XFMEXPRESS™, A New Replaceable SSD Form Factor

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The XFMEXPRESS™ device form factor has:
- Surface area of 14 mm x 18 mm
- Thickness of 1.4 mm
The first XFMEXPRESS™ connector has:

- Surface area of 17.8 mm × 22.2 mm
- Thickness of 2.2 mm
Why one more form factor?

There are the compromises of current SSD client products for ultra-mobile and embedded applications:

- Large footprint and height limitation (e.g., M.2 2230),
- vs.
- Not very flexible or serviceable (e.g., BGA 1620)
What does XFMEXPRESS™ offer?

XFMEXPRESS™ offers the combination of:

• Serviceability
• A no-compromise balance between a small form factor and support of SSD-class components (e.g., current and future 3D flash)
• Real I/F scalability and the thermal interface to support it
• SSD-class capacity & performance
Designed for Ultra-Mobile & Embedded Use Cases

• XFMEXPRESS™ is a new memory device form factor developed by Toshiba Memory as a joint effort between SSD and Memory teams within Toshiba Memory

• No-compromise embedded & removable NVMe™ storage device

• Optimized mounting volume for host designers
Designed for Ultra Mobile

PCle®/NVMe™ interfaces build today’s mainstream client SSD

- PCIe® 3.0 Specification
  - x2 and x4 Lane
  - Gen 3, 8 GT/s
  - Design goal for Gen 4, 16 GT/s

- NVMe™ 1.3 Specification
Capacity and Performance

• Terabyte capacity capable

• Theoretical speeds of up to 4 GB/s on x4 lanes (PCIe® Gen 3.0) and up to 8 GB/s on x4 lanes (PCIe® Gen 4.0)

• Support for up to 5 watts with ‘TIM’ thermal treatments
A new choice for embedded memory & removable storage/memory devices

A connector designed for:

- Easy replacement
- Minimal real-estate (3D)
- Heat transfer mechanisms optimizable for system target
Target Markets

Notebook PC
Thin & Light, 2-in-1

Automotive
EDR, Drive recorder

Automotive
IVI, ADAS

Gaming
Console, VR HMD

Other...
Portable storage, Security camera
Planning in process for an open standard

Please stay tuned...
THANK YOU!

Please visit Toshiba Memory
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For more information: