arm academic access

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Get access to the full RTL for Cortex-M0, M3 and Cortex-A5 and their systems. This option is suitable for individual academics, researchers or faculty at universities who are focused on projects that specifically need these processors. Please complete the form via the 'Apply Now' link to access Arm Academic Quickstart. You must use your institutional or university e-mail address in your application. You can undertake FPGA development and/or small-scale SoC manufacturing.

Arm Academic Access – Foundation and Mainstream

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What is included in the Arm Academic Access Foundation and Mainstream packages?

Arm Academic Access consists of a Research Foundation and a Research Mainstream package, where Foundation is a subset of Mainstream. Our team will discuss your needs and identify the most suitable place to start.

AAA does not come with dedicated technical support as it is a free program, delivered at scale for the academic community. However, Arm Academic Access does include access to 30 Hardware and Software Success Kits, with tools and models to help drive your research innovation and ensure design success. Online training seats are also included for free for Access Control List (ACL) members (people your university has nominated as needing Arm IP download access), so you can access short online courses, bite-sized videos and guides. If you need something more specific, we may be able to negotiate bespoke training at a discounted rate. Contact us if you would like to explore this further on AAA-enquiries@arm.com

You may like to use IP Explorer, a cloud-based platform that helps evaluate solutions, simulate different configurations and benchmark performance. Academics may also join SoC Labs for free – the expanding global academic community for Arm-based projects with a shared aspiration of research innovation. SoC Labs provides a space for information exchange and mutual support from fellow academics and researchers interested in hardware and software development around Arm IP.

Features	Details
Access to CPUs, GPUs, Corstone Foundation IP and System IP, dependent on package	Yes
Number of online seats for introductory training	1 seat per ACL member (until further notice)
Tools and Models: • Socrates • AMBA Viz • Interconnect Performance Models • Arm Development Studio • Fast Models System Creation • Fast Models Run Time • Arm Development Studio • Fixed Virtual Platforms (FVP, included in Arm Development Studio) • Certified C Library • Fusa RTS • Arm Compiler for Embedded FuSa (included in Arm Development Studio) • Keil MDK v6 Professional • Arm Compiler for Embedded (included in Arm Development Studio) For full details of what is included in each Success Kit and how they can help you build better products, reduce risk and accelerate development time, please visit arm.com/products/development-tools/success-kits	**Hardware Success Kits: 30 for Foundation and Mainstream packages.** Please note: Hardware Success Kits include Software Success Kits.
Tailored training	**Available separately on a discounted basis for academia**

How do you request Arm Academic Access Foundation or Mainstream?

Research Foundation Package

Product	Description	Learn More About This Product
CPU Processors		
Cortex-A5 Multi-Processor	Smallest Cortex-A processor designed for applications that require virtual memory management for high-level operating systems within a low-power, low-area profile.	arm.com/products/silicon-ip-cpu/cortex-a/cortex-a5
Cortex-A5 Uni-Processor		
Cortex-M33 Processor	Optimized for cost and power-sensitive microcontroller and mixed-signal applications. Designed to address embedded and IoT markets, especially those requiring efficient security or digital signal control.	arm.com/products/silicon-ip-cpu/cortex-m/cortex-m33
Cortex-M23 Processor	Smallest and lowest-power microcontroller with Arm TrustZone security, ideal for applications requiring software isolation and software security.	arm.com/products/silicon-ip-cpu/cortex-m/cortex-m23
Cortex-M3 Processor	Designed for cost-sensitive and power-constrained solutions in a broad range of devices. Balanced between area, performance, and power.	arm.com/products/silicon-ip-cpu/cortex-m/cortex-m3
Cortex-M0+ Processor	The smallest footprint and lowest power requirements of all the Cortex-M processors, suitable for a wide variety of applications, including sensors and wearables.	arm.com/products/silicon-ip-cpu/cortex-m/cortex-m0-plus
Cortex-M0 Processor	Designed for smart and connected embedded applications, the smallest Arm processor available, ideal for simple, cost-sensitive devices.	arm.com/products/silicon-ip-cpu/cortex-m/cortex-m0
Security IP		
True Random Number Generator	A mandatory component in any system that generates cryptographic assets.	arm.com/products/silicon-ip-security/random-number-generator

