

ATOM Display Lite

SKU:K115-B



Description

ATOM Display Lite is an all-in-one display driver kit. Use FPGA to simulate traditional SPI TFT-LCD Data output. This kit supports images at a maximum resolution of 1280 x 720 pixels (720P). Built-in LT8618SX RGB to HDMI chip supports wide range HDMI signal output. Integrate 2.4G Wi-Fi, with 4M Flash + 520KB SRAM. So small yet powerful, which can replace the traditional display driving solution.

Note: ATOM Display Lite needs to be paired with monitors with adaptive resolution scaling function.

Comparison

| Products | MCU | Flash | RAM | IO PINS |
|--------------------|-------------------------------|-------|------------------------|---|
| ATOM Display Lite | ATOM Lite (ESP32-PICO-D4) | 4MB | 520KB SRAM | G22,G19,G23,G3 3,G26,G32,G25,G 21 |
| ATOM Display PSRAM | ATOM PSRAM (ESP32-PICO-V3-02) | 8MB | 520KB SRAM + 2MB PSRAM | G22,G19,G5,G33, G26,G32,G25,G21 |

Product Features

- All codes of FPGA and driver library are open-source
- Use FPGA (Gowin GW1NR-9C) to simulate traditional SPI TFT-LCD Data output
- Built-in LT8618SX RGB to HDMI chip (supports 24bit color depth)
- SPI interface (FPGA) + I2C interface (LT8618SX)
- Maximum 720P (1280x720) image output
- Multiple output modes, optimized frame rate up to 12 ~ 16FPS
- Built-in ATOM Lite main controller (ESP32-PICO-D4, 4MB Flash + 520KB SRAM)
- Programmable RGB LED x1, reset button x1, button x1, Grove expansion port x1
- Development platform: Arduino (UIFlow support coming soon)

Includes

- 1x ATOM Lite
- 1x ATOM Display

Application

- Display input signal source
- HD Data Board

Specifications

| Specification | Parameters |
|--------------------|--|
| ESP32-PICO-D4 | 240MHz dual core, 600 DMIPS, 520KB SRAM, Wi-Fi |
| FPGA | Gowin GW1NR-9C |
| LT8618SX | RGB to HDMI chip, support 24bit color depth |
| Max. image output | 720P(1280x720) |
| Output frame rate | 1280x720 60Hz |
| Net weight | 21g |
| Gross weight | 34g |
| Product Dimensions | 64 * 24 * 29mm |

