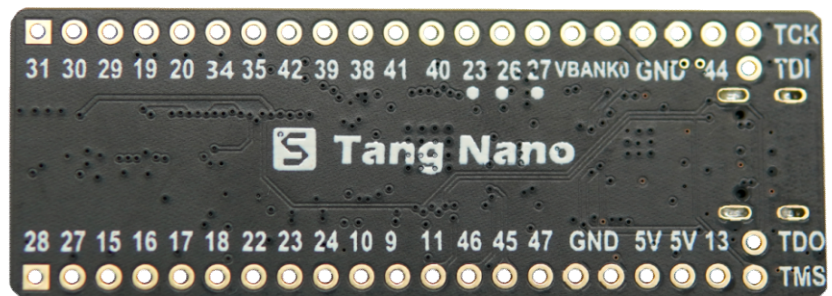
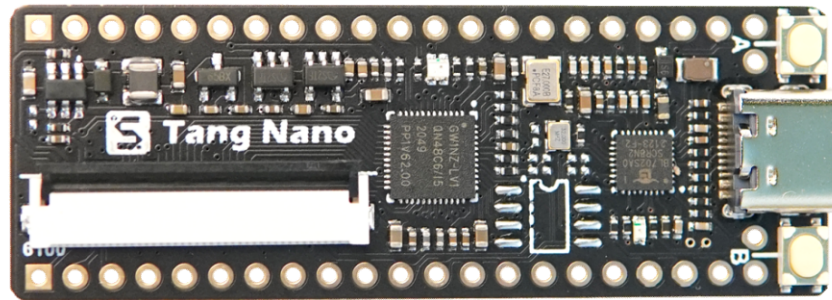


Sipeed Tang Nano 1K Datasheet v1.0



Characteristic:

- The GW1NZ series are the first generation products in the LittleBee family
- Embedded FPGA logic module unit (1152 Lut4)
- Onboard usb-jtag debugger
- On board FPC connector and its circuit
- Onboard wson8 pad
- 10,000 write cycles

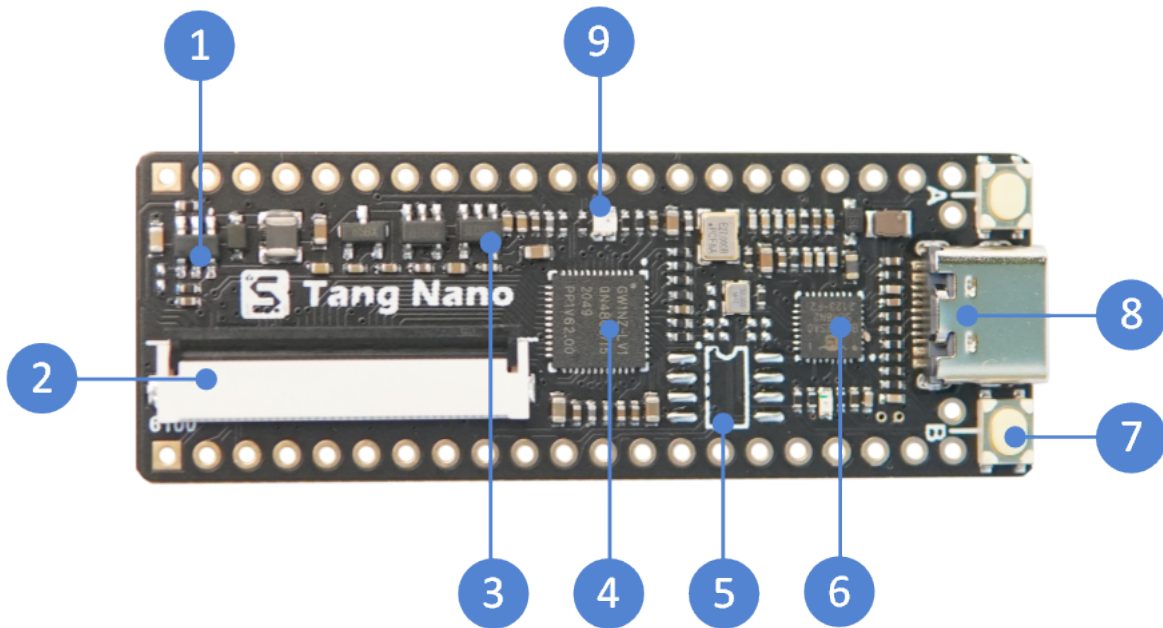
Update record of this document	
V1.0	Edited on October 28, 2021; Original document