Product	Description	Learn More About This Product
Peripheral Controllers		
PL011 UART Universal Asynchronous Receiver/Transmitter	Peripheral controllers for UART, SPI and real-time clock.	developer.arm.com/ip-products/system-ip/system-controllers
PL022 SPI Synchronous Serial Port	Peripheral controllers for UART, SPI and real-time clock.	developer.arm.com/ip-products/system-ip/system-controllers
PL031 RTC Real Time Clock	Peripheral controllers for UART, SPI and real-time clock.	developer.arm.com/ip-products/system-ip/system-controllers

Corstone IP Cortex processor reference packages and supporting system IP. Simplifies silicon design and reduces development time.		
Corstone-500	Corstone-500 offers a proven and pre-integrated reference package along with an extensive set of System IP, for building Linux capable high-performance SoCs, based on Arm Cortex-A5. It includes FPGA image, out-of-box Linux support and simulation models, thus accelerating time to market and reducing development risk.	arm.com/products/silicon-ip-subsystems/corstone-500
Corstone-201	Incorporates the Arm SSE-200 subsystem for Cortex-M33 and the SSE-123 example subsystem built around the Cortex-M23. The subsystems provide a solid base for either mainstream or constrained device SoC design, with Arm TrustZone support for deep-rooted security.	arm.com/products/silicon-ip-subsystems/corstone-201
Corstone-102	Arm Corstone-102 provides a flexible reference package and system IP for small, low cost and energy efficient SoC development. Based on the Arm Cortex-M23 processor, the Corstone-102 is targeted at the constrained market segment for secure IoT applications.	arm.com/products/silicon-ip-subsystems/corstone-102
Corstone-101	Contains a pre-integrated subsystem and system IP bringing together all core elements for an SoC. Includes the CoreLink SSE-050 subsystem built around a Cortex-M3 processor. Other elements include CMSDK, AHB Flash Cache, RTC, TRNG and a generic eFlash controller.	arm.com/products/silicon-ip-subsystems/corstone-101

Research Mainstream Package

Product	Description	Learn More About This Product
CPU Processors		
Cortex-A55 Processor	Built on DynamIQ technology, designed for extreme scalability in constrained environments and featured with the latest Armv8-A architecture extensions that introduce new NEON instructions for machine learning, advanced safety features and more support for Reliability, Accessibility and Serviceability (RAS).	arm.com/products/silicon-ip-cpu/cortex-a/cortex-a55
Cortex-A53 Processor	Low-power processor with 64-bit capabilities, applicable in a range of devices requiring high performance in power-constrained environments.	arm.com/products/silicon-ip-cpu/cortex-a/cortex-a53
Cortex-A35 Processor	Ultra-high efficiency smart home processor, the smallest and most power-efficient 32-bit and 64-bit Arm application processor.	arm.com/products/silicon-ip-cpu/cortex-a/cortex-a35
Cortex-A34 Processor	Low-power 64-bit only processor with ultra-high efficiency.	arm.com/products/silicon-ip-cpu/cortex-a/cortex-a34
Cortex-A32 Processor	Low-power 32-bit only processor with ultra-high efficiency, suitable for diverse embedded and IoT markets.	arm.com/products/silicon-ip-cpu/cortex-a/cortex-a32
Cortex-A7 Processor	Power-efficient processor, designed for a wide range of devices with differing requirements demanding balance between power and performance.	arm.com/products/silicon-ip-cpu/cortex-a/cortex-a7
Cortex-A5 Multi-Processor	Smallest Cortex-A processor designed for applications that require virtual memory management for high-level operating systems within a low-power, low-area profile.	arm.com/products/silicon-ip-cpu/cortex-a/cortex-a5
Cortex-A5 Uni-Processor		arm.com/products/silicon-ip-cpu/cortex-a/cortex-a5
Cortex-R52+ Processor	Cortex-R52+ builds on its predecessor, the Arm Cortex-R52, to assist integration and virtualization for functional safety applications, while maintaining software compatibility.	arm.com/products/silicon-ip-cpu/cortex-r/cortex-r52-plus
Cortex-R52 Processor	Designed for advanced silicon processes requiring high-performance and cost-effective processing. It delivers real-time performance for functional safety.	arm.com/products/silicon-ip-cpu/cortex-r/cortex-r52
Cortex-R8 Processor	Designed for products where performance requirements and timing deadlines must always be met, or where functional safety is critical.	arm.com/products/silicon-ip-cpu/cortex-r/cortex-r8
Cortex-R5 Processor	Offers high-performance computing solutions for embedded systems needing reliability, high availability, fault tolerance, and real-time responses.	arm.com/products/silicon-ip-cpu/cortex-r/cortex-r5
Cortex-M85 Processor	Highest performing Cortex-M that integrates Helium vector processing. Delivers highest scalar and vector processing "ontime" for the most demanding use-cases.	arm.com/products/silicon-ip-cpu/ cortex-m/cortex-m85

