PS2251-21 (U21)

Since its introduction in 2019, the USB4 interface has been experiencing rapid technology and market growth, driven by increasing demand for faster data transfer speeds and advanced connectivity solutions. Built on Thunderbolt technology, USB4 offers a range of advantages including high-speed data transmission, improved power delivery, and enhanced device compatibility, making it an appealing upgrade for those in need of efficient file sharing and data synchronization. With the user-centric features and seamless connectivity, storage devices supporting USB4 are set to revolutionize how users access and transfer data with enhanced and efficient experience tailored to specific needs.

PS2251-21 (U21) is a cutting-edge NAND flash controller designed to power external portable storage drives on the 40Gbps USB4 interface. The U21 supports device capacity up to 8TB while refraining from the use of a bulky, power-hungry bridge chip. This allows for smaller external storage enclosures over the introduction of exciting new use applications like phone cases with built-in data storage capable of recording 8K video for hours.

In addition, the U21 is backwards compatible with all existing USB standards, including USB 2.0 and USB 3.2 in different generation and lane options for the widest range and device capability of any USB interface certified product available today. Type A-and Type-C compatibility to the host further allows users to leverage the universal designs for all existing products, making the U21 the perfect data transportation device for home, office, and travel to your destinations around the globe.

CONTROLLER

PS2251-21

Features	Specifications
Interface	- USB4 (40Gbps) - USB 3.2 Gen 2x2 (20Gbps) - USB 3.2 Gen 2x1 (10Gbps) - Compliance with USB 3.2 Gen1 (5Gbps) - Compliance with USB 2.0 (480Mbps)
Flash Controller	- 500GB up to 8TB support - Triple-level cell (TLC) and Quad-level cell (QLC) flash memory support - Compliant with Toggle 1.0/2.0/3.0/4.0 NAND flash interface - Compliant with ONFI 2.0/3.0/4.1 - Transfer rate: up to 1600 MT/s - Support up to 4 channels/ 16 Chip Enable (CE) within Single Design - Flash IO Operating voltage supply 1.2v
Performance	- Sequential read up to 4000 MB/s (est.) - Sequential write up to 4000 MB/s (est.)
Data Reliability	- LDPC ECC protection
OS compatibility	- Support Windows XP and later versions - Support MAC OS 10.8 and later versions - Support Linux kernel 2.4.10 and later versions
Temperature Range	- Operating range: 0~70 °C - Storage range: -40~85 °C
Environmental	- Humidity 20%~90%
Certification	- USB IF Compliance by Q2'24

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Find more information and resources at: **phisonblog.com** and **phison.com**