

Calculator 时间计算器使用指导

修改记录.....	1
1. 简介.....	1
1.1 功能简介.....	1
1.2 工具下载.....	1
1.3 安装.....	2
2. 127xCalculator 使用.....	3

修改记录

类型	修改内容	修改人	日期	文档版本
A	初稿版本	杨宾	2018/12/23	V0.1.0

类型：A-新增 M-修改 D-删除

1. 简介

1.1 功能简介

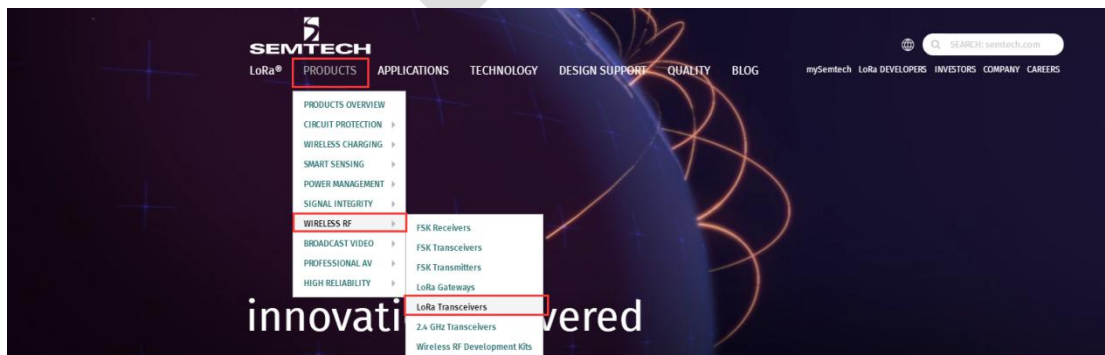
Calculator 这个计算器主要是用来计算芯片时间的

这个软件有两个版本，一个是 126x 的一个是 127x 的，一般使用 127x 的就可以了（这个更详细一些）

1.2 工具下载

登录官网

<https://www.semtech.com/>



Products

NUMBER	NAME
SX1261	Long Range Low Power LoRa® RF Transceiver +15dBm, global frequency coverage
SX1262	Long Range Low Power LoRa® Transceiver +22dBm, global frequency coverage
SX1268	Long Range Low Power LoRa® Transceiver +22dBm, China frequency bands
SX1272	Long Range, Low Power RF Transceiver 860-1000 MHz with LoRa® Technology
SX1276	137 MHz to 1020 MHz Long Range Low Power Transceiver

- [SX1272RF1CAS \(915MHz\): Starter Kit](#)

Diagrams and Specs >

Datasheets and Resources ▾

Application Notes

- [APP Note Crystal Oscillator Guidance LoRa Modulation V2.2](#)
- [Designing for High Efficiency and Low-Harmonic Emissions](#)
- [ETSI Compliance of the SX1272/3 LoRa Modem](#)
- [LoRa and FCC Part 15.247: Measurement Guidance](#)
- [LoRa Modulation Basics](#)
- [LoRa Modulation: Crystal Oscillator Guide](#)
- [MCU Requirements for LoRaWAN](#)
- [Planar F-Antenna Reference Design](#)
- [Reading Channel RSSI During a CAD](#)
- [Recommended SX1272 Settings for EU868 LoRaWAN Network Operation](#)
- [Software Implementation of Data Whitening and CRC](#)
- [SX1272 LoRa Calculator](#)
- [SX127x Reference Design Overview](#)
- [Testing for FCC Pre-Compliance with LoRaWAN Modules](#)