Product	Description	Learn More About This Product
Cortex-M55 Processor	Cortex-M55 is the first Cortex-M processor to integrate Helium vector processing technology. It brings a significant uplift in DSP and ML performance, while meeting the efficiency requirements of constrained endpoint use-cases.	arm.com/products/silicon-ip-cpu/cortex-m/cortex-m55
Cortex-M33 Processor	Optimized for cost and power-sensitive microcontroller and mixed-signal applications. Designed to address embedded and IoT markets, especially those requiring efficient security or digital signal control.	arm.com/products/silicon-ip-cpu/cortex-m/cortex-m33
Cortex-M23 Processor	Smallest and lowest-power microcontroller with Arm TrustZone security, ideal for applications requiring software isolation and software security.	arm.com/products/silicon-ip-cpu/cortex-m/cortex-m23
Cortex-M7 Processor	The highest performance member of the energy-efficient Cortex-M processor family.	arm.com/products/silicon-ip-cpu/cortex-m/cortex-m7
Cortex-M4 Processor	Designed to address digital signal control markets that demand an efficient, easy-to-use blend of control and signal processing capabilities.	arm.com/products/silicon-ip-cpu/cortex-m/cortex-m4
Cortex-M3 Processor	Designed for cost-sensitive and power-constrained solutions in a broad range of devices. Balanced between area, performance, and power.	arm.com/products/silicon-ip-cpu/cortex-m/cortex-m3
Cortex-M0+ Processor	The smallest footprint and lowest power requirements of all the Cortex-M processors, suitable for a wide variety of applications, including sensors and wearables.	arm.com/products/silicon-ip-cpu/cortex-m/cortex-m0-plus
Cortex-M0 Processor	Designed for smart and connected embedded applications, the smallest Arm processor available, ideal for simple, cost-sensitive devices.	arm.com/products/silicon-ip-cpu/cortex-m/cortex-m0
Ethos Machine Learning Processors		
Ethos-U85	The Ethos-U85 offers support for transformer-based models at the edge, the foundation for newer language and vision models, scales from 128 to 2048 MAC units, and is 20% more energy efficient than Arm Ethos-U55 and Arm Ethos-U65, enabling higher performance edge AI use cases in a sustainable way. Offering the same toolchain as previous Ethos-U generations, partners can benefit from seamless migration and leverage investments in Arm-based machine learning (ML) tools.	arm.com/products/silicon-ip-cpu/ ethos/ethos-u85
Ethos-U65	Ethos-U65 enables new AI capabilities into edge and endpoint devices in applications including high resolution smart cameras, smart home solutions, voice assistants, drones, and wearables with 2x the performance over Ethos-U55, and achieving 1TOPs using our microNPU architecture. Ethos-U65 is designed for use with DRAM based systems, which leads to higher bandwidth availability. This allows Ethos-U65 to be used with all classes of embedded systems: higher performance Cortex-A based SoCs or low power Cortex-M based SoCs for battery powered devices (with or without DRAM).	developer.arm.com/ip-products/processors/machine-learning/arm-ethos-u/ethos-u65

Ethos-U55	Ethos-U55 is a first generation uNPU for accelerating neural networks. It is targeted at the embedded market and works alongside Cortex-M processors. Ethos-U55 hits multiple performance points with 4 different possible configurations and hence can target a wide variety of applications like smart home appliances, DTV, smart speakers etc.	arm.com/products/silicon-ip-cpu/ ethos/ethos-u55

