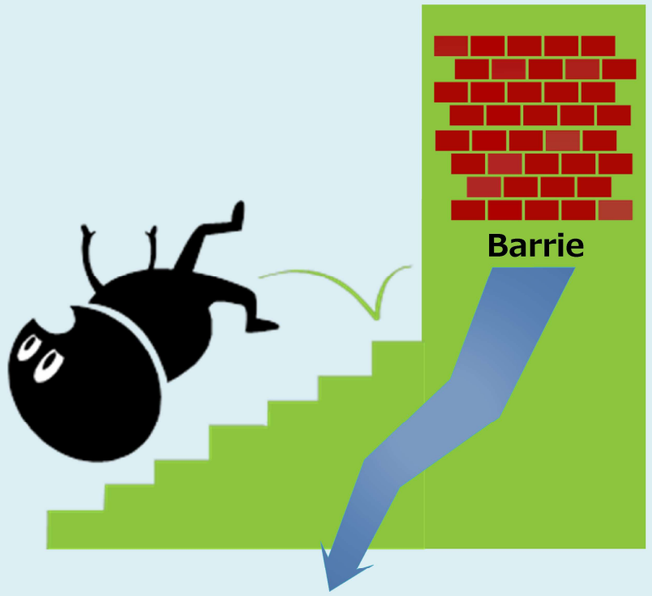
Before

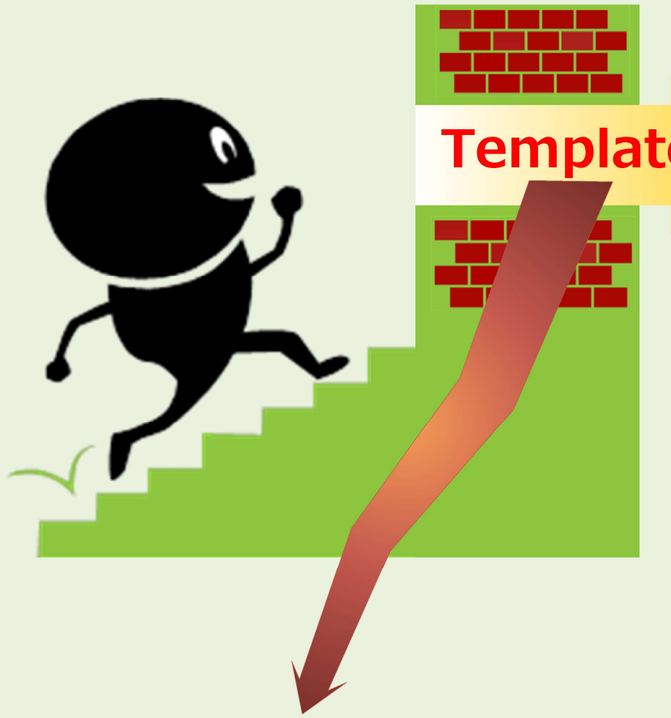


- Sample code cannot be used in practice.
- Need a simple, highly scalable development environment.

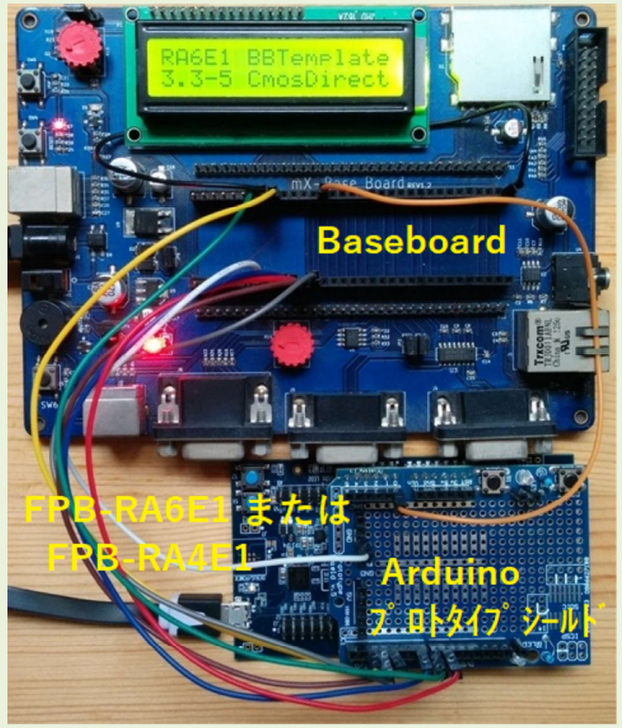
Template Benefits
- Easy to learn RA family.
- Immediate program directly connected to practical work.
- Early RA application development using sample code.

