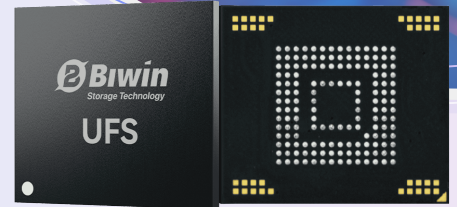


BIWIN TAU208 Automotive UFS 3.1

The BIWIN TAU208 is a high-performance UFS 3.1 storage solution engineered for data-intensive smart vehicles. It delivers exceptional speed with 23.2 Gbps bandwidth (2,150 MB/s read), ensuring real-time processing for HD maps and autonomous driving streams. Built for reliability, it is AEC-Q100 compliant, operating flawlessly between -40°C and 105°C with robust LDPC and RAID data protection. Its ultra-slim 1.0 mm profile ensures easy integration, while an advanced Deep Sleep mode cuts power consumption by 95%, making it highly efficient for modern electric vehicle architectures.

With capacities from 128 GB to 512 GB, the TAU208 integrates multiple intelligent management features:

- **Deep Sleep mode:** Significantly reduces power consumption, helping extend electric vehicle battery life.
- **Performance Throttling Notification:** Monitors storage status in real time and dynamically optimizes read/write performance to maintain smooth and stable system operation.
- **Error History logging:** Accurately tracks and analyzes storage anomalies, providing valuable data support for system diagnostics and maintenance.
- **LDPC & RAID error correction technologies:** Strengthen data protection and storage reliability, meeting the stringent safety and durability requirements of automotive systems.



Key Features

Industry-Leading High Data Transfer Performance

The BIWIN TAU208 is designed to meet the demands of 5G-capable devices, offering a theoretical maximum bandwidth of up to 23.2 Gbps per lane. It achieves sequential read and write speeds of up to 2150 MB/s and 1650 MB/s respectively, with random read/write performance reaching up to 300K IOPS.

This high-speed interface is supported by the MIPI M-PHY 4.1 interface and the UniPro 1.8 link layer, ensuring efficient data transfer and storage management. UFS 3.1 supports multiple partitions and offers features like Write-Protect, Boot mode operation, and Secure Erase, enhancing both performance and security. The standard also includes improvements such as Write Booster, DeepSleep, and Performance Throttling Notification, which contribute to real-world performance and battery life optimization.

System-Level Reliability and Intelligent Maintenance

The TAU208 integrates dual data protection technologies—LDPC (Low-density parity-check code) and RAID (Redundant Array of Independent Disks)—to ensure data integrity at the foundational level. Its exclusive Performance Throttling Notification intelligently regulates performance to maintain system stability, while Error History logging provides critical data support for fault diagnosis and preventive maintenance. Together, these features deliver comprehensive protection, safeguarding not only data storage but overall system health.

Automotive-Grade Wide-Temperature Stability

Beyond outstanding performance under standard conditions, the TAU208 maintains high-speed and stable read/write operation across an extreme temperature range of -40°C to 105°C, meeting automotive-grade reliability standards for all-weather, worldwide deployment.

Innovative Power Management

By incorporating an advanced Deep Sleep mechanism, the TAU208 reduces power consumption by up to 95% in sleep mode. This significantly lowers system standby power usage, effectively extending vehicle battery range and aligning with the green, energy-efficient development trend of automotive electronics.

Technologies

Performance Throttling Notification

Error history

LDPC

RAID

Applications



IVI



ADAS



Smart Cockpit

Specifications

Model Name	TAU208
Interface	UFS 3.1 HSG4 x2lanes
Flash Type	3D TLC
Bandwidth	23.2 Gbps
Capacity	128 GB / 256 GB / 512 GB
Sequential Read (Up to)	2150 MB/s
Sequential Write (Up to)	1650 MB/s
Random Read 4K (Up to)	300K IOPS
Random Write 4K (Up to)	300K IOPS
Dimensions	11.50 x 13.00 x 1.20 mm (Max.)
Packaging	FBGA 153 Ball
Operating Temperature	-40°C to + 105°C
Storage Temperature	-40°C to + 105°C
MTBF	>30,000,000 Hours
Certifications	RoHS, HF, REACH, AEC-Q100 Grade2
Warranty	5-Year Limited

Order Information

Capacity	Part Number	Packaging	Dimensions
128 GB	TCUFMA128GNAC8	BGA 153 Ball	11.50 x 13.00 x 1.20 mm
256 GB	TCUFMA256GNAC8	BGA 153 Ball	11.50 x 13.00 x 1.20 mm
512GB	TCUFMA512GNAC8	BGA 153 Ball	11.50 x 13.00 x 1.20 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. As used for storage capacity, one megabyte (MB) = one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on the operating environment. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or interface, megabyte per second (MB/s) = one million bytes per second, and gigabyte per second (GB/s) = one billion bytes per second.
6. MTBF = Mean Time Between Failures based on internal testing using the Telcordia stress testing standard.
7. Please visit www.biwin technology.com for warranty details in your region.
8. For more information, please contact sales@biwintech.com.

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