

[Released on the Web]

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Rev.1.00

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RX Family

Sample Program for Performing FFT on Analog Input Signals Rev.1.00

Outline

The RX family sample program for performing FFT on analog input signals is now available on the Web.

This application note is supplied free of charge.

1. Features

This application note provides the sample program to perform FFT processing with RX MCU. The sample program performs A/D conversion on analog input signals and FFT processing with RX231 alone.

Features of the sample program

- A/D conversion
Using the 12-bit A/D converter (S12AD), the compare match timer (CMT), and the event link controller (ELC), A/D conversion is performed with approximately 1 kHz of the sampling frequency.
- FFT processing
1024-point FFT is performed using the RX DSP library API version 4.1. The magnitudes of the acquired frequency spectrum are stored into the output buffer.
- CPU work load reducing
The CPU operates in normal mode only when processing is performed by the software. Other than that, the CPU enters sleep mode, and it helps reducing CPU work load.
- Application to other RX MCUs
The sample program is developed using various solutions of Renesas such as the DSP library, Firmware Integration Technology (FIT), and the Code Generator. Therefore, you can easily change the software module and apply it to various RX MCUs. For details about the DSP library and FIT, refer to the URL shown in section 5.

2. Supported MCUs

RX231 group

3. Operating Environment

The following shows the main operating environment. For details, refer to "1.3 Operation Confirmation Environment" in the application note.

- Integrated development environment: e² studio V6.1.0 and later versions
- Cross tool: V2.07.00 and later versions of C/C++ Compiler Package for RX Family

4. Obtaining the Program

Obtain the program from the URL below.

RX Family Sample Program for Performing FFT on Analog Input Signals

<https://www.renesas.com/software/D6002035.html>

5. About the DSP Library and Firmware Integration Technology (FIT)

For details, refer to the URL below.

- DSP library
<https://www.renesas.com/mw/dsp>
- Firmware Integration Technology (FIT)
<https://www.renesas.com/fit>

Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Feb. 16, 2018	-	First edition issued

TOYOSU FORESIA, 3-2-24 Toyosu, Koto-ku, Tokyo 135-0061 Japan
 Renesas Electronics Corporation

■Inquiry

<https://www.renesas.com/contact/>

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