* Easy to use/divert multiple sample codes

After



- Easy to use and reusable sample code direct practice template.
- Low cost, easy and highly expandable development environment.
- Anyone can easily pass through Barrier.

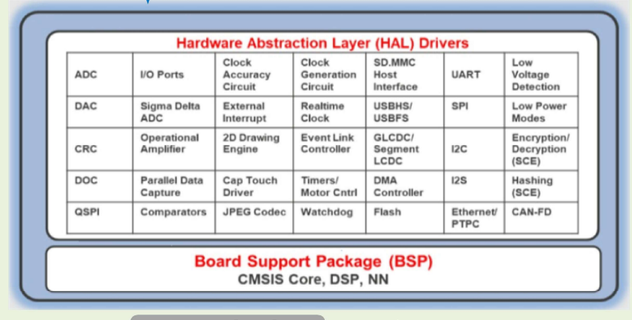


Baseboard Template = Simple + ADC + LCD

Simple Template = LED + SW + RTT Viewer

RA BareMetal Template

FSP HAL API



RA6/4/2

Template + TOC Contents = US$10

TOC

Features of RA bare metal Template

- Time-division multitasking startup
  Startup timing: 1ms/4ms/40ms/500ms/1s (Timing can be changed easily)
  Low power consumption: Sleep startup when no processing
- Bare metal template using FSP HAL API for both RA family.
- The template code is common to RA6/4/2, easy to change when MCU performance is insufficient, and ideal for prototype development.

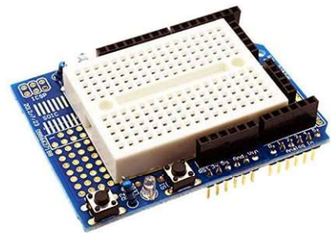
- Simple template and baseboard template attached to template application examples.
- Easy to add/remove functions to/from both application examples.

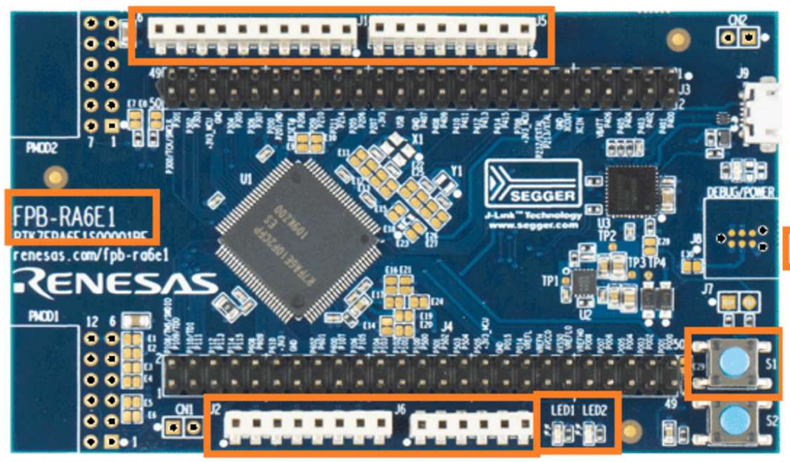
- Easy to learn RA family with abundant sources with Japanese comments and this materials
- Early application development and evaluation possible with templates directly connected to practical work

