Trim HIRC

Example Code Introduction for 32-bit NuMicro® Family

Information

Application	Demonstrate how to use LXT to trim HIRC.
BSP Version	Mini58DE Series BSP CMSIS V3.03.000
Hardware	NuTiny-EVB-MINI58-LQPF48

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1 Function Description

1.1 Introduction

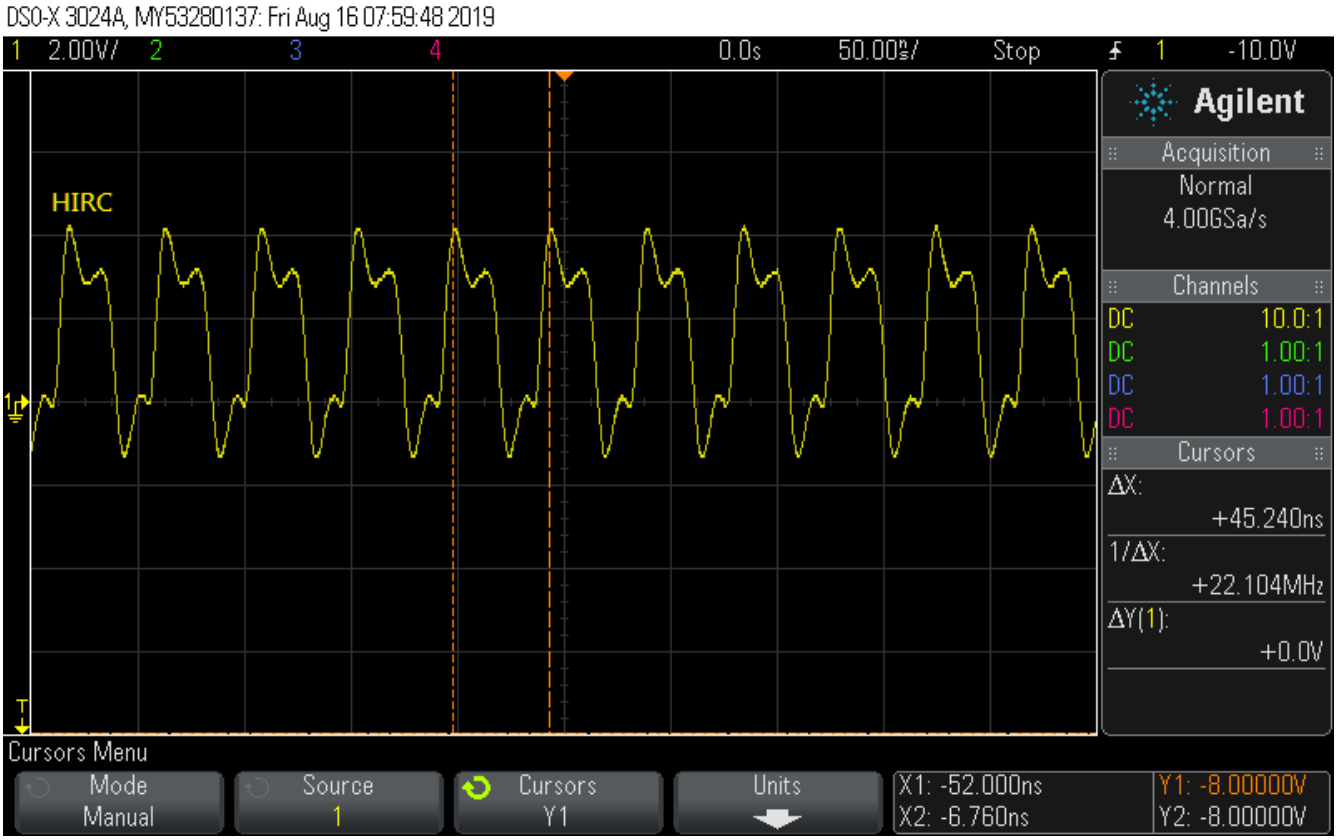
Demonstrate how to use LXT to trim HIRC.