GPU Processors and Mali Multimedia Processing

Product	Description	Learn More About This Product
Mali-G510 Graphics Processor	Mali G510 inherits features from premium GPUs, such as command stream frontend and asynchronous top level, a completely redesigned execution and texturing unit. It also adds formats for better HDR support AFBC uncompressed buffers, and Arm Fixed Rate Compression (AFRC).	arm.com/products/silicon-ip-multimedia/gpu/mali-g510
Mali-G310 Graphics Processor	G310 is the latest ultra-efficient Mali GPU, offering a high degree of scalability with 5 shader core configurations (V1-V5). G310 can be scaled in both area and performance to create competitive products, ranging from low-performance IoT and wearable solutions, all the way up to premium 4K DTV solutions, and more. In addition, G310 introduces key features such as lossy compression and HDR format support.	arm.com/products/silicon-ip-multimedia/gpu/mali-g310
Valhall Android DDK	In order to make use of the G310 GPU RTL a separate license is required for the Valhall DDK. There are Android and Linux versions of the DDK and at lease one will be required.	
Valhall Linux DDK	In order to make use of the G310 GPU RTL a separate license is required for the Valhall DDK. There are Android and Linux versions of the DDK and at lease one will be required.	
Mali-C55 Image Signal Processor	Mali-C55 is a highly configurable, energy-efficient Image Signal Processor (ISP) for IoT markets. It provides outstanding precision and dynamic range with excellent image quality in a small silicon footprint. It's easy to integrate between Mali-C55 and ML accelerators. Ideal for various use scenarios, from Smart Vision, Smart Home hub, and consumer/commercial security camera to Smart Display products.	arm.com/products/silicon-ipmultimedia/image-signal-processor/mali-c55
Mali-C10 Image Signal Processor	Mali-C10 is a highly configurable Geometrical Distortion Correction engine, capable of performing up to four simultaneous geometric warp functions, each displayed in a sub-window, at video resolutions up to 4K UHD. The Mali-C10 GDC engine is suitable for video surveillance, fisheye correction, automotive reversing cameras, and panoramic correction and dome cameras.	
AFBC Codec Cores	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	arm.com/technologies/graphics-technologies/arm-frame-buffer-compression

AFBC Standalone System IP	Ready to be integrated with non-Arm multimedia IP blocks to bring the advantages of Arm Frame Buffer Compression (AFBC) across the SoC. AFBC minimizes multimedia system bandwidth requirements, significantly reducing SoC power consumption.	arm.com/technologies/graphics-technologies/arm-frame-buffer-compression
AFRC Codec Hardware	AFRC is a lossy image compression format. AFRC can be used for compressing external texture inputs and framebuffer outputs from the GPU. Configurable compression ratio provides guaranteed bandwidth reduction for such surfaces and memory footprint saving.	

CoreLink Interconnect

Product	Description	Learn More About This Product
CoreLink DPE-400 Data Parity Extension	Licensable extension of CoreLink NIC-400 Network Interconnect, DPE-400 provides transportation of read and write data payload parity information, using the AXI WUSER and RUSER, and AHB HWUSER and HRUSER, signals.	developer.arm.com/ documentation/100591/0100/dpe-400-overview
CoreLink NIC-450 Network Interconnect	Offers highly configurable topology with network-on-chip properties for building high-performance, optimized, AMBA-compliant SoC connectivity, including QoS and Thin links.	arm.com/products/silicon-ip-system/ corelink-interconnect/nic
CoreLink NIC-400 Network Interconnect	Offers highly configurable topology with network-on-chip properties for building high-performance, optimized, AMBA-compliant SoC connectivity.	arm.com/products/silicon-ip-system/ corelink-interconnect/nic
CoreLink CCI-400 Cache Coherent Interconnect with CPE-425	Provides full cache coherency between two clusters of multi-core CPUs. It enables big.LITTLE processing and I/O coherency for devices.	arm.com/products/silicon-ip-system/ corelink-interconnect/cci-400
CoreLink NI-700 Network Interconnect	Corelink NI-700 is a Configurable and Scalable Network-on-Chip (NoC) for High Bandwidth accelerators, rest-of-SoC connectivity and peripherals.	developer.arm.com/Processors/CoreLink%20 NI-700
CoreLink CCI-500 Cache Coherent Interconnect	Full coherency with up to four clusters including big.LITTLE and coherent accelerators. Higher performance and power efficiency with integrated snoop filter.	arm.com/products/silicon-ip-system/ corelink-interconnect/cci-500
CoreLink CCI-550 Cache Coherent Interconnect	Full coherency with up to six clusters including big.LITTLE and accelerators. Higher performance and power efficiency with integrated snoop filter.	arm.com/products/silicon-ip-system/ corelink-interconnect/cci-550
CoreLink ADB-400 AMBA Domain Bridge	An asynchronous bridge between two components or systems that can be in a different power, clock, or voltage domains.	developer.arm.com/ip-products/system-ip/ corelink-interconnect/corelink-network-interconnect-family
CoreLink XHB-400 AXI4- AHB Bridge	Converts AXI4 protocol to AHB-Lite protocol and has an AXI4 slave interface and an AHB-Lite master interface.	developer.arm.com/ip-products/system-ip/ corelink-interconnect/corelink-network-interconnect-family
CoreLink PCK-600 Power Control Kit	Power Control Kit with a suite of system IP to ease system power and clock management infrastructure integration.	arm.com/products/silicon-ip-system/system-controllers/pck-600