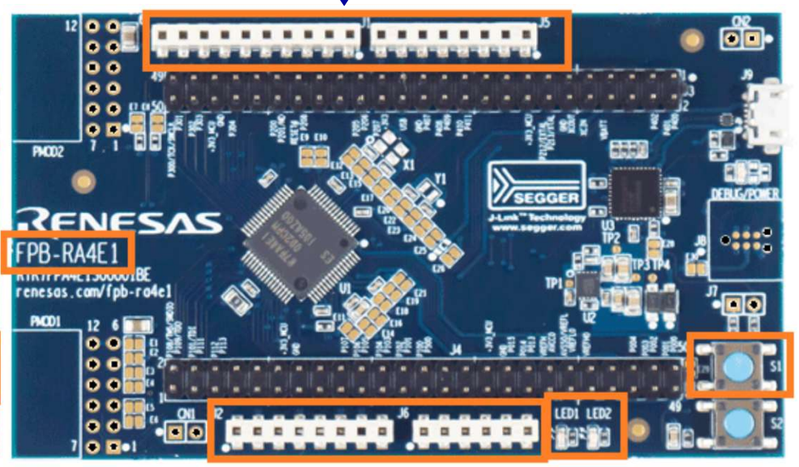
Template price & copyright	US$10 (tax inclued) Copyright belongs to purchaser

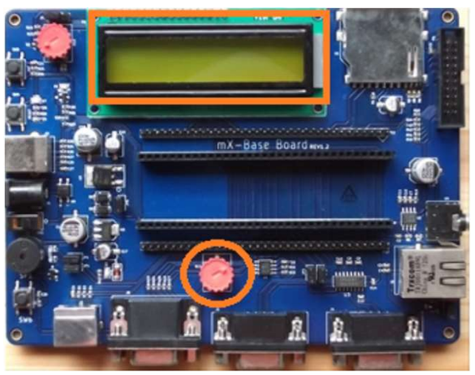
Template specification

Overview	**Simple template: Evaluation board standalone operation.** •LED1 toggle blinking: S1 push detection (software chattering countermeasures applied) •LED2 toggle blinking: 40ms/500ms/1s blinking/off (changed by RTT Viewer input) •S1 push and hold detection for 2 seconds or more: Message output to RTT Viewer •RTT Viewer I/O: Initial message output, LED2 blinking cycle change by key input **Baseboard template: Works with evaluation board + Baseboard.** In addition to simple template operation, in parallel, •Baseboard potentiometer ADC value RTT Viewer output •Various message output to Baseboard LCD •Baseboard potentiometer ADC voltage conversion value LCD output **Arduino prototype shield:** Easy exchange of Baseboard between FPB-RA6E1 and FPB-RA4E1.
Software	FSP v3.6.0、PFB-RA6/4E1 Example Project Bundle、e2 studio 2022-04、Windows 10 21H2
Hardware	**Evaluation Board** •FPB-RA6E1 (Cortex-M33/200MHz) •FPB-RA4E1 (Cortex-M33/100MHz) **Function addition Baseboard** ・**mbed-Xpresso Baseboard** ・**Arduino Prototype Shield** (Optional)









Baseboard
mbed-Xpresso baseboard

* Arduino use pins of FPB-RA6E1 and FPB-RA4E1 evaluation boards are the same for both evaluation boards.
* Using the Arduino Prototype Shield makes it easy to connect with the function expansion Baseboard and replace the evaluation board.

Notes

- Although this information and template software were created accurately and carefully, we do not guarantee that there are no Errors
- In the unlikely event that the customer suffers damages due to incorrect information or template software, we will not be held responsible for it.

