RZ/G1 Trusted Secure IP (TSIP) Software

Release Note

Introduction

This release note describes the contents and important points of the RZ/G1 Trusted Secure IP (TSIP) Software for RZ/G Verified Linux Package.

Contents

1. Release Items and Target

The Version of Software covered by this release note is shown below.

No.	Name	Version
1	RZ/G1 Trusted Secure IP (TSIP) Software	V1.1.2

Target device and environment are shown below.

Target Device	Environment	Version
RZ/G1M-PF	RZ/G Verified Linux Package	V2.1.3 V2.1.2-RT*note
RZ/G1E-PF		
RZ/G1C-PF		
RZ/G1N-PF		

note: About VLP equivalent Linux, please refer to RZ/G Yocto recipe Start-Up Guide.

Target boards are shown below.

Target Device	Target Board	Manufacturer
RZ/G1M-PF	iWave RZ/G1M-PF Development Kit	iWave
RZ/G1E-PF	iWave RZ/G1E-PF Development Kit	iWave
RZ/G1C-PF	iWave RZ/G1C-PF Development Kit	iWave
RZ/G1N-PF	iWave RZ/G1N-PF Development Kit	iWave

2. Contents of This Package

Contents of Trusted Secure IP (TSIP) Software are shown below.

type	name	description	Version
Binary	Security Library	Application that runs in the user space of Linux.	1.1.1
	Security Daemon	Application that runs in the user space of Linux.	1.1.1
	Security Driver for Provisioning (Linux)	TSIP Driver for provisioning in Linux environment.	1.2.00
	Security Driver for Boot (non-OS)	TSIP Driver for encrypted kernel booting in bare metal(non-OS) environment.	1.2.00
	Security Module	u-boot application used in encrypted kernel booting.	1.00
Sample Tool	Provisioning Tool	Windows application to perform temporary encryption of data that to be bring to product in provisioning process.	1.60
	Install Tool	Linux application to perform re-encryption temporarily encrypted data with TSIP in provisioning process.	1.10
Sample Program	Injection sample	Linux sample code using Security Library.	1.11
	Secure Storage Sample		
	Verification Sample		
	Encrypt/Decrypt Sample		
	Secure Update Sample		
Document	Application Note (Function)	Application Note describes Functions	1.00
	Application Note (API)	Application Note describes API	1.00

3. How to Apply

Please refer to Application Note on how to apply this package.

4. Additional Function and Change Function from Previous Edition

- Changes configuration of Package, Included document.
- End of support for Encrypted Communication Function (Security Library).
- End of support for Priority Processing (Security Library).
- Abolished the provision of Verification Tool.

5. Restrictions

None.

6. Note

None.

7. Open Source Software Licenses

RZ/G1 Trusted Secure IP (TSIP) Software uses LibreSSL.

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Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Mar.01, 2021	-	Software V1.1.2 release.
1.01	Mar.22, 2021	2	Fixed typo of version number for sample program

General Precautions in the Handling of Microprocessing Unit and Microcontroller Unit Products

The following usage notes are applicable to all Microprocessing unit and Microcontroller unit products from Renesas. For detailed usage notes on the products covered by this document, refer to the relevant sections of the document as well as any technical updates that have been issued for the products.

1. Precaution against Electrostatic Discharge (ESD)

   A strong electrical field, when exposed to a CMOS device, can cause destruction of the gate oxide and ultimately degrade the device operation. Steps must be taken to stop the generation of static electricity as much as possible, and quickly dissipate it when it occurs. Environmental control must be adequate. When it is dry, a humidifier should be used. This is recommended to avoid using insulators that can easily build up static electricity. Semiconductor devices must be stored and transported in an anti-static container, static shielding bag or conductive material. All test and measurement tools including work benches and floors must be grounded. The operator must also be grounded using a wrist strap. Semiconductor devices must not be touched with bare hands. Similar precautions must be taken for printed circuit boards with mounted semiconductor devices.
2. Processing at power-on

   The state of the product is undefined at the time when power is supplied. The states of internal circuits in the LSI are indeterminate and the states of register settings and pins are undefined at the time when power is supplied. In a finished product where the reset signal is applied to the external reset pin, the states of pins are not guaranteed from the time when power is supplied until the reset process is completed. In a similar way, the states of pins in a product that is reset by an on-chip power-on reset function are not guaranteed from the time when power is supplied until the power reaches the level at which resetting is specified.
3. Input of signal during power-off state

   Do not input signals or an I/O pull-up power supply while the device is powered off. The current injection that results from input of such a signal or I/O pull-up power supply may cause malfunction and the abnormal current that passes in the device at this time may cause degradation of internal elements. Follow the guideline for input signal during power-off state as described in your product documentation.
4. Handling of unused pins

   Handle unused pins in accordance with the directions given under handling of unused pins in the manual. The input pins of CMOS products are generally in the high-impedance state. In operation with an unused pin in the open-circuit state, extra electromagnetic noise is induced in the vicinity of the LSI, an associated shoot-through current flows internally, and malfunctions occur due to the false recognition of the pin state as an input signal become possible.
5. Clock signals

   After applying a reset, only release the reset line after the operating clock signal becomes stable. When switching the clock signal during program execution, wait until the target clock signal is stabilized. When the clock signal is generated with an external resonator or from an external oscillator during a reset, ensure that the reset line is only released after full stabilization of the clock signal. Additionally, when switching to a clock signal produced with an external resonator or by an external oscillator while program execution is in progress, wait until the target clock signal is stable.
6. Voltage application waveform at input pin

   Waveform distortion due to input noise or a reflected wave may cause malfunction. If the input of the CMOS device stays in the area between V_{IL} (Max.) and V_{IH} (Min.) due to noise, for example, the device may malfunction. Take care to prevent chattering noise from entering the device when the input level is fixed, and also in the transition period when the input level passes through the area between V_{IL} (Max.) and V_{IH} (Min.).
7. Prohibition of access to reserved addresses

   Access to reserved addresses is prohibited. The reserved addresses are provided for possible future expansion of functions. Do not access these addresses as the correct operation of the LSI is not guaranteed.
8. Differences between products

   Before changing from one product to another, for example to a product with a different part number, confirm that the change will not lead to problems. The characteristics of a microprocessing unit or microcontroller unit products in the same group but having a different part number might differ in terms of internal memory capacity, layout pattern, and other factors, which can affect the ranges of electrical characteristics, such as characteristic values, operating margins, immunity to noise, and amount of radiated noise. When changing to a product with a different part number, implement a system-evaluation test for the given product.

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TOYOSU FORESIA, 3-2-24 Toyosu,
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