System Controllers

Product	Description	Learn More About This Product
CoreLink MHU-320AE	CoreLink MHU-320AE standardises cross core communication between different processing domains and enables on and off-chip cross domain communications.	
CoreLink DMA-330 AXI DMA Controller	A high-performance DMA controller that can boost the performance and reduce the power consumption in AXI-based systems.	arm.com/products/silicon-ip-system/ embedded-system-design/dma-330
CoreLink DMA-350	CoreLink DMA-350 is an AXI DMA controller targeted at endpoint AI systems, particularly those based on the Cortex-M55 processor. It has been designed to enable efficient data movement, thereby reducing system power consumption and improving performance.	developer.arm.com/Processors/CoreLink DMA-350
CoreLink DMA-250 AHB DMA	The Arm CoreLink DMA-250 AHB DMA direct memory access (DMA) controller offloads memory movement tasks from the CPU to improve system performance and energy-efficiency. It includes support for scatter gather, memory to memory, memory to peripheral (and vice versa) transfers. This DMA controller pairs well with the Cortex-M52 and Cortex-M33 processors or any AHB-systems where area and power constraints are key design considerations.	arm.com/products/silicon-ip-system/embedded-system-design/dma-250
CoreLink DMA-230 AHB Micro DMA Controller	Low gate count (3-10k gates) micro-DMA engine targeting AHB-based Cortex-M systems.	arm.com/products/silicon-ip-system/ embedded-system-design/dma-230
CoreLink GIC-600 Generic Interrupt Controller	Detects, manages, virtualizes, and distributes interrupts for Armv8.0-A processors. Configurable - up to 512 processor threads per chip, up to 16 chips, and 960 shared interrupts.	arm.com/products/silicon-ip-system/system-controllers/gic
CoreLink GIC-500 Generic Interrupt Controller	Detects, manages, virtualizes, and distributes interrupts for Armv8.0-A processors. Configurable up to 128 single-threaded cores and 960 shared interrupts.	arm.com/products/silicon-ip-system/system-controllers/gic
CoreLink GIC-400 Generic Interrupt Controller	Detects, manages, and virtualizes interrupts for Armv7 processors. Configurable up to 8 cores and 480 shared interrupts.	arm.com/products/silicon-ip-system/system-controllers/gic
PL192 Vectored Interrupt Controller	An advanced vectored interrupt controller supporting up to 32 vectored interrupts with programmable priority level and masking.	developer.arm.com/ip-products/system-ip/ system-controllers/peripheral-controllers
CoreLink TZC-400 TrustZone Address Space Controller	Performs security checks on transactions to memory or peripherals, configurable up to 8 regions.	arm.com/products/silicon-ip-security/ address-space-controllers
CoreLink L2C-310 AXI Level 2 Cache Controller	High-performance, AXI level 2 cache controller designed and optimized to address Arm AXI processors, normally used with Cortex-A5.	arm.com/products/silicon-ip-system/ embedded-system-design/l2c-310
CoreLink MMU-600 System Memory Management Unit	Highly scalable with support for millions of translation contexts. Designs can be scaled from small to large-scale systems while maintaining a common driver framework. TrustZone Media Protection protects high-value 4K premium content.	arm.com/products/silicon-ip-system/system-controllers/mmu

