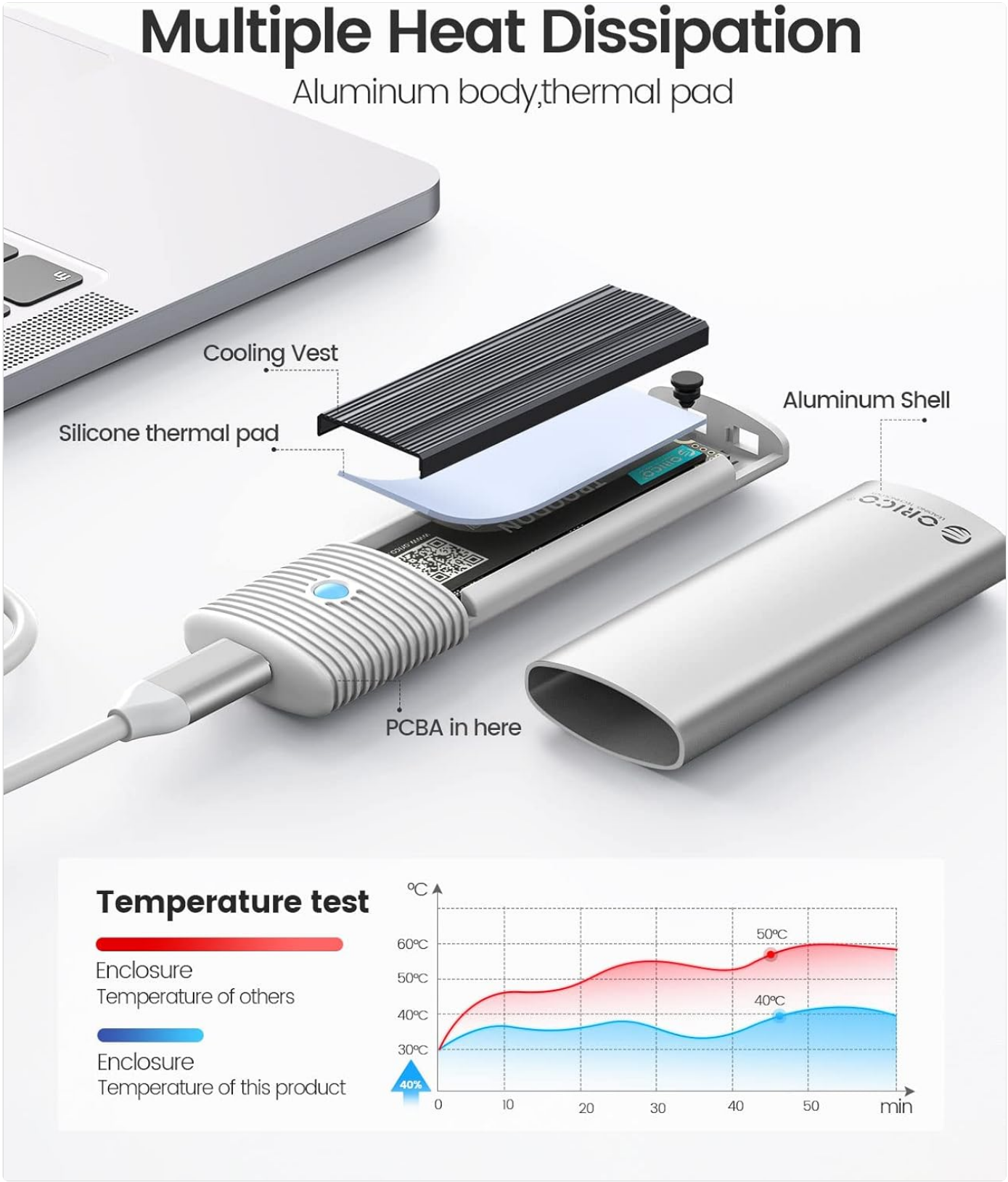

Figure 7: Heat dissipation components and temperature test results.

8. Troubleshooting

- **Connection Issues:** If the drive frequently disconnects, ensure the USB-C cable is securely connected to both the enclosure and your device. Try using a different USB-C port or cable to rule out cable or port issues.
- **Slow Transfer Speeds:** Verify that your device's USB port supports USB 3.2 Gen 2 (10Gbps) for NVMe SSDs or USB 3.2 Gen 1 (5Gbps) for SATA SSDs. Older USB standards will result in lower speeds. Ensure your SSD is properly seated and the thermal components are correctly installed to prevent thermal throttling.
- **SSD Not Recognized:** Check that the SSD is correctly installed and the enclosure is securely connected. For new SSDs, you may need to initialize and format the drive in your operating system's Disk Management (Windows) or Disk Utility (Mac OS) before it appears.
- **Large Capacity SSDs (2TB/4TB) Not Working:** Some devices or older USB ports may not provide sufficient power for higher capacity SSDs. Try connecting the enclosure to a powered USB hub or a different device with robust power delivery.

9. Warranty and Support

ORICO products typically come with a standard manufacturer's warranty. For specific warranty details, technical support, or service inquiries, please visit the official ORICO website or contact their customer support directly.
Official Website: www.orico.cc