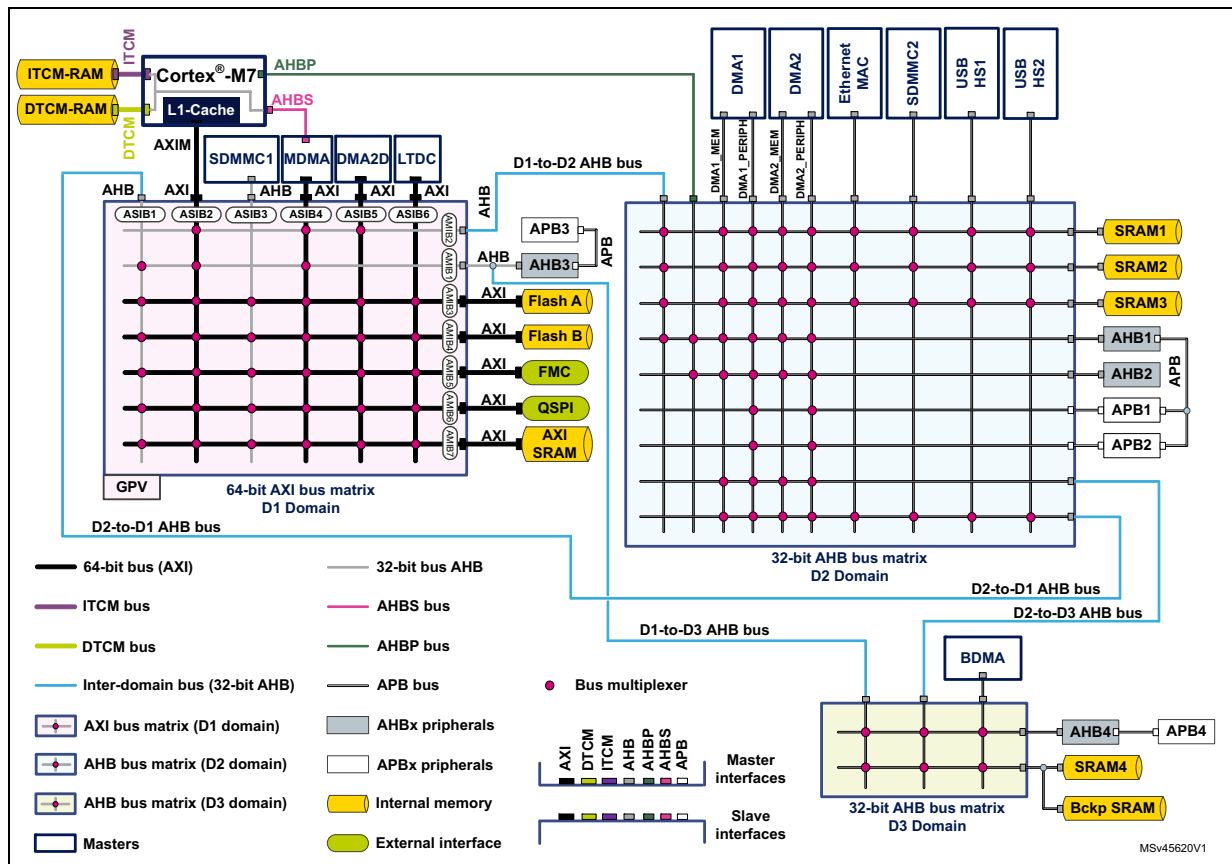


STM32H7x3 performance software expansion for STM32Cube

Data brief

Features

- STM32H7x3 performance demonstrator
- Code execution and data storage in different memory locations
- Cortex[®]-M7
- Instruction cache (I-Cache)
- Data cache (D-Cache)
- D1, D2, and D3 domains
- AXI and AHB bus matrices



Description

The X-CUBE-PERF-H7 firmware aims to demonstrate the performance of the STM32H7x3 architecture with its Cortex[®]-M7 able to run at 400 MHz, and its instruction and data caches that unleash core performance with 0-wait-state-like execution from different memories, either internal or external, scattered across different domains (D1, D2, and D3) and accessed by the core either through the TCM buses or the AXIM bus.

The firmware is provided with several project configurations for the STM32H743I-EVAL evaluation board. Each project allows the execution of application code and data storage in different memory locations such as internal memories as well as external memories located in different domains (D1, D2 and D3). Firmware results demonstrate that performance is almost the same when internal memories or external memories or different domains are used for code execution or data storage. An FFT use case (provided by the CMSIS library) is proposed as an example with several toolchains: Keil[®] (MDK-ARM), IAR[™] (EWARM), and System Workbench (SW4STM32). It can easily be ported to any other toolchain.

Ordering information

X-CUBE-PERF-H7 is available for free download from the www.st.com website.

Revision history

Table 1. Document revision history

Date	Revision	Changes
16-Jun-2017	1	Initial release.

IMPORTANT NOTICE – PLEASE READ CAREFULLY

STMicroelectronics NV and its subsidiaries (“ST”) reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST’s terms and conditions of sale in place at the time of order acknowledgement.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of Purchasers’ products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2017 STMicroelectronics – All rights reserved