Product	Description	Learn More About This Product
CoreLink MMU-500 System Memory Management Unit	System memory management unit that includes caching and memory virtualization. It enforces memory protection and access, and is designed for use in a virtualized system where multiple guest operating systems are managed by a hypervisor. Supports Armv8-A and Armv7-A.	arm.com/products/silicon-ip-system/system-controllers/mmu
BP140 AXI Internal Memory Interface	AXI to on-chip SRAM interface.	developer.arm.com/docs/dto0009/a
BP141 TrustZone AXI Memory Interface	AXI to on-chip SRAM interface with support for Arm TrustZone protection for secure memory regions.	developer.arm.com/products/system-ip/system-controllers/other-system-controllers
Security IP		
True Random Number Generator	A mandatory component in any system that generates cryptographic assets.	arm.com/products/silicon-ip-security/ random-number-generator
Peripheral Controllers		
PL011 UART Universal Asynchronous Receiver/Transmitter	Peripheral controllers for UART, SPI and real-time clock.	developer.arm.com/ip-products/system-ip/system-controllers
PL022 SPI Synchronous Serial Port		developer.arm.com/ip-products/system-ip/system-controllers
PL031 RTC Real Time Clock		developer.arm.com/ip-products/system-ip/system-controllers
CoreSight Debug & Trace		
CoreSight SoC-400 Debug and Trace	Offers configurable components, including debug access, trace generation manipulation and output, cross triggering, and time stamping.	arm.com/products/silicon-ip-system/coresight-debug-trace/soc-400
CoreSight SDC-600 Secure Debug Channel	Addresses device security needs by allowing silicon and tool vendors to enforce protection and police debug access, and by working closely with cryptographic elements and debug certificate authentication.	arm.com/products/silicon-ip-system/coresight-debug-trace/sdc-600
CoreSight STM-500 System Trace Macrocell	Trace source for real-time software instrumentation with no impact on system behaviour or performance. It extends the low-cost, real-time visibility of software and hardware execution to all software developers. Supports 64-bit memory interfaces.	arm.com/products/silicon-ip-system/coresight-debug-trace/coresight-stm-500
CoreSight System Trace Macrocell	System Trace Macrocell supporting 32-bit memory interfaces.	developer.arm.com/ip-products/system-ip/coresight-debug-and-trace/coresight-components/system-trace-macrocell
CoreSight Trace Memory Controller	A configurable trace component to terminate trace buses into buffers, FIFOs, or alternatively, to route trace data over AXI to memory or off-chip to interface controllers.	arm.com/products/silicon-ip-system/coresight-debug-trace/coresight-tmc
Coresight SoC-600 Debug and Trace	For high-bandwidth debug and trace solutions. Includes remote and local debug access, trace routing and termination, cross triggering and time stamping.	arm.com/products/silicon-ip-system/coresight-debug-trace/soc-600

