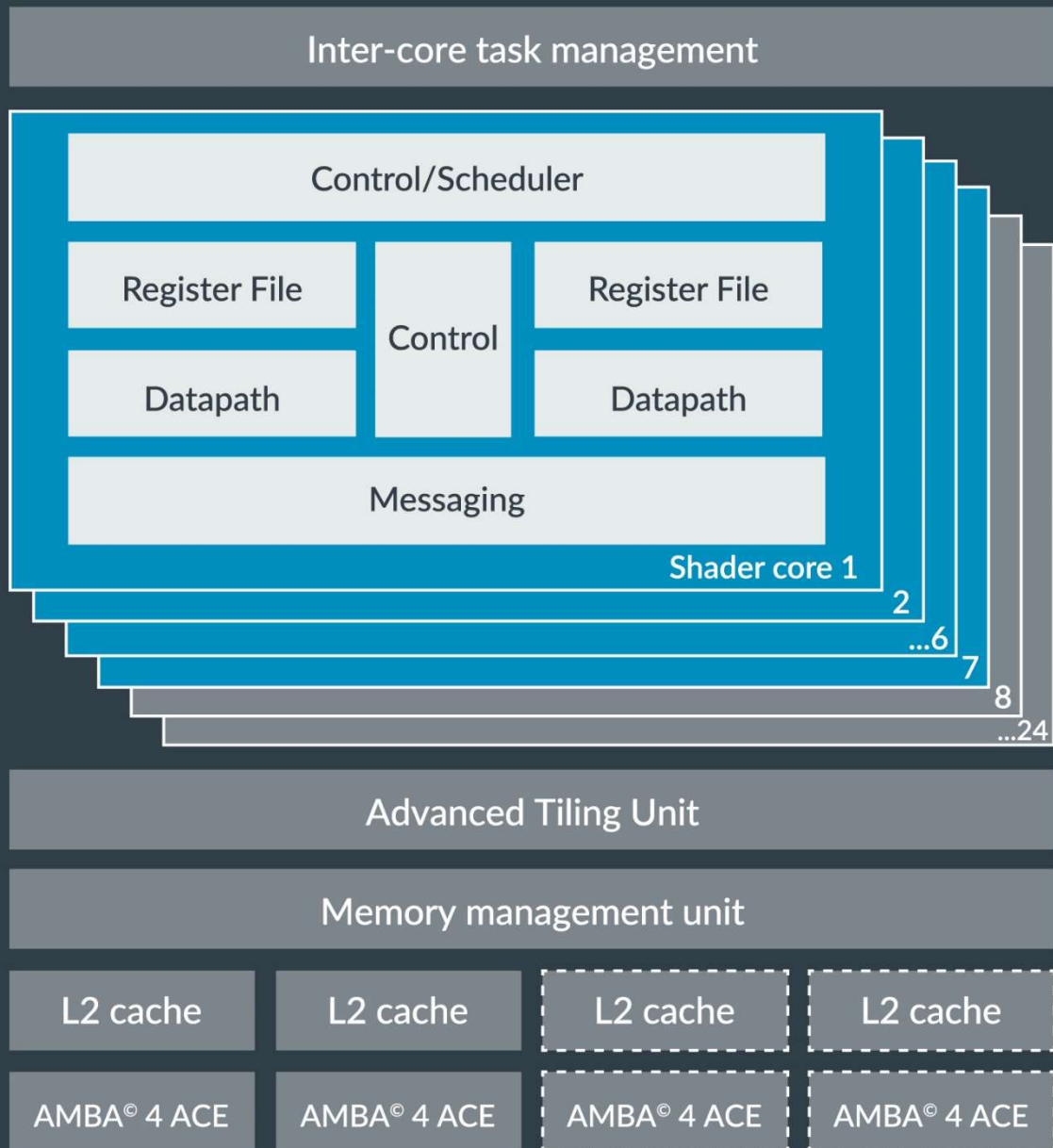


Arm Mali-G78 Specification

The Arm Mali-G78 GPU is a second generation Valhall architecture-based GPU for premium devices. Mali-G78 is the highest performing Arm GPU that enables complex use cases, for example gaming graphics and machine learning (ML) for all the latest APIs like Vulkan and OpenCL. Mali-G78 provides a GPU performance boost of up to 25% on previous device generation, and boosts on-device ML capabilities, helping to bring highly complex games to mobile devices. With support for up to 24 cores and the inclusion of Asynchronous Top-Level, Mali-G78 ensures that the delivery of this performance is efficiently spread across the cores which allows graphics to run smoother. The new Fused Multiply-Add (FMA) unit in the execution engine, built from the ground up, leads to a further 30% energy reduction in the unit.

Mali-G78 is also 10% more energy efficient than earlier GPUs. This enables longer battery life on next-generation mobile devices.

arm MALI™-G78



Arm Mali-G78 GPU

Features	Value	Description
Anti-aliasing	4x MSAA 8x MSAA 16x MSAA	4x Multi-Sampling Anti-Aliasing (MSAA) with minimal performance drop
API support	OpenGL® ES 1.1, 2.0, 3.1, 3.2 Vulkan 1.1, 1.2 OpenCL™ 1.1, 1.2, 2.0 Full profile	Full support for next-generation and legacy 2D/3D graphics applications
Bus interface	AMBA®4 ACE, ACE-LITE, and AXI	Compatible with a wide range of bus interconnect and peripheral IP
L2 cache	Configurable 512KB – 2MB	2 or 4 slices
Scalability	7 to 24 cores	Configurable from 7 to 24 cores delivering largest capability for a Mali GPU
Adaptive Scalable Texture Compression (ASTC)	Low Dynamic Range (LDR) and High Dynamic Range (HDR). Supports both 2D and 3D images.	ASTC offers several advantages over existing texture compression schemes by improving image quality, reducing memory bandwidth and thus energy use
Arm Frame Buffer Compression (AFBC)	Version 1.3 4x4 pixel block size	AFBC is a lossless image compression format that provides random access to pixel data to a 4x4 pixel block granularity. It is employed to reduce memory bandwidth both internally within the GPU and externally throughout the SoC



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