TOC

Evaluation Board

Template Projects

Project operation

FPB-RA6E1
Cortex-M33/200MHz

RA6SimpleTemplate
FPB-RA6E1 standalone operation

RA6BaseboardTemplate
FPB-RA6E1
+
Baseboard operation

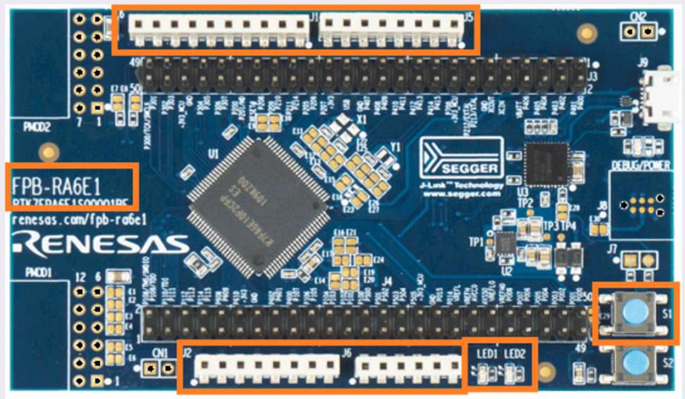
App0

RA Baremetal Template

FPB-RA4E1
Cortex-M33/100MHz

RA4SimpleTemplate
FPB-RA4E1 standalone operation

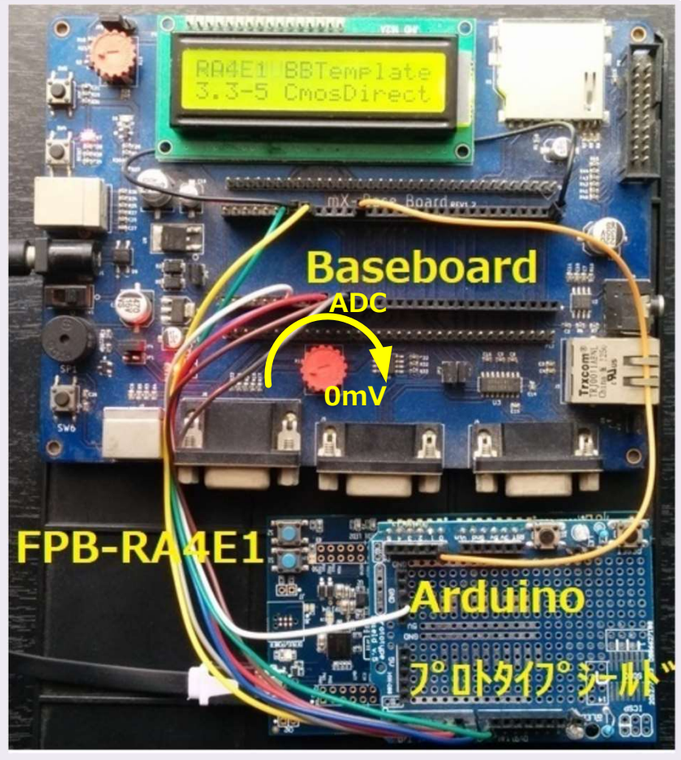
RA4BaseboardTemplate
FPB-RA4E1
+
Baseboard operation




```
00> --> TargetBoard is FPB-RA4E1.
00> --> Current FSP version is v3.6.0.
00> --> UserInit succeeded.
00> ****************************************************
00> * RA Baremetal SIMPLTETemplate v1                   *
00> * Peripheral : LED1/2 + S1 + GPT:1ms Periodic + SLEEP *
00> * LED1 Toggle : Push S1                             *
00> * LED2 Toggle : Enter 1 = 40ms, 2 = 500ms, 3 = 1s   *
00> *               Others = Toggle STOP                 *
00> * LED2 Toggle : Push S1 more than 2s                *
00> ****************************************************
00>
00> --> S1 Pushed Over 2s.!!!
```

```
00> --> TargetBoard is FPB-RA6E1.
00> --> Current FSP version is v3.6.0.
00> --> UserInit succeeded.
00> ****************************************************
00> * RA Baremetal BASEBOARDTemplate v1                 *
00> * Peripheral : LED1/2 + S1 + GPT:1ms Periodic + SLEEP *
00> *            + ADC:single one-shot (every 1sec) + LCD  *
00> * LED1 Toggle : Push S1                             *
00> * LED2 Toggle : Enter 1 = 40ms, 2 = 500ms, 3 = 1s   *
00> *               Others = Toggle STOP                 *
00> * LED2 Toggle : Push S1 more than 2s                *
00> ****************************************************
00> Channel0:A0 Reading from ADC: 192
00> Channel0:A0 Reading from ADC: 183
00> Channel0:A0 Reading from ADC: 189
00> Channel0:A0 Reading from ADC: 189
00> Channel0:A0 Reading from ADC: 190
00> Channel0:A0 Reading from ADC: 590
00> Channel0:A0 Reading from ADC: 608
00> Channel0:A0 Reading from ADC: 607
```

- RTT Viewer outputs ADCはADC 12b value
- LCD outputs ADC voltage mV



*The template body source code is the same for both Simple and Baseboard (only the RTT Viewer title output is different)

Template application example with multiple sample code suitable for starting prototype development.

- Abundant source Japanese Comments and tips ➡ Smooth and fast learning
- 4 projects for 2 evaluation boards ➡ Easy to start prototyping
- Templates Example developed with FSP HAL API ➡ Easy to use other RA MCU

TOC