[Released on the web]

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).
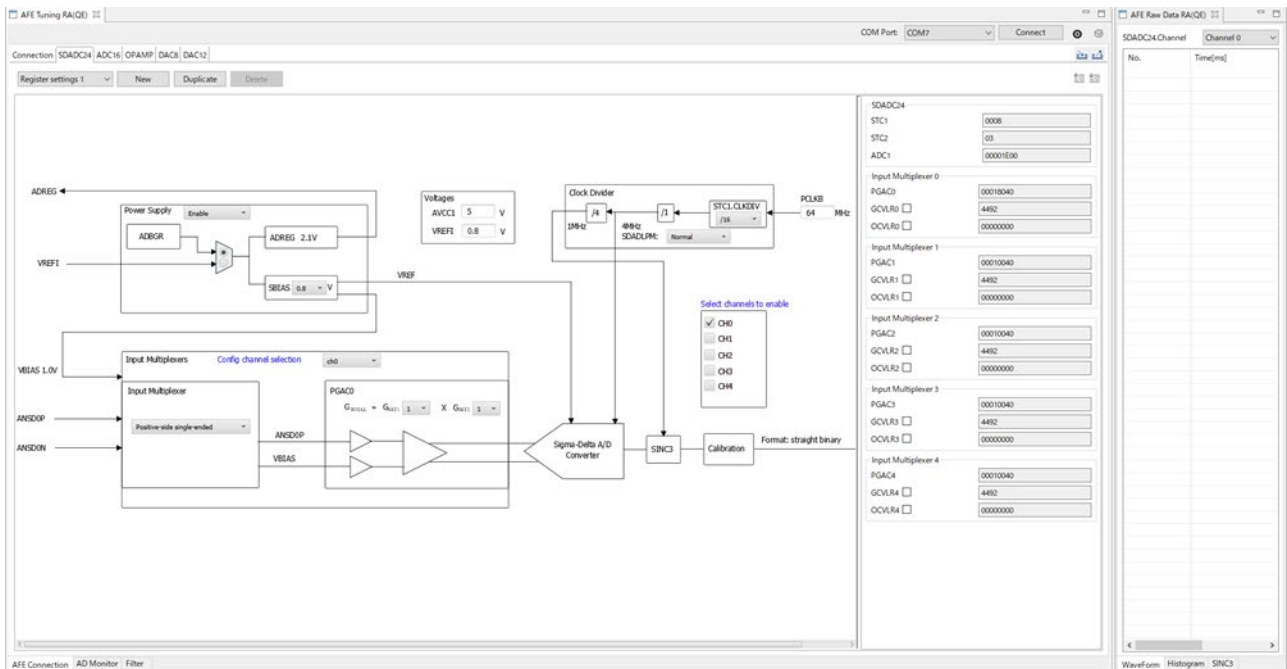