Product	Description	Learn More About This Product
Corstone IP Cortex processor reference packages and supporting system IP. Simplifies silicon design and reduces development time.		
Corstone-1000	Corstone-1000 is a reference package that integrates Cortex-A and Cortex-M processors. It is meant to help efficiently build a secure and efficient 64-bit Linux-capable IoT System-on-Chip (SoC), targeting applications such as endpoints, gateways, embedded applications. Its system architecture combines a choice of the Cortex-A53, Cortex-A35 or Cortex-A32 processor with up to two Cortex-M based systems. It includes a verified subsystem with advanced power management, authenticated debug, a stand-alone Secure Enclave for PSA hardware root of trust, and a dedicated firewall IP for enhanced security. All required system IP and a reference software stack are included, enabling rendering and further modifications of the design. Cryptographic accelerator provided as an option.	arm.com/products/silicon-ip-subsystems/corstone-1000
Corstone-500	Corstone-500 offers a proven and preintegrated reference package along with an extensive set of System IP, for building Linux capable high-performance SoCs, based on Arm Cortex-A5. It includes FPGA image, out-of-box Linux support and simulation models, thus accelerating time to market and reducing development risk.	arm.com/products/silicon-ip-subsystems/corstone-500
Corstone-320	Corstone reduces complexity for ASIC designers and software developers to speed up the design and deployment of secure, AI-capable devices. Cortex-M85 is Arm's highest performance Cortex-M processor, making Corstone-320 the perfect starting point for high-performance SoCs targeting a range of IoT applications. Ethos-U85 is a third-generation NPU with support for CNNs and transformer networks.	arm.com/products/silicon-ip-subsystems/corstone-320
Corstone-315	A package to help SoC designers build Cortex-M85/Ethos-U65 based systems faster. Corstone-315 combines an example subsystem, System IP, software, and tools to streamline IoT device development. Corstone-315 integrates Cortex-M85 along with an optional Ethos-U65 NPU and Mali-C55 ISP to build low-power, low- cost, high-performance endpoint AI devices that support CNNs.	arm.com/products/silicon-ip-subsystems/corstone-315
Corstone-310	An example system designed around Cortex-M85 with systemwide TrustZone for Arm v8-M over AXI and power management capability. The memory system is also optimized to support Ethos-U55.	arm.com/products/silicon-ip-subsystems/corstone-310

Corstone-300	Arm Corstone-300 is a reference package and system IP package providing a starting point for signal processing and machine learning applications. It is designed around the Arm Cortex-M55 processor, and demonstrates system-wide TrustZone over AMBA AXI and integrated power management. The IP, along with FPGA and FVP platforms, and open-source software such as TF-M, gives a both a head start and reduces risk in SoC development.	arm.com/products/silicon-ip-subsystems/corstone-300
Corstone-201	Incorporates the Arm SSE-200 subsystem for Cortex-M33 and the SSE-123 example subsystem built around the Cortex-M23. The subsystems provide a solid base for either mainstream or constrained device SoC design, with Arm TrustZone support for deep-rooted security.	arm.com/products/silicon-ip-subsystems/corstone-201
Corstone-102	Arm Corstone-102 provides a flexible reference package and system IP for small, low cost and energy efficient SoC development. Based on the Arm Cortex-M23 processor, the Corstone-102 is targeted at the constrained market segment for secure IoT applications.	arm.com/products/silicon-ip-subsystems/corstone-102
Corstone-101	Contains a pre-integrated subsystem and system IP bringing together all core elements for an SoC. Includes the CoreLink SSE-050 subsystem built around a Cortex-M3 processor. Other elements include CMSDK, AHB Flash Cache, RTC, TRNG and a generic eFlash controller.	arm.com/products/silicon-ip-subsystems/corstone-101

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DesignStart Physical IP

	5 nm	7 nm	12 Nm	14 nm	22 nm	28 nm	40 nm	45 nm	55 nm	65 nm	80 nm	90 nm	110 nm	130 nm	150 nm	152 nm	160 nm	180 nm	250 nm
SMIC						•	•			•		•	•	•	•			•	
XMC									•										
HHGrace													•	•				•	
CSMC														•					
HeJian																	•	•	
HHNEC																		•	

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All export classifications listed below apply to Arm products as delivered by Arm. Any modifications or changes, after delivery of Arm products, is your responsibility to classify under the applicable export control jurisdictions. This information is subject to change without notice.

All Arm Product licensed in the packages are not listed on the UK Strategic Export Control list or the EU Control List of Dual Use Items.

Research Foundation Package

Product Description	U.S. Export Control Classification Number (ECCN)
Cortex-A5 MPCore with Neon/FPU/ETM	3E991
Cortex-A5 UPCore with Neon/FPU/ETM	3E991
Cortex-M0	3E991
Cortex-M0+ with MTB	3E991
Cortex-M23 with ETM/MTB	3E991
Cortex-M3 with ETM	3E991
Cortex-M33 with FPU/ETM/MTB	3E991
Corstone-101 IP	3E991
Corstone-102 IP	3E991
Corstone-201 IP	3E991
Corstone-500 IP	3E991
PL022 SPI	3E991
PL031 RTC Real Time Clock	3E991
True Random Number Generator	EAR99
PL011 UART	3E991
Hardware Success Kit	3D991
Software Success Kit	3D991

