

AMBA Approved Nouns & Logo

AMBA

AMBA (Advanced Microcontroller Bus Architecture) is always displayed in capital letters.

Approved Nouns:

- Brand
- Ecosystem
- Interconnect
- Interface
- Interface protocol
- Interface specification
- On-chip interconnect specification
- Protocol
- Specification
- Standard
- Trademark

Approved Logos:



Preferred option

Where appropriate, or to indicate affiliation or advantage of Arm, these may be used:









AMBA Specifications, Interface and Protocols

AMBA: Specifications, Interface and Protocols Diagram AMBA

Key AMBA Specifications: CHI, ACE, AXI, AHB, APB

Key AMBA specifications		AMBA	AMBA 2	AMBA 3	AMBA 4	AMBA 5
CHI Coherent Hub Interface	Credited coherent protocol Layered architecture for scalability					СНІ
ACE AXI coherency Extensions	ACE is a superset of AXI – system-wide coherency across multicore clusters				ACE +Lite	ACE5 +Lite
AXI Adv. eXtensible Interface	AXI supports separate A/D phases, bursts, multiple outstanding addresses, OoO response	onses		AXI3	AXI4 +Lite, +Stream	AXI5
AHB Adv. High-performance Bus	AHB supports 64/128 bit multi-managers AHB-Lite for single managers		АНВ	AHB +Lite		AHB5 +Lite
APB Advanced Peripheral Bus	System bus for low bandwidth peripherals	АРВ	APB2	APB3	APB4	APB5

Selected AMBA specifications only. Other specifications include: ATB, ATP, CXS, DTI, GFB, LPI and LTI.





AMBA Usage Rules and Examples

AMBA Usage Rules



- AMBA can be used with or without the Arm logo prefix
- AMBA can be used on its own or with the interface notations such as AXI, CHI etc.
- AMBA is a registered trademark and must be used according to the guidelines:
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Generation and Specification Terminology

- AMBA [generation] [product name] and / or [approved noun]
 - E.g. AMBA 5 CHI Specification
 - We also have different versions and releases for each specification: these are known as Issues
 - E.g. CHI Issue E (long-form) should be shortened to CHI-E

Disclaimer: AMBA Generations: Overtime, reference to generations has been replaced by 'issues', as updates have become more frequent. You can choose whether to refer to AMBA generations when referencing a specific interface, protocol or specification.



Use Examples



AMBA trademarks are for initial use. They do not need to be used subsequently in the same piece of text.

Correct use	X Incorrect use			
Arm [®] AMBA [®] AXI interface AMBA [®] AXI interface	Arm° amba° interface amba° interface Arm° AMBA™ interface AMBA™ interface			
Arm® AMBA® 3 AXI interconnect AMBA® 3 AXI interconnect	Arm® AMBA® 3 AXI interconnect AMBA® 3 AXI interconnect			
Arm [®] AMBA [®] 4 AXI standard AMBA [®] 4 AXI standard	Arm [®] AMBA [®] AXI4 [™] standard AMBA [®] AXI4 [™] standard			
Arm® AMBA® 5 CHI specification AMBA® 5 CHI specification	Arm® AMBA® 5 CHI™ specification AMBA® 5 CHI™ specification			
product X fully implements the Arm® AMBA® specification	product X supports Arm® AMBA®			
product X fully implements the Arm® AMBA® 3 protocol	product X is Arm® AMBA® 3 ready			
product X fully implements the Arm® AMBA® 4 AXI specification	product X is Arm® AMBA® 4 AXI compliant			
product X implements the Arm® AMBA® 3 protocol specification	product X implements Arm® AMBA® 4			
Company X announces Arm® AMBA® 4 protocol support in product ABC, the coolest tool for functional verification	Company X announces SwiftAMBA® or AMBAhybrid or AMBA-fast			
Today SwiftIT announced full support for the Arm® AMBA® 4 protocol	SwiftIT AMBA® widget			
Arm [®] CoreLink [™] Dynamic Memory Controller supporting the Arm [®] AMBA [®] 4 AXI protocol	ACME AXI4™ Network Interconnect			

- <u>Click here</u> for the full AMBA trademarks page on our website
- Unlike other Arm product trademarks, you do not always have to use the AMBA trademark preceded by the Arm trademark in first use of the AMBA trademark.
- You do not always have to use an approved noun after the AMBA trademark if it is followed by a product name or interface name with the appropriate generation designation.





AMBA Messaging & Example

AMBA Messaging

AMBA

Standard Boilerplate Text

AMBA (Advanced Microcontroller Bus Architecture) is a freelyavailable, globally adopted, open standard for the connection and management of functional blocks in a system-on-chip (SoC). It facilitates right-firsttime development of multiprocessor designs, with large numbers of controllers and peripherals.

Abbreviated Boilerplate Text

 AMBA empowers SoC design teams to create systems on chip that just work with efficient interconnect.

One Sentence Statement

 AMBA is the industry-leading choice for on-chip communications. It is an open, freely available and globally adopted standard, enabling SoC success for all.



Reference to AMBA – Successful Example



Cache (\$)

The best technology: **Arm AMBA CHI and ACE interoperability, CCIX** support for multi-die systems. Plus functional safety mechanisms to achieve **ISO 26262 certification.**

requirements. Like any cache, it allows nearby storage of data frequently used by the cores of an SoC (CPUs, DSPs, or GPUs) but it benefits from several differentiating characteristics that are critical for modern memory systems:

- A highly configurable structure
- Way partitioning
- Scratchpad allocation
- AMBA® bus interface
- ISO 26262 functional safety compliance

AMBA messages are well articulated:

- Best Technology
- Industry standard
- Critical for Modern systems
- Broad Applicability
- Ease of Integration
- Architecture Neutral
- Differentiating

The text makes precise use of trademarks and places AMBA side-by-side with key industry requirements.



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Thank You

Danke

Merci

谢谢

ありがとう

Gracias

Kiitos

감사합니다

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