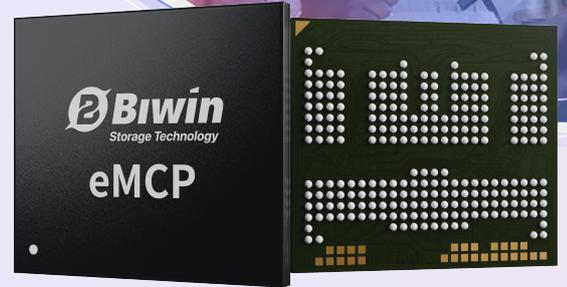


eMCP LPDDR4X

BIWIN eMCP LPDDR4X integrates LPDDR4X DRAM and eMMC 5.1 storage, offering sequential read speeds up to 300 MB/s and sequential write speeds up to 230 MB/s, with frequency up to 4266 Mbps.

This solution offers a maximum capacity of 128 GB+64 Gb and a compact size of just 11.50 × 13.00 mm, saving substantial PCB space compared to separate eMMC 5.1 and LPDDR4X configurations.

It is an ideal choice for the miniaturization and slimmer design of smart devices, enhancing both performance and space efficiency.



Key Features

Compact and Space-Saving Design

BIWIN eMCP uses advanced multi-chip packaging technology, integrating eMMC and LPDDR4X memory into a BGA package. This innovative design effectively reduces the module's dimensions, saving valuable space in smart terminal devices and supporting more efficient industrial design.

Enhanced Performance with Faster Data Transfer

The eMCP integrates high-frequency, low-latency LPDDR4X with an LVSTL interface optimized for a 0.6V low voltage and enhanced signal integrity. With data transfer rates up to 4266 Mbps, this solution provides a significant performance boost compared to the previous generation LPDDR3 eMCP3, enhancing overall device responsiveness and performance.

Lower Power Consumption for Extended Battery Life

By reducing the I/O voltage from 1.1 V in LPDDR4 to 0.6 V, the eMCP significantly lowers dynamic power consumption. This power efficiency ensures devices can maintain lower power consumption even while responding quickly to multiple data requests and multitasking, ultimately extending battery life.

Broad Compatibility for Diverse Applications

Thoroughly tested and validated, the BIWIN eMCP offers exceptional reliability and broad compatibility. It is designed to meet the diverse demands of various smart terminal applications, offering seamless integration in a wide range of use cases.

Technologies

S.M.A.R.T.

Firmware Update

End-to-End Data Protection

Data Erasure

Garbage Collection

Dynamic/Static Wear Leveling

TRIM Command

Bad Block Management

Intelligent Thermal Throttling

Applications



Gaming and Entertainment



Mobile Phone



Tablet



Automotive Electronics



Educational Electronics



Smart Wearable



Drone

Model Name	eMCP LPDDR4X
Interface	eMMC 5.1 + LPDDR4X
Capacity (Up to)	128 GB + 64 Gb
Performance	eMMC 5.1: Sequential Read: 300 MB/s Sequential Write: 230 MB/s LPDDR4X: Up to 4266 Mbps
Operating Voltage	eMMC 5.1: $V_{CC} = 3.3\text{ V}$ $V_{CCQ} = 1.8\text{ V}$ LPDDR4X: $V_{DD1} = 1.70\text{ V} - 1.95\text{ V}$ $V_{DD2} = 1.06\text{ V} - 1.17\text{ V}$ $V_{DDQ} = 0.57\text{ V} - 0.65\text{ V}$
Dimensions	11.50 × 13.00 mm
Packaging	FBGA 254 Ball
Operating Temperature	-25°C to + 85°C
Storage Temperature	-40°C to + 85°C
Supported Platforms	Rockchip, Unisoc, Mediatek, Qualcomm
Warranty	3-Year Limited

Order Information

Capacity	Part Number	Packaging	Dimensions
32 GB+16 Gb	BWCA2EZA-32G	FBGA254	11.50 × 13.00 mm
32 GB+32 Gb	BWCA2KZC-32G	FBGA254	11.50 × 13.00 mm
64 GB+32 Gb	BWCA2KZC-64G	FBGA254	11.50 × 13.00 mm
128 GB+32 Gb	BWCA2KZA-128G	FBGA254	11.50 × 13.00 mm
128 GB+64 Gb	BWCA2KZA-128G	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 for warranty details in your region.
6. For more information, please contact sales@biwintech.com.

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