Hardware overview	
LUT4	1152
Register	864
Block SRAM (bits)	72K
Shadow SRAM (bits)	4K
User Flash (bits)	64K
PLLs	1
Display screen interface	RGB FPC 40P seat element and its circuit
Debugger	Onboard BL702 chip provides JTAG debugging function for GW1Nz
IO	<ul style="list-style-type: none"> • Support 4mA, 8mA, 16mA, 24mA and other driving capabilities • Independent bus keeper, pull-up / pull-down resistor and open drain output options are provided for each I/O • Support FPC interface
Button	2 user programmable buttons
LED	Onboard 1 programmable RGB LED
Core Voltage (LV)	1.2V
BankVoltage	The default 3.3 V

Software overview	
IDE	Support Gowin IDE(Version>1.9.7) ; Support Gowin Synthesis
Floating License	45.33.107.56:10559
Off-line License	Send application email to support@sipeed.com Example of mail title : 【Apply Tang Lic】 MAC: xxxxxx
IDE	http://www.gowinsemi.com.cn/faq.aspx
MCU development documents	http://www.gowinsemi.com.cn/down.aspx?TypeId=80&Id=673
GOAI brief introduction	http://www.gowinsemi.com.cn/down.aspx?TypeId=635&Id=726
GOAI Official project	https://github.com/gowinsemi/GoAI
Sipeed Reference example	https://github.com/sipeed/TangNano-1K-examples

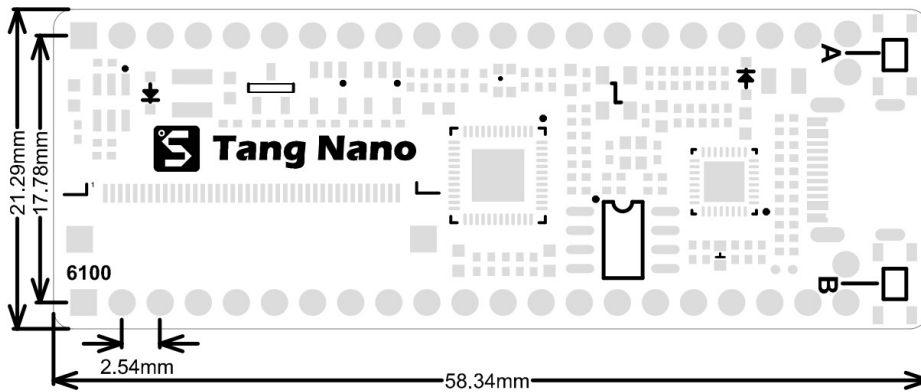
Working conditions	
Power supply demand	TYPE-C connector: 5V±10% 0.5A
Temperature rise	<30K
Operating ambient temperature range	-10°C ~ 65°C

Functional annotation



- | | | |
|--|--|--|
| <p>1 LCD backlight driver</p> <p>4 GW1NZ-LV1</p> <p>7 Buttons</p> | <p>2 RGB LCD Connector</p> <p>5 PSRAM Pad</p> <p>8 USB-C (USB-JTAG)</p> | <p>3 LDO</p> <p>6 USB-JTAG Circuit</p> <p>9 RGB LED</p> |
|--|--|--|

Dimension information	
Length	58.34mm
Width	21.29mm
Thickness	Please check the 3D drawing



Matters needing attention	
ESD protection	Please pay attention to avoid static electricity hitting PCBA; Please release the static electricity from the handle before contacting PCBA
Tolerance voltage	The working voltage of each GPIO has been marked in the schematic . Please do not let the actual working voltage of GPIO exceed the rated value, otherwise it will cause permanent damage to PCBA
FPC connector	When connecting FPC flexible cable, please ensure that the cable is completely inserted into the cable without offset;
Plugging	Please disconnect the power completely before plugging in and out the camera
Avoid short circuit	Please avoid any liquid or metal touching the pads of components on PCBA during power on, otherwise it will cause short circuit and burn PCBA
Please avoid using these GPIO.	<ul style="list-style-type: none"> • JTAG : IOT7A / IOT7B / IOT8A / IOT9A / IOT8B • MODE : IOT14A / IOT14B • DONE : IOT12A

资源	
Official website	www.sipeed.com
Github	https://github.com/Sipeed
BBS	http://bbs.sipeed.com
Wiki	wiki.sipeed.com
Sipeed Model platform	https://maixhub.com/
SDK /HDK Relevant information	https://dl.sipeed.com/
E-mail (Technical support and business cooperation)	support@sipeed.com



Disclaimer and copyright notice

The information in this document, including the URL address for reference, is subject to change without notice.

The documentation is provided by Sipeed without warranty of any kind, including any warranties of merchantability, and any proposal, specification or sample referred to elsewhere. This document is not intended to be a liability, including the use of information in this document to infringe any patent rights.

Copyrights © 2021 Sipeed Limited. All rights reserved.