UNIVERSAL FLASH STORAGE ASSOCIATION

The Universal Flash Storage Association (UFSA) was founded in 2010 as an open Trade Association to promote widespread industry adoption and acceptance of the UFS standard.

OUR MISSION

Our primary mission includes the promotion of UFS technology and infrastructure along with providing product compliance and UFS logo certification management. UFSA also provides valuable input back to JEDEC for future specification development.

UFS TECHNOLOGY: SSD FOR MOBILE
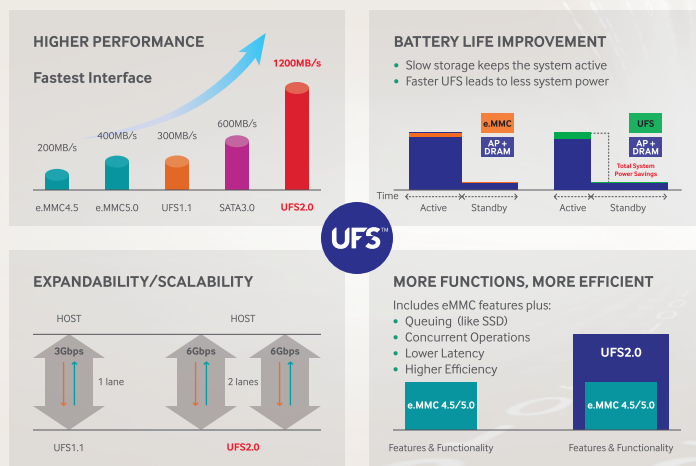### Mobile Storage Advancement
Build on e.MMC heritage

- Incorporate e.MMC features adopted by mobile systems for a smooth transition in mobile applications

MIPI M-PHY & UniPro standards (Physical & Link layers)

- High speed, energy efficient serial interface

SCSI command set and architecture model

- Well-known high-performance storage protocol

UFSA COMPLIANCE CERTIFICATION PROGRAM
Principles of Certification

- Assure Devices and Hosts operate reliably in conformance with the UFS specification
- Maximize benefits to developers at minimum cost
- Promote completeness and advancement of UFS/MIPI specifications
- Assure ultimate integrity of the UFS brand
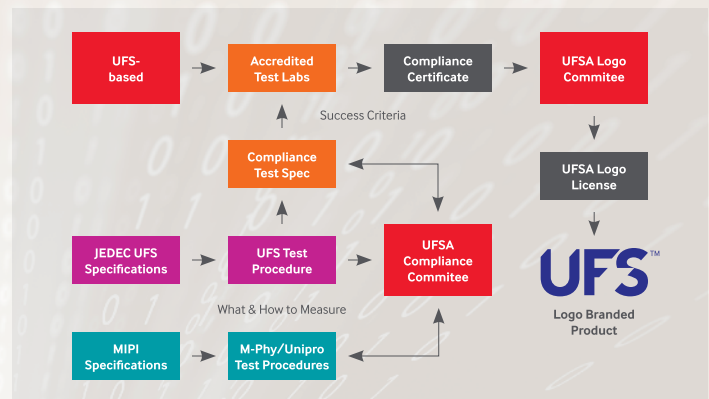
JOIN UFSA
Benefits and Activities

Industry Enablement & Support

- Workshops and plugfests for early product compatibility and interoperability testing
- Marketing and promotion activities

UFS Product Compliance

- Compliance certification specifications & test guidelines
- Formal management of world class, worldwide compliance certification ecosystem
- Clear differentiation via UFS logo branding program

Membership Levels

- Executive – Board of Directors
- Contributor
- Adopter

Current members include: Allion, Arasan, Cadence, Keysight, Marvell, Micron, Phison, Samsung, SanDisk, Silicon Motion, SK Hynix, Synopsys, Tektronix

More information at: www.ufsa.org

UFSA
Universal Flash Storage Association

UFS™ FREQUENTLY ASKED QUESTIONS (FAQ)

What is UFS?