1.2 Principle

Set trim value calculation based on the 512 number of LXT clock.

Then, enable HIRC auto trim function and HIRC trimmed to 22.1184 MHz.

1.3 Demo Result



2 Code Description

Enable HIRC auto trim function and trim HIRC to 22.1184 MHz automatically based on the LXT reference clock :

```
    /* Enable HIRC auto trim function and trim HIRC to 22.1184 MHz automatically based on
the LXT reference clock */
    SYS->IRCTCTL = (3 << SYS_IRCTCTL_LOOPSEL_Pos) | SYS_IRCTCTL_FREQSEL_Msk;


    SYS->IRCTIEN = SYS_IRCTIEN_CLKEIEN_Msk | SYS_IRCTIEN_TFAILIEN_Msk; /* Enable trim-fail
and 32K-error interrupt */
```

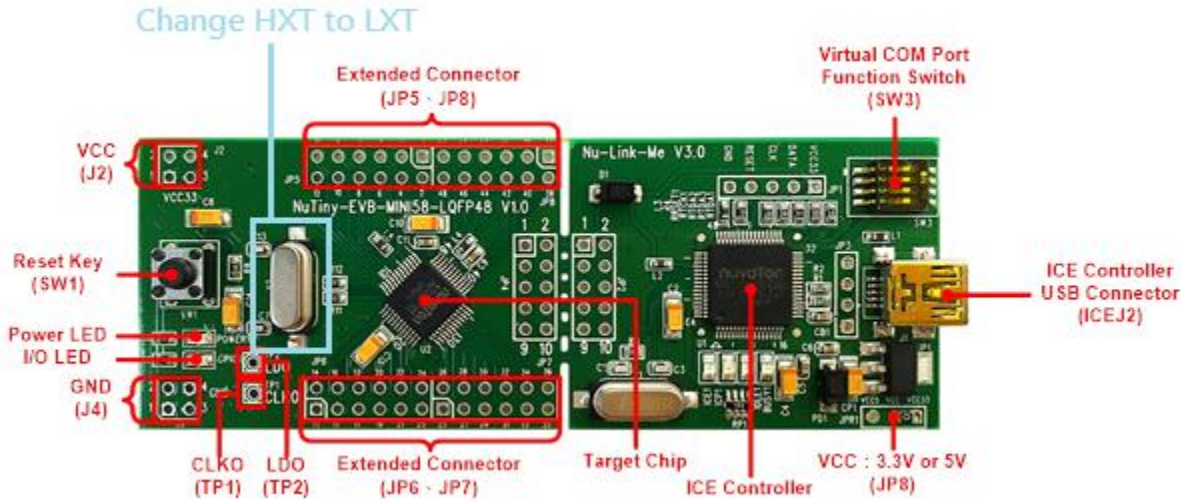
3 Software and Hardware Environment

Software Environment

- BSP version
  - MINI58DE Series BSP CMSIS V3.03.000
- IDE version
  - Keil uVersion 5.26

Hardware Environment

- Circuit components
  - NuTiny-EVB-MINI58-LQPF48
  - Change HXT(12MHz) to LXT(32kHz)
- Diagram



4 Directory Information

- EC_Mini58_Trim_HIRC
  - Library — Sample code header and source files
    - CMSIS — Cortex® Microcontroller Software Interface Standard (CMSIS) by Arm® Corp.
    - Device — CMSIS compliant device header file
    - StdDriver — All peripheral driver header and source files
  - SamlpeCode
    - ExampleCode — Source file of example code

5 How to Execute Example Code

1. Browsing into sample code folder by Directory Information (section 4) and double click Mini58_Trim_HIRC.uvproj.
2. Enter Keil compile mode
   a. Build
   b. Download
   c. Start/Stop debug session
3. Enter debug mode
   a. Run

6 Revision History

Date	Revision	Description
Jun. 26, 2019	1.00	1. Initially issued.

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