

Data transfer efficiency using MDMA software expansion for STM32Cube

Data brief

Features

- STM32H7x3 MDMA demonstrator
- ARM® Cortex®-M7-based software
- Use of AXI and AHB bus matrices
- Use of MDMA, DMA2D, JPEG, and USART1 peripherals
- Access to AXI SRAM, SRAM1, and external SRAM

Description

The X-CUBE-MDMA firmware demonstrates the capabilities of the STM32H7x3 MDMA. The MDMA is used in conjunction with other masters such as DMAs and JPEG so as to illustrate its efficiency in freeing up CPU resources.

In addition, this demonstration software proposes examples of accesses to all kind of memories such as AXI SRAM, SRAM1, and external SRAM, through the STM32H7 bus matrices.

The firmware is provided with a project set up for the STM32H743I-EVAL evaluation board. In this configuration, the firmware shows MDMA interactions with various IPs and memories without CPU control.

The use case 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-MDMA is available for free download from the www.st.com website.

Revision history

Table 1. Document revision history

Date	Revision	Changes
20-Jun-2017	1	Initial release.
29-Jun-2017	2	Updated title.

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

