



Renesas Ready Ecosystem Partner Solution

IAR Embedded Trust

RENESAS

PARTNER
NETWORK

READY

Solution Summary

IAR Embedded Trust provides companies with a straightforward way of building the right level of security for their application needs throughout the development, manufacturing, and product management process that works with [RA Family](#) and [RX Family](#) MCUs.

Features/Benefits

- Software and hardware tools
 - Embedded Trust – Security development environment
 - C-Trust – integrating security in the workflow
 - Secure Desktop Provisioner – Secure development and prototyping
 - IAR Embedded Workbench – Complete C/C++ compiler and debugger toolchain
 - C-STAT – integrated static code analysis
 - I-jet – industry-leading high-speed in-circuit debugging probe
- Training resources with topics like:
 - Impact of legislation & Security on IoT
 - Managing intellectual property & Inhibiting overproduction
- Custom Design Review
 - Identifying potential risks and establishing threat model
 - Creating custom security implementation

Diagrams/Graphics



Target Markets and Applications

- Industrial automation
- Consumer electronics
- Smart metering
- Automotive
- Medical technology and wearables

www.iar.com/products/security/iar-embedded-trust

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Our Comprehensive Solution for Developers

IAR Embedded Workbench is the number one development toolchain – a robust, flexible and complete platform with powerful functionality just a tick box away. The toolchain offers integrated code analysis tools and is certified by TÜV SÜD for Functional Safety development. The security development tool C-Trust works as an extension of IAR Embedded Workbench and enables developers to easily protect an existing or new application without having to master the deeper complexities of security. IAR Systems also provides extensive technical support and training options.

The screenshot displays the IAR Embedded Workbench IDE interface for an RSKRX66T project. The main window shows C code for an ADC conversion loop. Below the code is a 'Sampled Graphs' window showing the ADC result over time. To the right is a 'Disassembly' window showing the corresponding assembly instructions. At the bottom, a 'Performance Analysis' window provides a table of execution metrics.

```
main()
{
    R_Config_SCI11_Start();

    while (1U)
    {
        /* Wait for user requested A/D conversion flag to be set (SW1 or SW2) */
        if (TRUE == g_adc_trigger)
        {
            /* Call the function to perform an A/D conversion */
            adc_result = get_adc();

            /* Display the result on the LCD */
            lcd_display_adc(adc_result);

            /* Increment the adc count and display using the LEDs */
            if (16 == (++gs_adc_count))
            {
                gs_adc_count = 0;
            }
            led_display_count(gs_adc_count);
        }
    }
}
```

Sampling Time	adc_result
13926 ms	0x01A3
13936 ms	0x01A3
13946 ms	0x01A3
13956 ms	0x02F9
13966 ms	0x02F9
13976 ms	0x02F9

#	Condition	Time	Count
1	Execution cycle	25s 425674.33 us	3051080920
2	Interrupt count	-	582687

The future-proof supplier of software solutions and services for embedded development

IAR Systems and Renesas have had a strong partnership since the 1980's. With more than 4,000 supported Renesas devices, IAR Embedded Workbench supplies exceptional design flexibility for embedded developers working with the extensive Renesas product portfolio. The tools deliver outstanding performance and let customers migrate easily between different architectures, choosing the one best suited for a specific application while using the same development tools, and with the ability to reuse code.

IAR Systems is a Renesas Ready Partner, and is committed to continue supplying high-class tools for all Renesas MCUs and MPUs.