

KIOXIA

**Together,
we move
memory forward.**



Enabling Better Smartphone User Experiences Through UFS Solutions from KIOXIA

The functionality now being incorporated into smartphone handsets is astounding - enabling users to enjoy a wide variety of data-intensive, video-based applications. The arrival of 5G mobile communication means that it will be possible for far greater data rates to be supported. This will bring about a new paradigm of content delivery, resulting in faster download times and greater convenience.

The amount of content that users will need to store on their handsets is set to increase dramatically, so the memory technology integrated needs to be able to address this. Also, how quickly content can then be accessed will be critical from a user experience perspective. The conventional memory architectures and interfaces currently being utilised by smartphone handset manufacturers simply won't be able to cope with the demands that 5G is going to bring with it.

The [Universal Flash Storage \(UFS\)](#) by [KIOXIA](#) has been designed to meet the needs of the 5G era. Its use means that major enhancements in the embedded memory performance of smartphone handsets can be realised, so they are ready to deal with the incredible data capacity and responsiveness levels that next generation mobile applications are certain to require.



Instead of attempting to increase capacity by moving to smaller semiconductor processes (leading to serious noise, interference, and endurance issues), capacity is added via the 3D stacking of memory cells. The result is a superior solution that provides heightened performance characteristics and longer-term operation. UFS is offered in a wide range of different storage capacities - covering 32GB, 64GB, 128GB, 256GB, 512GB and 1TB.



A new innovation is [KIOXIA's 1TB UFS Ver. 3.1](#) embedded flash memory. This is the

most streamlined UFS device on the market with this storage capacity - fitting into a package format that is only 1.1mm in height. By using the company's innovative BiCS FLASH™ 3D flash memory technology, sequential read speeds of up to 2,050MB/sec and 1,200MB/sec sequential write speeds can be attained.

Thanks to the sophisticated power management features that KIOXIA has incorporated, its UFS devices are able to set new benchmarks in terms of their power consumption - outperforming competing solutions. This contributes to extending the period between handset battery recharges. Error correction, wear levelling, logical-to-physical address translation and bad-block management functions are all included too, thereby helping to facilitate system implementation. In addition, the thermal throttling mechanism safeguards against the potential risk of overheating.

[Find out more >](#)

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