

[Released on the web]

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Rev.1.00

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Solution Toolkit

QE for AFE[RA] V1.0.0:

Development Assistance Tool for Analog Front End

Overview

QE for AFE [RA] (development assistance tool for analog front end) V1.0.0 will be released on the web.

This product is available free of charge.

1. Features

QE for AFE [RA] is a development assistance tool that supports development of an embedded system that performs high-precision sensing using MCUs containing analog front end (AFE). It connects with an EK-RA2A1 board via USB serial communication to configure AFE registers on the RA2A1 MCU, check the operations, and display the A/D conversion results.

1) GUI configuration of the AFE-related registers

The AFE-related registers including connection with analog IPs and PGA gain settings can be configured with a graphical user interface. Through serial communication with the evaluation board via USB, you can check connection with the evaluation board, acquire and configure register values, start an A/D conversion, and acquire the A/D conversion value (A/D conversion is performed in serial scan mode).

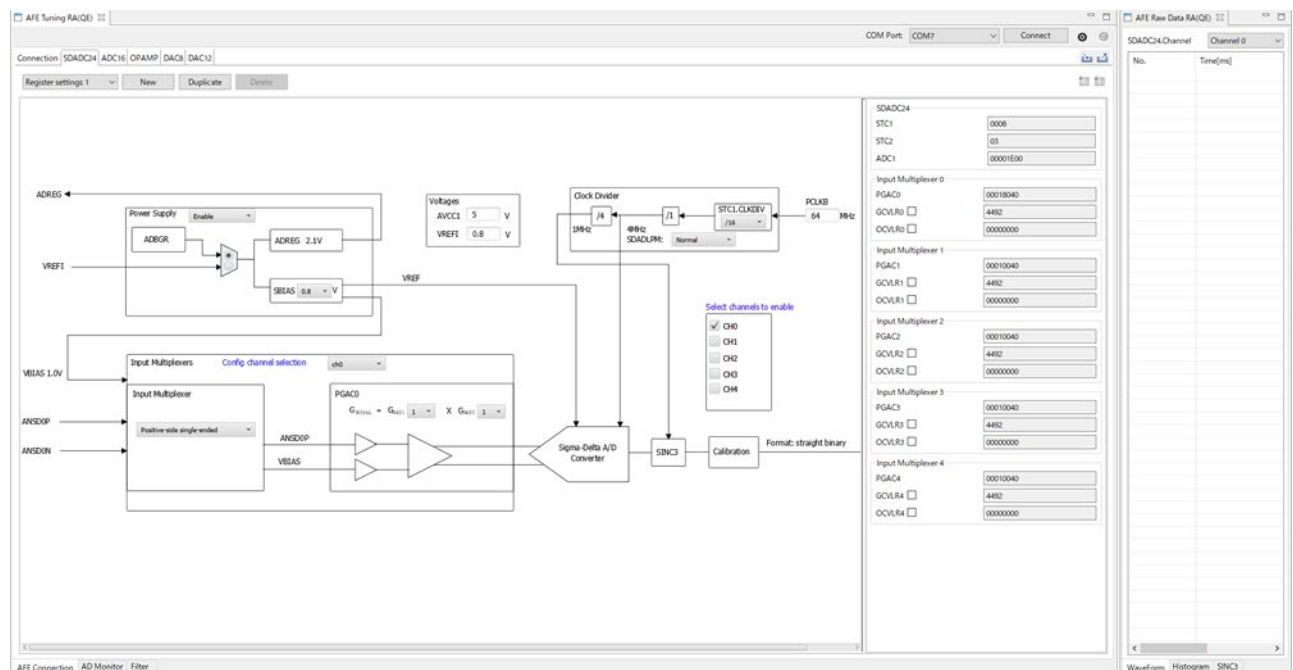


Figure 1 Configuration of various AFE-related parameters

2) Functionality to display the AD conversion result (time waveform and histogram)

You can display a waveform and histogram and perform analysis for the acquired A/D conversion result.

