

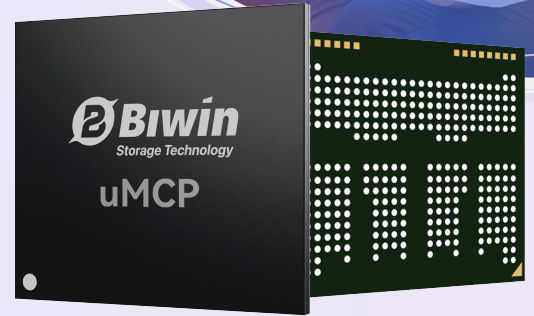
# uMCP LPDDR4X

BIWIN uMCP LPDDR4X combines high-bandwidth UFS 2.2 storage and LPDDR4X memory for higher performance and larger storage capacity for smart devices.

It delivers sequential read speeds up to 1000 MB/s and write speeds up to 800 MB/s, with LPDDR4X operating at up to 4266 Mbps.

With a capacity of up to 512 GB + 64 Gb and a compact size of just 11.50 x 13.00 mm, the uMCP4 significantly reduces motherboard space compared to separate UFS 2.2 and LPDDR4X solutions.

This multichip integration enables more flexible and more efficient system designs for smartphones, delivering improved performance while optimizing space.



## Key Features

### Advanced Integration for Slimmer Designs

The BIWIN uMCP LPDDR4X combines UFS 2.2 and LPDDR4X into a single integrated solution. Compared to traditional configurations, this integration saves up to 55% of motherboard space, providing an ideal solution for devices such as smartphones, tablets, and AR/VR systems that require ultra-slim designs and high integration.

### Reliability for Stable Operation

The BIWIN uMCP LPDDR4X incorporates multiple layers of data protection mechanisms to ensure data integrity. Each chip undergoes rigorous testing prior to shipment, delivering exceptional reliability and stability across diverse operating systems, host platforms, and application environments.

### High Performance for Enhanced Multitasking

Equipped with high-performance LPDDR4X memory, achieving speeds up to 4266Mbps, this multi-chip package supports MIPI M-PHY HS-GEAR3 high-bandwidth mode, along with WriteBooster and Host Performance Booster technologies. These innovations enhance data transfer speeds and significantly optimize the responsiveness of multitasking, elevating device performance to high standards.

### Intelligent Power Management for Extended Endurance

Powered by BIWIN's proprietary firmware architecture, the uMCP LPDDR4X integrates advanced low-power design and dynamic power management technologies. This enables sophisticated power optimization, dynamically adjusting energy consumption to maximize efficiency and substantially extend battery life.

## Technologies

Power Loss Protection

Write Protection

Quick Erase

Wear Leveling

Garbage Collection

TRIM Command

## Applications



Embedded Application



Smart Phone



Tablet



AR/VR

|                              |   |
|------------------------------|---|
| <b>Model Name</b>            | uMCP LPDDR4X  |
| <b>Interface</b>             | UFS 2.2 + LPDDR4X   |
| <b>Capacity</b>              | 64 GB+32 Gb, 128 GB+48 Gb, 128 GB+64 Gb, 256 GB+64 Gb, 512 GB+64 Gb   |
| <b>Performance</b>           | <b>UFS 2.2:</b><br>Sequential Read: 1000 MB/s<br>Sequential Write: 800 MB/s<br><br><b>LPDDR4X:</b><br>Up to 4266 Mbps   |
| <b>Operating Voltage</b>     | <b>UFS 2.2:</b><br>$V_{CC} = 3.3\text{ V}$<br>$V_{CCQ} = 1.8\text{ V}$<br><br><b>LPDDR4X:</b><br>$V_{DD1} = 1.8\text{ V}$<br>$V_{DD2} = 1.1\text{ V}$<br>$V_{DDQ} = 0.6\text{ V}$ |
| <b>Dimensions</b>            | 11.50 × 13.00 mm  |
| <b>Packaging</b>             | FBGA 254 Ball   |
| <b>Operating Temperature</b> | -25°C to + 85°C   |
| <b>Storage Temperature</b>   | -40°C to + 85°C   |
| <b>Supported Platforms</b>   | Mediatek, Unisoc  |
| <b>Warranty</b>              | 3-Year Limited  |

## Order Information

| Capacity              | Part Number     | Packaging | Dimensions       |
|-----------------------|-----------------|-----------|------------------|
| <b>64 GB + 32 Gb</b>  | BW2A2KZC02-64G  | FBGA254   | 11.50 × 13.00 mm |
| <b>128 GB + 48 Gb</b> | BW2A2LEI02-128G | FBGA254   | 11.50 × 13.00 mm |
| <b>128 GB + 64 Gb</b> | BW2A2MZC02-128G | FBGA254   | 11.50 × 13.00 mm |
| <b>256 GB + 64 Gb</b> | BW2A2MZC02-256G | FBGA254   | 11.50 × 13.00 mm |
| <b>512 GB + 64 Gb</b> | BW2A2MZCNY-512G | FBGA254   | 11.50 × 13.00 mm |

1. Tested by BIWIN labs. Actual performance may vary due to systems, devices, or environment.
2. Maintenance and future updates are required throughout the product lifecycle. Specifications are subject to change without notice.
3. The pictures are for illustration only. Actual products may vary due to product enhancements or changes.
4. Not all products are sold in all regions of the world.
5. Please visit [www.biwintech.com](http://www.biwintech.com) for warranty details in your region.
6. For more information, please contact [sales@biwintech.com](mailto:sales@biwintech.com).

### Global Headquarters:

#### BIWIN STORAGE TECHNOLOGY CO., LTD.

Building #4, South Zone #2, Zhongguan Honghualing Industrial Zone,

Nanshan District, Shenzhen, Guangdong, China

+86 (755) 2671-5701

[sales@biwintech.com](mailto:sales@biwintech.com)