SEEED-102991574

Sipeed Longan Nano v1.1- RISC-V GD32VF103CBT6 Development Board

PRODUCT DETAILS

Features

- Chip built-in 128KB Flash, 32KB SRAM
- 4 x general purpose 16-bit timer, 2 x basic 16-bit timer, 1 x advanced 16-bit timer
- Watchdog, RTC, SysTick
- 3 x USART, 2 x I2C, 3 x SPI, 2 x I2S, 2 x CAN, 1 x USBFS (OTG)
- 2 x ADC (10 channel), 2 x DAC

Description

Sipeed Longan Nano v1.1 is an updated development board based on the GD32VF103CBT6 MCU chip which has built-in 128KB Flash, 32KB SRAM. It is convenient for students, engineers, and geek enthusiasts to tinker with the new-generation RISC-V processors. GD32VF103CBT6 is a Bumblebee core, based on Nuclei System Technology supporting RV32IMAC instruction set and ECLIC fast interrupt function. Meanwhile, it costs only 1/3 of that of traditional Cortex-M3.

There can be multiple timer modules on the given device, e.g., four general-purpose 16-bit timers, two basic 16-bit timers, and one advanced 16-bit timer. More specifically, it has a watchdog timer to monitor the main program, an RTC(Real-time clock) to provide stable clock signals, and a SysTick(System tick timer) to maintain the main system working.

Longan Nano v1.1 development board has 28 GPIOs connected to the row pins which is so convenient that it can support connecting lots of devices. And it can be reset anytime by the Reset Button and the BOOT button. 160x80 RGB IPS LCD can be connected to its SPI screen interface. Also, it has an on-board 8M passive crystal oscillator, 32.768 kHz RTC low-speed crystal oscillator, TF Card Holder, 1 RGB LED, and uses a Type-C USB interface.

Longan Nano v1.1 supports multiple download methods, e.g., USB DFU download, UART ISP download, and JTAG download. By USB DFU download mode, you only need a USB Type-C cable to download the program to the development board. Longan Nano v1.1 supports the standard JTAG interface, which means it can debug online using the in-store RISC-V debugger or any JTAG-enabled debugger such as J-Link.

Application

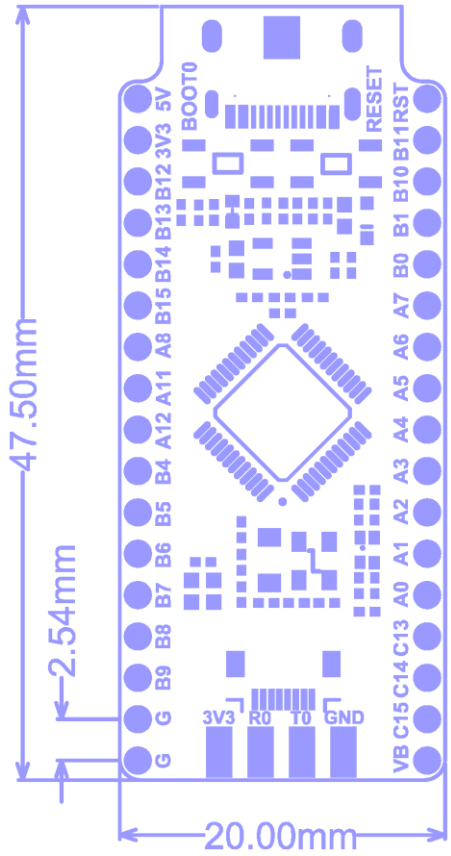
- Robot
- Smart Timer
- Smart Meteorograph

Specifications

SPECIFICATIONS	
CPU	GD32VF103CBT6 based on RISC-V 32-bit core
Kernel power consumption	Only 1/3 of the traditional Cortex-M3
Storage	128KB Flash, 32KB SRAM
Peripheral	● 4 x general-purpose 16-bit timer, 2 x basic 16-bit timer, 1 x advanced 16-bit timer ● Watchdog, RTC, Systick ● 3x USART, 2 x I2C, 3 x SPI, 2 x I2S, 2 x CAN, 1 x USBFS (OTG), 2 x ADC (10 channel), 2 x DAC
Button	1 Reset Button and 1 BOOT button（Connected to GPIO）
Screen interface	SPI interface （160x80 RGB IPS LCD can be connected）
Storage interface	Onboard TF Card Holder
Debug interface	2x4 pin leads out JTAG debugging interface and serial port
Crystal oscillator	8MHz passive crystal oscillator + 32.768KHz RTC crystal oscillator
LED	Onboard 1 RGB LED
GPIO	28 GPIOs have been connected to the row pins

SOFTWARE FEATURES	
IDE	PlatformIO IDE, Support debugging, Arduino
Compile Toolchain & Debugger	GCC, OpenOCD
Operating system	RT-Thread, LiteOS
WORKING CONDITIONS	
External power supply	TYPE-C: 5V±10% 0.5A
Temperature rise	<30K
Operating ambient temperature range	-10℃ ~ 65℃

Dimensions



Part List

- 1 x Sipeed Longan Nano v1.1 Development Board
- 1 x 0.96inch 160x80 IPS RGB LCD