

# Application Note

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## LSE Trim Driving Strength

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### Introduction

This document describes the LSE driving strength adjustment method, facilitating users to adjust the driving strength of LSE according to the actual requirements during regular operation.

This document is only applicable to Nsing MCU products. Currently, the supported product series include N32G4FR series, N32G45x series, N32WB452 series.

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## 1 Overview

There are a variety of clocks for users to choose in MCU, and LSE is a low-power and accurate clock source for real-time clock or timer functions.

In order to improve the anti-interference ability of LSE, the driving ability of LSE can be fine-tuned.

The strength levels can be adjusted from level 1 to 3.

## 2 Operation method

### 2.1 Function Description

Function Prototype: `uint8_t LSE_ConfigDrvTrim(uint8_t trim_val)`

The driving strength of LSE can be set through the function.

Trim\_val ranges from 0x01 to 0x03, corresponding to level 1~3 respectively. Gear 3 has the strongest ability.

```
LSE_TRIM_LOW=0x01,  
LSE_TRIM_MID=0x02,  
LSE_TRIM_HIGHT=0x03,
```

Function Prototype: `uint8_t LSE_GetNormalTrim(void);`

The trim value of the drive capability in operating except for STOP2/STANDBY/BKP is available through the function.

Function Prototype: `uint8_t LSE_GetSleepTrim(void);`

The trim value of the drive capability in STOP2/STANDBY/BKP is available through the function.

### 2.2 Application Demo

This example takes the N32G45x series MCU as an example to demonstrate how to configure driving strength of LSE. In low-power mode, the overall power consumption of MCU will be different if the driving capability levels of LSE (level 1~3) is different. For detailed examples, please refer to the application note “AlarmWakeUp”.

### 3 Version History

Version	Date	Changes
V1.0.0	2021.09.16	Initial version
V1.0.1	2024.04.04	Error Correction

## 4 Disclaimer

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