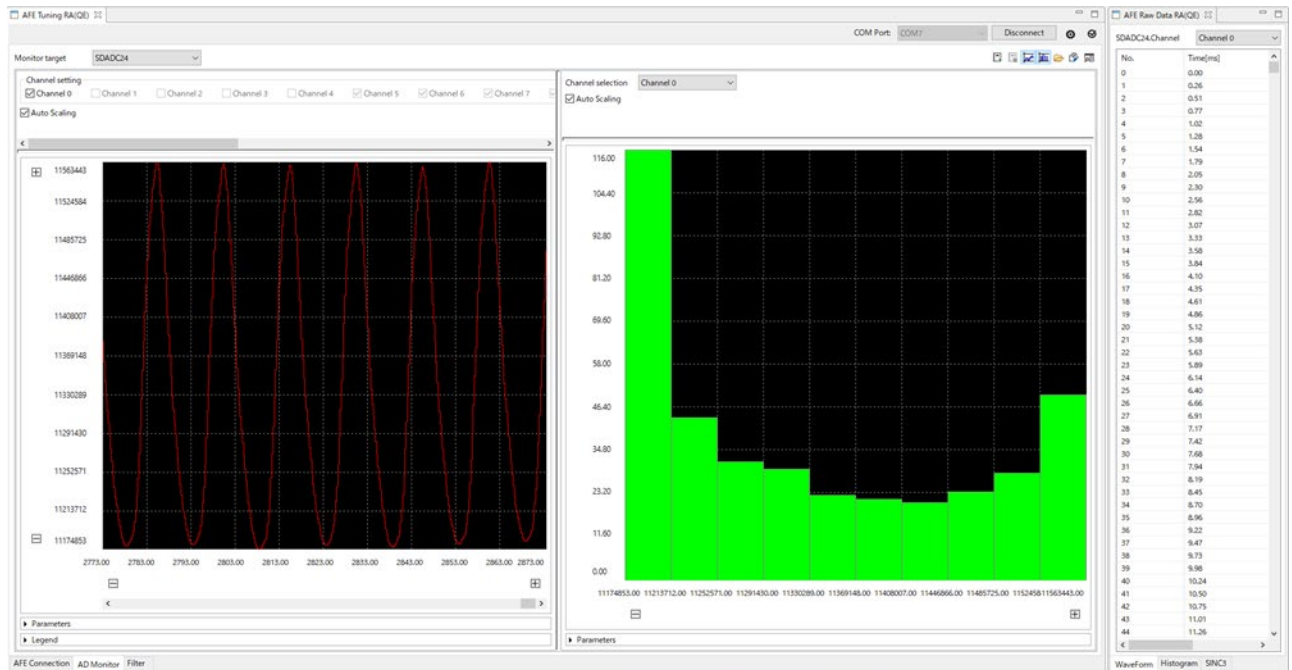


Figure 2 Functionality to display the A/D conversion result (time waveform and histogram)

3) Functionality to display frequency characteristics for digital filters

Displays the frequency-gain characteristics curve for the SINC3 filter based on register configuration values.

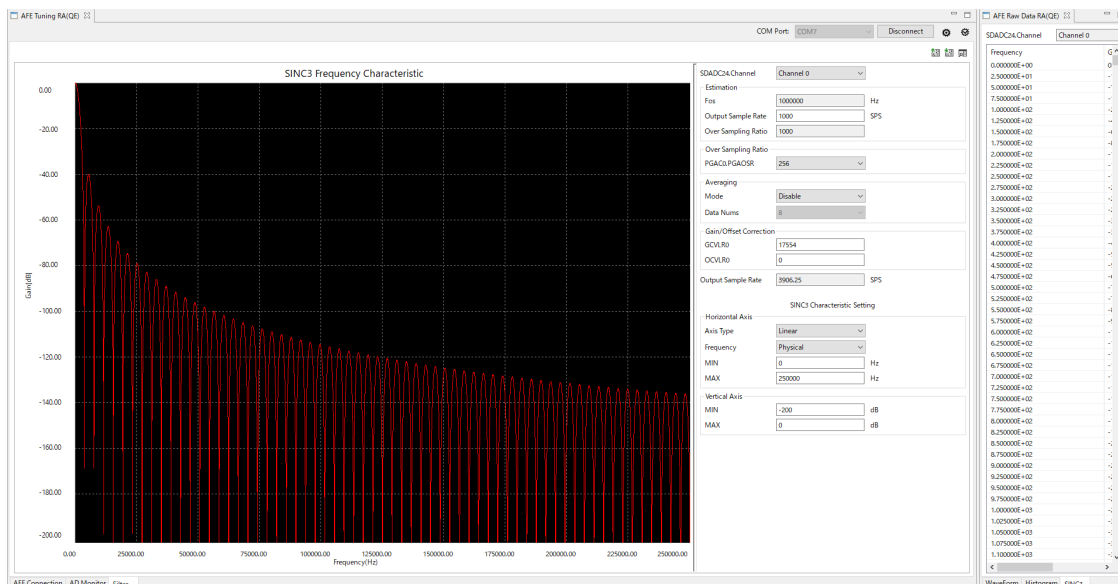


Figure 3 Frequency-gain characteristics curve display for the SINC3 filter

2. Supported Devices

RA family: RA2A1 group

3. Operating Environment

IBM PC/AT compatibles

Windows® 10 (32-bit, 64-bit version)

Windows® 8.1 (32-bit, 64-bit version)

4. Supporting Sample Programs

You can obtain sample programs that support this product from the URL below:

<https://www.renesas.com/search/keyword-search.html#genre=sampleprogram&q=r01an5795>

RA2A1 Group Board Control Program for QE for AFE (R01AN5795)

5. Obtaining the Product

Obtain QE for AFE [RA] V1.0.0 from the following URL:

<https://www.renesas.com/qe-afe>

For details on how to use this product, refer to the [Help] menu.

Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Apr.01.21	-	First edition issued

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