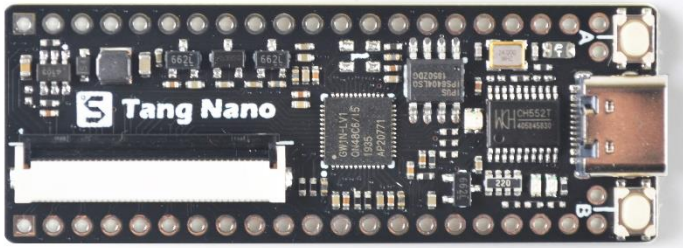
Tang Nano Datasheet

v1.0



Key Features:

- GW1N: 1152 LUT4; 864 FF (Flip-Flop);
- 72k B-SRAM(bits) ; 96K User Flash(bits) ; 1 PLL
- Onboard JTAG Downloader : Simply connect the USB cable to complete the download
- Onboard PSRAM: 64Mbit 3.3V

UPDATE	
V1.0	Edited October 9, 2019; original document

SPECIFICATION	
FPGA chip	GW1N-1-LV: • LUT4 : 1152 • Flip-Flop(FF) : 864 • Block SRAM (bits) : 72K • B-SRAM quantity : 4 • User Flash(bits) : 96K • PLLs+DLLs : 1+0 • Total number of I/O banks : 4 • Core Voltage (LV) : 1.2V
Download method	Simply plug in the USB cable and download it via the onboard downloader
Power circuit	Each BANK occupies a separate LDO power chip (except BANK0/3) Adjust the IO level of BANK1 and BANK2 by replacing the LDO chip by yourself.
40P FPC LCD carrier	Standard 40P RGB LCD interface On-board screen backlight driver circuit (default normally open, EN pin can be connected to FPGA)
IO	34 IO ports and multiple power pins on both sides Both sides of the pins can be directly inserted into the breadboard
Onboard PSRAM chip	Capacity: 64Mbit Voltage: 3.3V
Power supply and download interface	USB-typeC interface
RGB LED	Onboard small size RGB LED
button	2 3x4mm buttons onboard
Crystal oscillator	Onboard 24Mhz crystal oscillator (started by CH552)

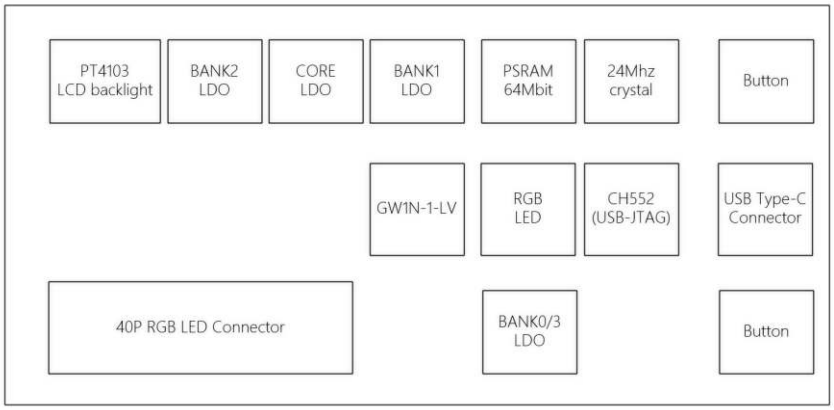
Software information	
IDE	IDE http://www.gowinsemi.com.cn/faq.aspx
License	Floating lic or stand-alone version lic, see for details http://dl.sipeed.com/TANG/Nano/IDE

Hardware information	
External supply voltage demand	5.0V ±0.2V
External supply current demand	> 400mA @ 5V
Temperature rise	<30K
range of working temperature	-30℃ ~ 50℃

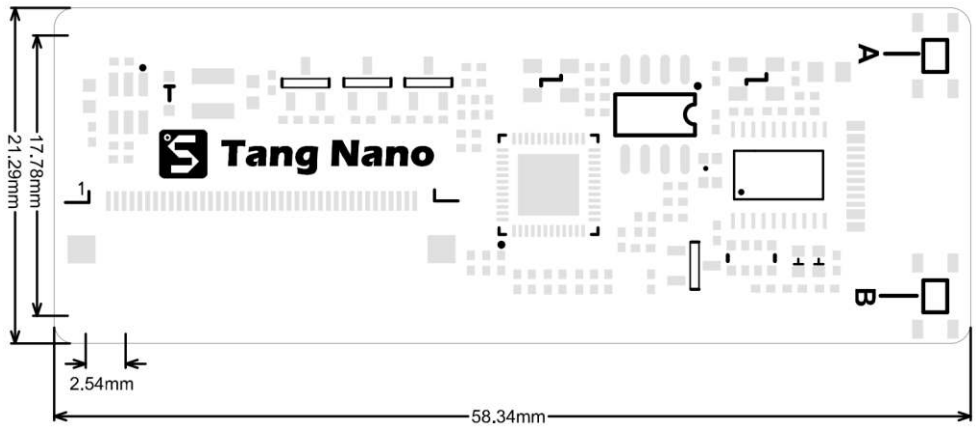
Tang Nano pin out

Note: The digital number is the chip pin number, and the dot identified by the dot is the GCLK pin.

Tang Nano framework



Size Information	
Length	58.4mm
Width	21.3mm
Height	4.8 mm



Resource	
Official website	www.sipeed.com
Github	https://github.com/sipeed
BBS	http://bbs.sipeed.com
Wiki	http://tangnano.sipeed.com
Gowin Technical Documentation	http://www.gowinsemi.com.cn/down.aspx?FId=n14:14:26
SDK Information	http://dl.sipeed.com/TANG/Nano/SDK
HDK Information	http://dl.sipeed.com/TANG/Nano/HDK
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telgram link	https://t.me/sipeed
FPGA QQ	834585530

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