



# **EFR32BG22 Series**

## **Software Modification of Frequency Offset Register User Guide**

**Version: 1.0**

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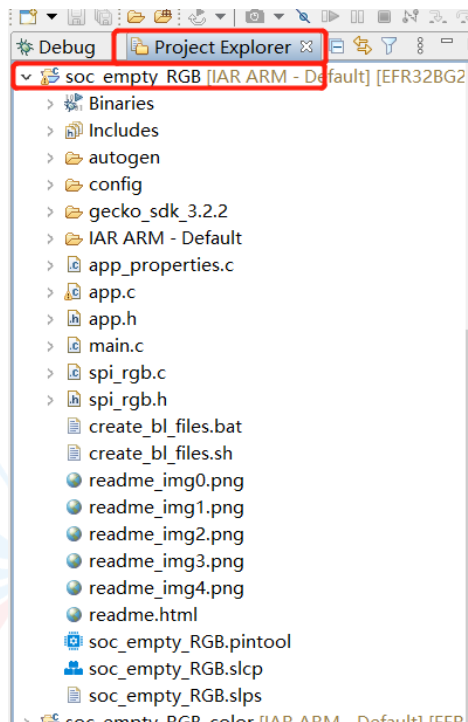
## 1 Setting of Frequency Offset Register

The setting of the frequency offset register can be regarded as the auxiliary setting of modifying the frequency offset for the hardware RF part.

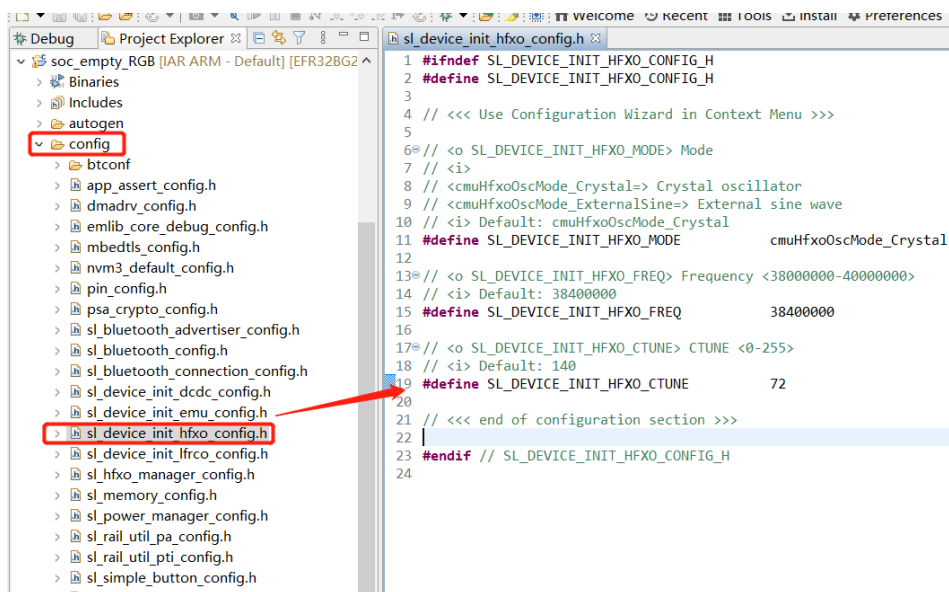
If the frequency offset is needed to be modified, you can find the *sl\_device\_init\_hfxo\_config.h* file in the corresponding project and modify the **CTUNE** value.

Take the **empty\_RGB** project as an example:

Open the project, find the Project Explorer window, and open the project folder, as shown in the following figure.



Then choose the config folder, find the *sl\_device\_init\_hfxo\_config.h* file, and double-click to open it, as shown in the figure below.



Find **SL\_DEVICE\_INIT\_HFXO\_CTUNE**, the official default value of SiliconLabs is 140, RF-star changes it to 72 according to the requirements of the development board hardware RF part.

Remark: This is the value for RF-star's standard EFR32BG22 series modules, the value of the other customized products needs to be confirmed.

If the user needs to change to other values, you can directly modify it (Value range: 0 ~ 255). As shown below.

```
sl_device_init_hfxo_config.h x
1 #ifndef SL_DEVICE_INIT_HFXO_CONFIG_H
2 #define SL_DEVICE_INIT_HFXO_CONFIG_H
3
4 // <<< Use Configuration Wizard in Context Menu >>>
5
6 // <o SL_DEVICE_INIT_HFXO_MODE> Mode
7 // <i>
8 // <cmuHfxoOscMode_Crystal=> Crystal oscillator
9 // <cmuHfxoOscMode_ExternalSine=> External sine wave
10 // <i> Default: cmuHfxoOscMode_Crystal
11 #define SL_DEVICE_INIT_HFXO_MODE          cmuHfxoOscMode_Crystal
12
13 // <o SL_DEVICE_INIT_HFXO_FREQ> Frequency <38000000-40000000>
14 // <i> Default: 38400000
15 #define SL_DEVICE_INIT_HFXO_FREQ          38400000
16
17 // <o SL_DEVICE_INIT_HFXO_CTUNE> CTUNE <0-255>
18 // <i> Default: 140
19 #define SL_DEVICE_INIT_HFXO_CTUNE          72
20
21 // <<< end of configuration section >>>
22
23 #endif // SL_DEVICE_INIT_HFXO_CONFIG_H
24
```

## Revision History

| Date       | Version No. | Description                      |
|------------|-------------|----------------------------------|
| 2022.07.05 | V1.0        | The initial version is released. |

Note:

1. The document will be optimized and updated from time to time. Before using this document, please make sure it is the latest version.
2. To obtain the latest document, please download it from the official website: [www.rfstariot.com](http://www.rfstariot.com) and [www.szrfstar.com](http://www.szrfstar.com).



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