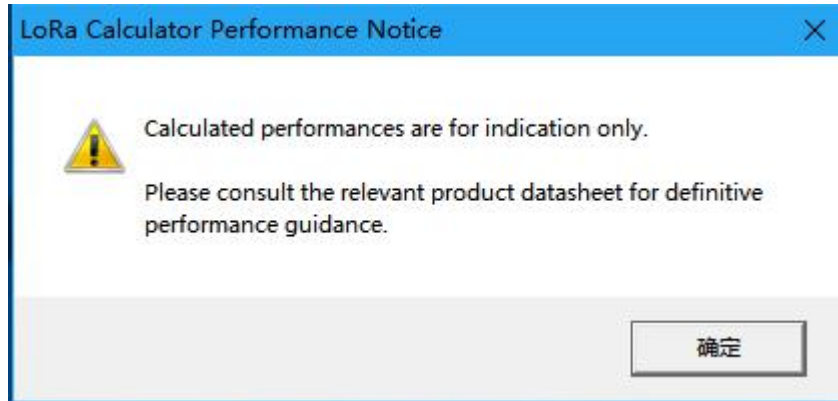
Datasheets

1.3 安装

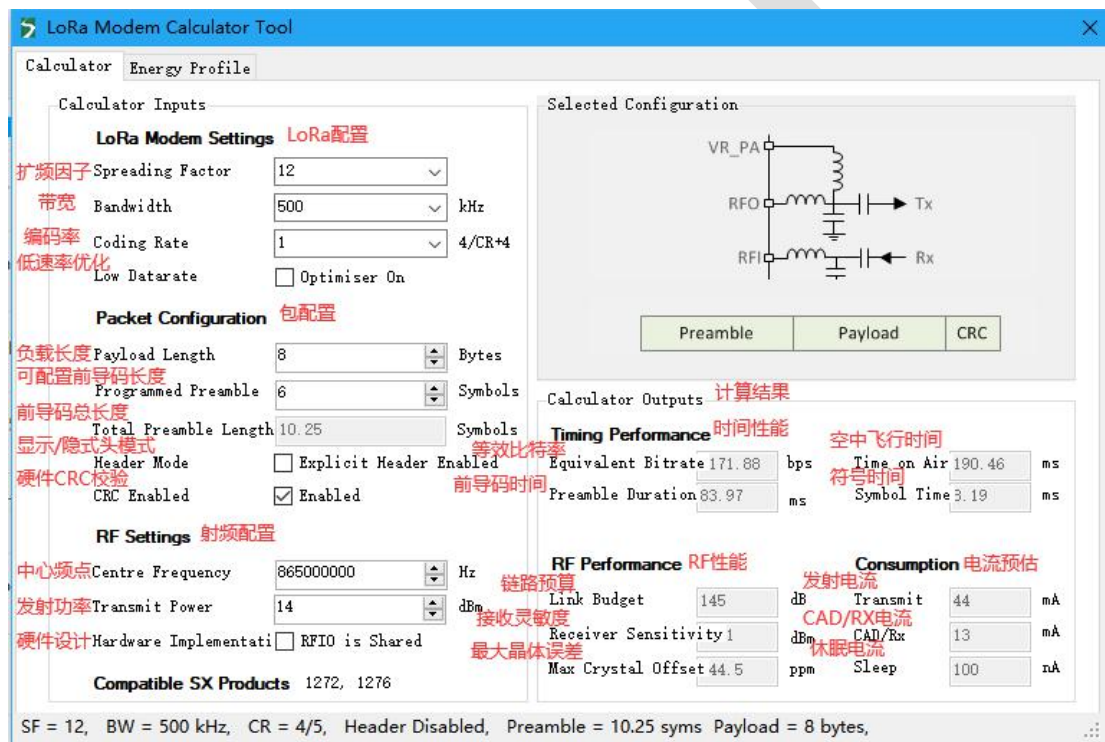
双击安装移植 next 就可以了

2. 127xCalculator 使用

打开程序这个弹窗不用管，直接确定就好



功能介绍



RFIO 不同的设计方式发射功率也不一样，第二种方式下，发射功率限制在 14dBm 以下。

Calculator Energy Profile

Calculator Inputs

LoRa Modem Settings

Spreading Factor: 12

Bandwidth: 500 kHz

Coding Rate: 1 (4/CR+4)

Low Datarate: Optimiser On

Packet Configuration

Payload Length: 8 Bytes

Programmed Preamble: 6 Symbols

Total Preamble Length: 10.25 Symbols

Header Mode: Explicit Header Enabled

CRC Enabled: Enabled

RF Settings

Centre Frequency: 865000000 Hz

Transmit Power: 14 dBm

Hardware Implementation: RFIO is Shared

Compatible SX Products 1272, 1276

Selected Configuration

Preamble Payload CRC

Calculator Outputs

Timing Performance

Equivalent Bitrate	171.88 bps	Time on Air	190.46 ms
Preamble Duration	83.97 ms	Symbol Time	3.19 ms

RF Performance

Link Budget	145 dB	Transmit	44 mA
Receiver Sensitivity	1 dBm	CAD/Rx	13 mA
Max Crystal Offset	44.5 ppm	Sleep	100 nA

SF = 12, BW = 500 kHz, CR = 4/5, Header Disabled, Preamble = 10.25 syms Payload = 8 bytes, ...

LoRa Modem Calculator Tool

Calculator Energy Profile

Calculator Inputs

LoRa Modem Settings

Spreading Factor: 12

Bandwidth: 500 kHz

Coding Rate: 1 (4/CR+4)

Low Datarate: Optimiser On

Packet Configuration

Payload Length: 8 Bytes

Programmed Preamble: 6 Symbols

Total Preamble Length: 10.25 Symbols

Header Mode: Explicit Header Enabled

CRC Enabled: Enabled

RF Settings

Centre Frequency: 865000000 Hz

Transmit Power: 14 dBm

Hardware Implementation: RFIO is Shared

Compatible SX Products 1272, 1276

Selected Configuration

Preamble Payload CRC

Calculator Outputs

Timing Performance

Equivalent Bitrate	171.88 bps	Time on Air	190.46 ms
Preamble Duration	83.97 ms	Symbol Time	3.19 ms

RF Performance

Link Budget	142 dB	Transmit	44 mA
Receiver Sensitivity	8 dBm	CAD/Rx	13 mA
Max Crystal Offset	44.5 ppm	Sleep	100 nA

SF = 12, BW = 500 kHz, CR = 4/5, Header Disabled, Preamble = 10.25 syms Payload = 8 bytes, ...