Figure 1 Configuration of various AFE-related parameters

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.
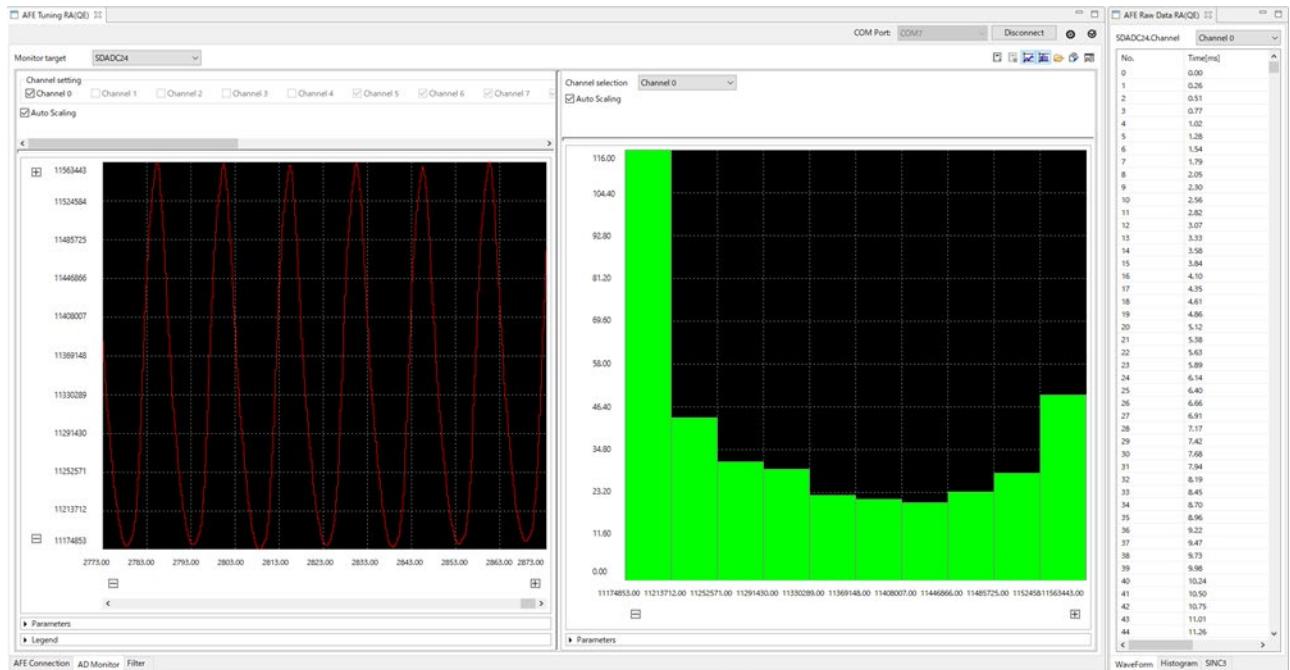

Figure 2 Functionality to display the A/D conversion result (time waveform and histogram)

3)   Functionality to display frequency characteristics for digital filters

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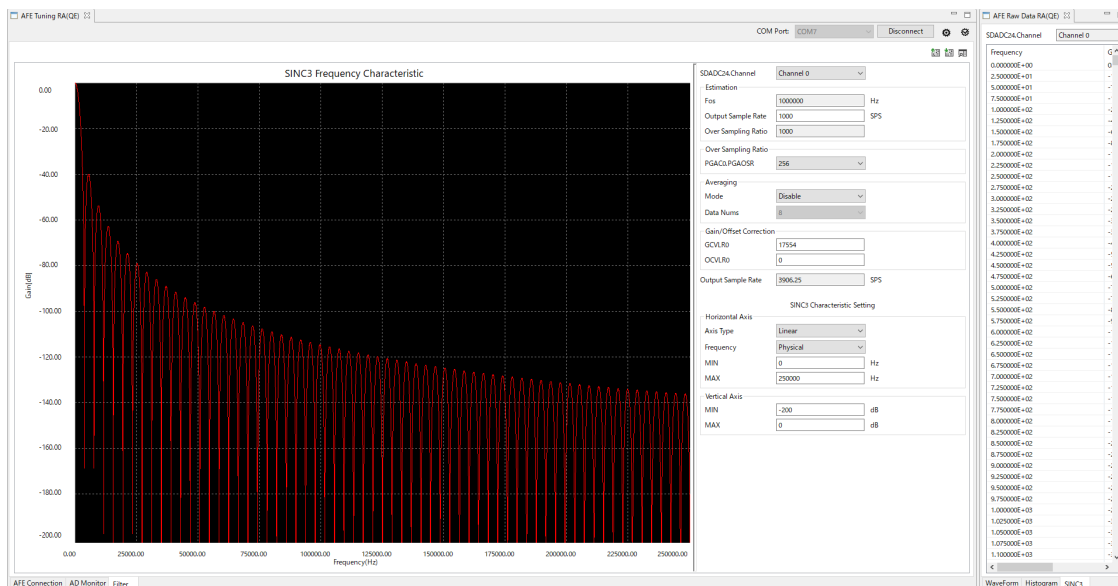

Figure 3 Frequency-gain characteristics curve display for the SINC3 filter

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

Corporate Headquarters

TOYOSU FORESIA, 3- 2- 24 Toyosu,
Koto-ku, Tokyo 135- 0061, Japan
www.renesas.com

Trademarks

Renesas and the Renesas logo are trademarks of Renesas Electronics Corporation. All trademarks and registered trademarks are the property of their respective owners.

Contact information

For further information on a product, technology, the most up-to-date version of a document, or your nearest sales office, please visit:
www.renesas.com/contact/