Specification

Parameters

Packaging size

76 * 46 * 29mm



Pin Mapping

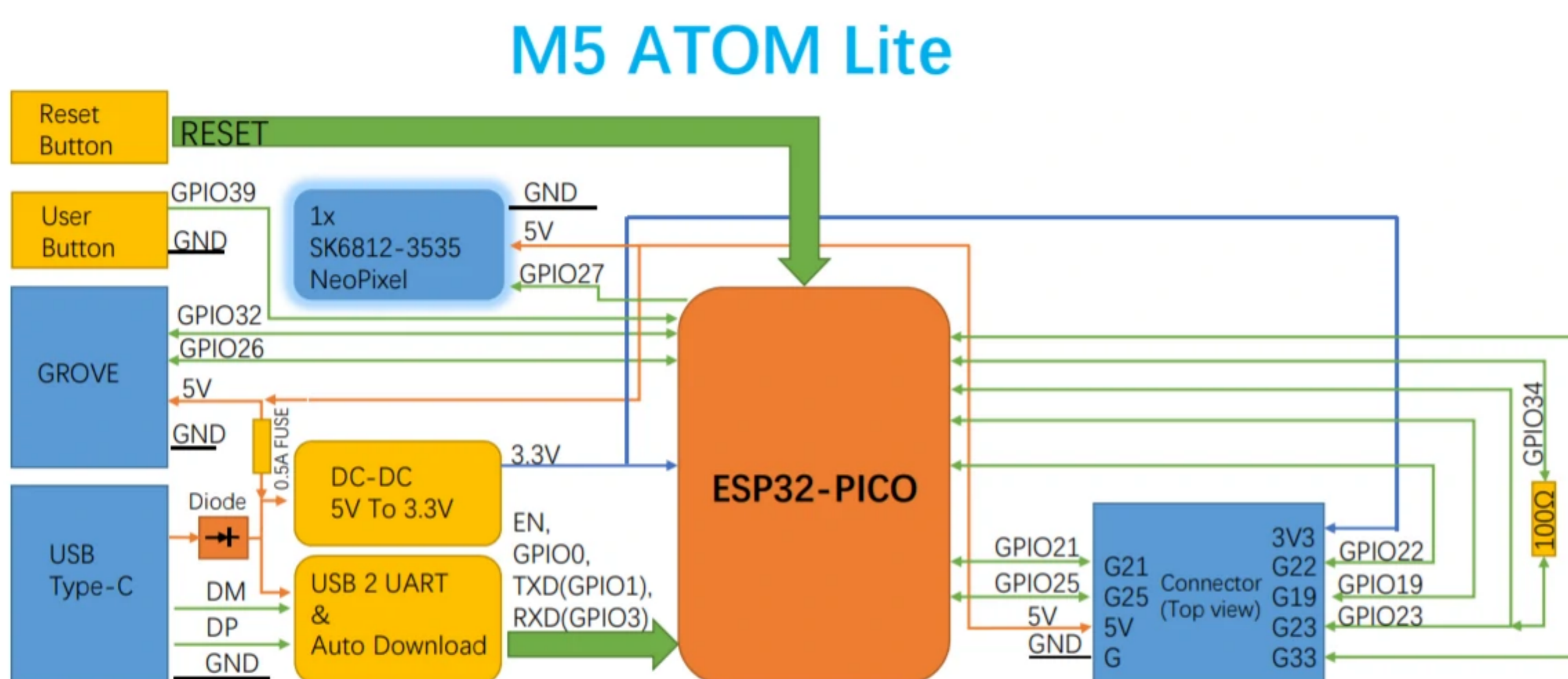
- BUTTON & RGB LED

| ATOM | G39 | G27 |
|---------|--------|--------|
| BUTTON | SIGNAL | / |
| RGB LED | / | SK_DIN |

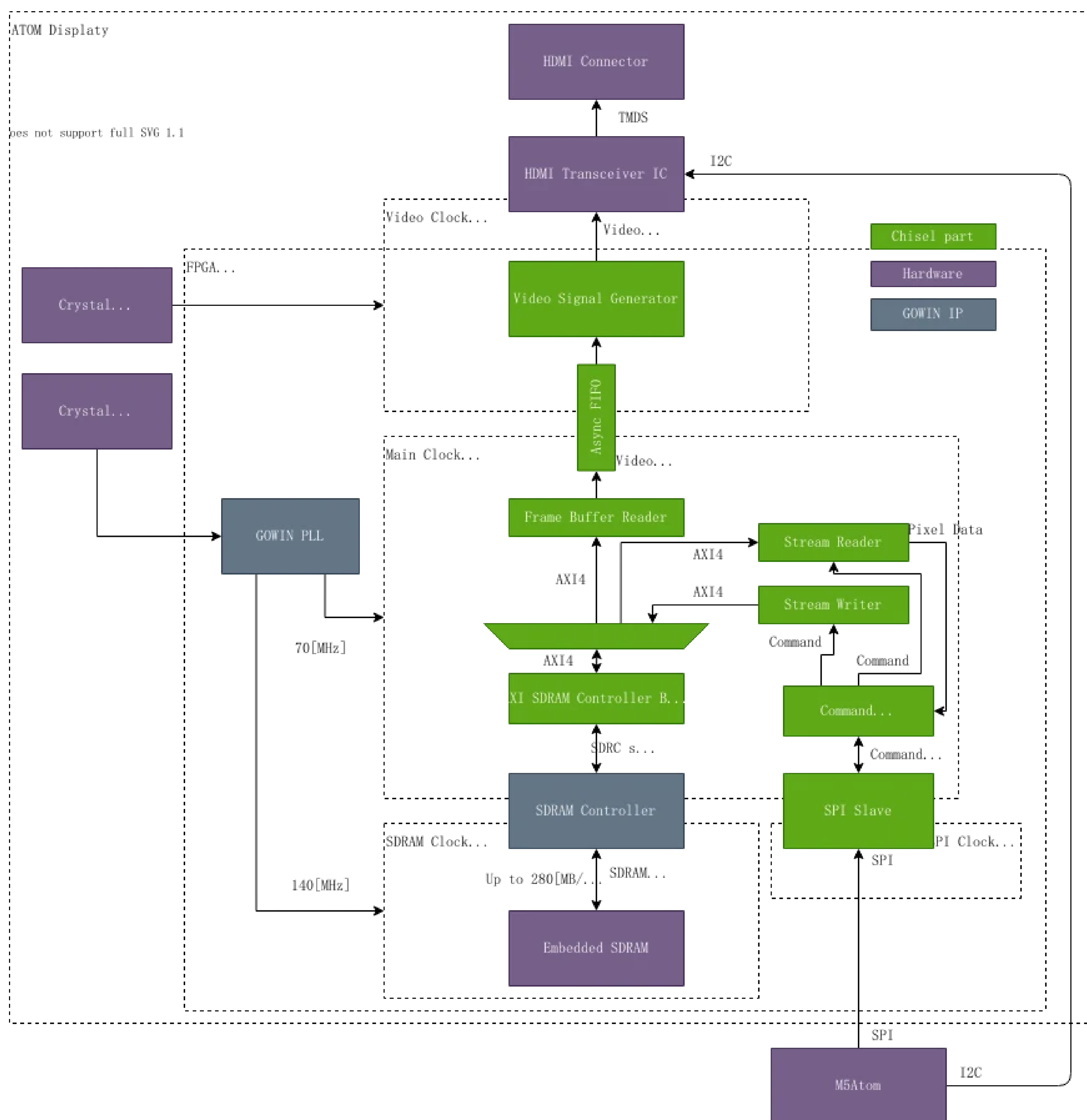
- LT8618SX

| ATOM | G25 | G21 | 5V | GND |
|----------|---------|---------|-----|-----|
| LT8618SX | LT_CSDA | LT_CSCL | VIN | GND |

Schematics



Structure



Related Links

- [ATOM Display FPGA Design](#)

Example

Arduino

- [M5GFX - Lib](#)

[Click here to see the M5Atom & Arduino tutorial](#)

Before using the examples in the M5GFX library, you need to change the header file to match the device you are currently using. Introduce `#include <M5AtomDisplay.h>` and create the example `M5AtomDisplay display;` as shown in the example below;

```
#include <Arduino.h>
#include <vector>

#include <M5AtomDisplay.h>
M5AtomDisplay display;

void setup(void)
{
  display.begin();
}

void loop(void)
{
  display.fillScreen(RED);
  delay(1000);
  display.fillScreen(GREEN);
  delay(1000);
  display.fillScreen(BLUE);
  delay(1000);
}
```

| FAQ