X-CUBE-DSPDEMO

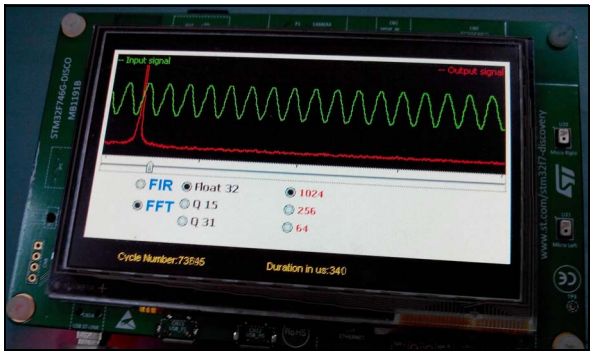
Digital signal processing with STM32 software expansion for STM32Cube

Data brief

Features

- Digital signal processing (DSP)
- Finite impulse response (FIR)
- Fast Fourier transform (FFT)
- STemWin
- MATLAB

Figure 1. Running FFT demonstration on STM32F746-DISCO



Description

The X-CUBE-DSPDEMO firmware package demonstrates the usage of DSP library provided within the CMSIS (Cortex® Microcontroller Software Interface Standard).

It includes an FFT example and an FIR example to show a full integration with the STM32 families using its peripherals.

The user can choose the example to run via a graphical user interface that was developed using STemWin.

Choosing FFT will give the user several options such changing the frequency of the input signal to process and choosing the data types (floating-point or fixed-point format).

Choosing FIR will give the user options such as data types or applying a low-pass or high-pass filter.

This application is developed with the STM32Cube embedded software. It uses the IAR™ EWARM, the Keil® MDK-ARM™ and the SW4STM32 tool chains and can be easily tailored for any other tool chain.

For more details refer to the application note *Digital signal processing for STM32 microcontrollers using CMSIS* (AN4841).

1 Revision history

Table 1. Document revision history

Date	Revision	Changes
03-Jun-2016	1	Initial release.