UFS (Universal Flash Storage) is a high performance storage interface designed for use in computing and mobile systems requiring low power consumption such as smart phones and tablets. Its high speed serial interface and optimized SCSI protocol enable significant improvements in throughput and system performance. UFS v2.0 defines bandwidth of up to 1.2 GB/s over two data lanes.

Where will UFS be used?

UFS 2.0 will drive next generation mobile devices to new performance levels not available before, making its debut in high-end smartphones and tablets. UFS adoption is expected to migrate to mid-range phones and tablets, as well as other devices in which high-performance and low-power storage is desirable. For example, in ultra-portable laptops, UFS devices could improve battery life, while maintaining the same level of high performance, and reducing weight and size.
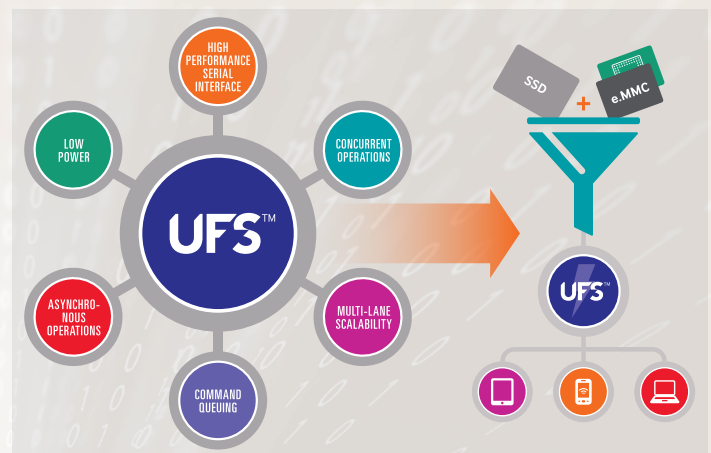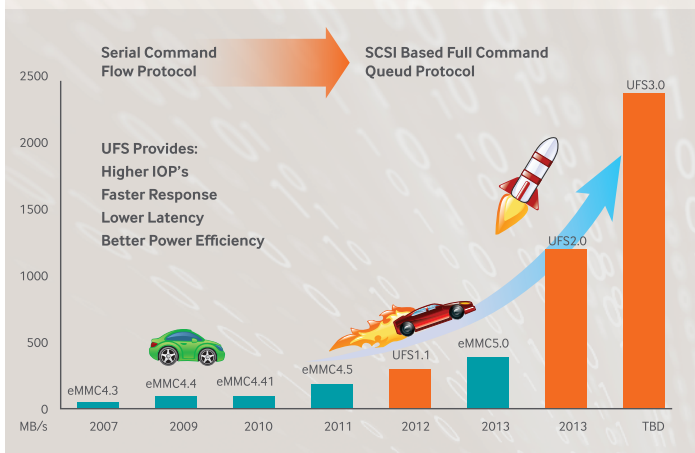
What technologies are competitive with UFS?

Feature Comparison	e.MMC 5.0	UFS 2.0
Operation	Half Duplex Parallel	Full Duplex Serial w/Multi-Lane Option
Bandwidth	400MB/s	1200MB/s (600MB/s x2 Lane)
Scalability	No. Fixed Bus Configuration	Yes. Multi-Lane Support
Command Queuing	No	Yes
Concurrent Operations	No	Yes
Relative Read/Write Latency*	1	0.5
Random Read/Write IOPs	1x	2~3x*
Variable Interface Power/Performance Gears	No	Yes

* Data derived from measurements of similar test conditions & NAND configurations with different controllers (values may vary with actual specific product)
Source: Samsung

What is the UFSA Compliance Certification Program?

The UFSA Compliance Certification Program assures that any product licensed to use the UFS logo is compliant with the UFS Specification and will work properly with other compliant UFS products. Compliance certification by independent 3rd party "Authorized Test Centers" (ATCs) is required to assure the evaluation is unbiased, accurate and repeatable.

Where to join?   www.ufsa.org/join/

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