Research Mainstream Package

Product Description	U.S. Export Control Classification Number (ECCN)
Cortex-A55 Processor	3E991
Cortex-A32 with Neon/FPU/ETM	3E991
Cortex-A34 with Neon/FPU/ETM	3E991
Cortex-A35 with Neon/FPU/ETM	3E991
Cortex-A5 MPCore with Neon/FPU/ETM	3E991
Cortex-A5 UPCore with Neon/FPU/ETM	3E991
Cortex-A53 with Neon/FPU/ETM	3E991
Cortex-A7 with Neon/FPU/ETM	3E991
Cortex-M0	3E991
Cortex-M0+ with MTB	3E991
Cortex-M23 with ETM/MTB	3E991
Cortex-M3 with ETM	3E991
Cortex-M33 with FPU/ETM/MTB	3E991
Cortex-M4 with FPU/ETM	3E991
Cortex-M55 with FPU/ETM	3E991
Cortex-M7 with FPU/ETM	3E991
Cortex-R5 with FPU/ETM	3E991
Cortex-M85 with FPU	3E991
Cortex-R52 with Neon/FPU/ETM	3E991
Cortex-R52+ Processor	3E991
Cortex-R8 with FPU/ETM	3E991
Mali-G310	3E991
Mali-G510	3E991
Mali-C55	EAR99
Mali-C10 GDC	EAR99
BP140 AXI Internal Memory Interface	3E991
BP141 TrustZone AXI Memory Interface	3E991
CoreLink ADB-400 AMBA Domain Bridge	3E991
CoreLink CCI-400 Cache Coherent Interc.	3E991
CoreLink CCI-500 Cache Coherent Interc.	3E991
CoreLink CCI-550 Cache Coherent Interc.	3E991
CoreLink DMA-350	EAR99
CoreLink DPE-400 Data Parity Extension	3E991
CoreLink GIC-600	3E991
CoreLink MHU-320AE	3E991
CoreLink GIC-400 Generic Interrupt Cont.	3E991
CoreLink GIC-500 Generic Interrupt Cont.	3E991
CoreLink L2C-310 AXI L2 cache controller	3E991
CoreLink MMU-600 System MMU	3E991
CoreLink MMU-500 System MMU	3E991
CoreLink NIC-400 Network Interconnect	3E991
CoreLink NIC-450 Network Interconnect	3E991

CoreLink PCK-600 Power Control Kit	3E991
CoreLink NI-700 Network Interconnect	3E991
CoreLink TZC-400 TrustZone ASC	3E991
CoreLink XHB-400 AXI4 to AHB-Lite Bridge	3E991
CoreSight SoC-400 Debug and Trace	3E991
CoreSight SoC-600 Debug and Trace	3E991
CoreSight SDC-600 Secure Debug Channel	3E991
CoreSight STM-500 System Trace Macrocell	3E991
CoreSight ETM-Cortex-M85	3E991
CoreSight System Trace Macrocell	3E991
CoreSight Trace Memory Controller	3E991
Corstone-1000	3E991
Corstone-101 IP	3E991
Corstone-102 IP	3E991
Corstone-201 IP	3E991
Corstone-300 IP	3E991
Corstone-310	3E991
Corstone-315	3E991
Corstone-320	3E991
Corstone-500 IP	3E991
PL022 SPI	3E991
PL031 RTC Real Time Clock	3E991
PL192 Vectored Interrupt Controller	3E991
True Random Number Generator	EAR99
PL011 UART	3E991
CoreLink DMA-230 AHB Micro DMA	3E991
CoreLink DMA-250	3E991
CoreLink DMA-330 AXI DMA Controller	3E991
Arm Coherent Accelerator Interface	3E991
Hardware Success Kit	3D991
Software Success Kit	3D991
Ethos-U55	3E991
Ethos-U65	3E991
Ethos-U85	3E991
Valhall Linux DDK	3D991
Valhall Android DDK	3D991
AFBC Codec Cores	3E991
AFRC Codec Hardware	3E991
AFBC Standalone System IP	3E991

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