



## 2.2" 18-bit color TFT LCD display with microSD card breakout

PRODUCT ID: 1480



### . Description

This lovely little display breakout is the best way to add a small, colorful and bright display to any project. Since the display uses 4-wire SPI to communicate and has its own pixel-addressable frame buffer, it can be used with every kind of microcontroller. Even a very small one with low memory and few pins available!

The 2.2" display has 320x240 color pixels. Unlike the low cost "Nokia 6110" and similar LCD displays, which are CSTN type and thus have poor color and slow refresh, this display is a true TFT! The TFT driver (ILI9340 or compatible) can display full 18-bit color (262,144 shades!). And the LCD will always come with the same driver chip so there's no worries that your code will not work from one to the other.

The breakout has the TFT display soldered on (it uses a delicate flex-circuit connector) as well as a ultra-low-dropout 3.3V regulator and a 3/5V level shifter so you can use it with 3.3V or 5V power and logic. We also had a little space so we placed a microSD card holder so you can easily load full color bitmaps from a FAT16/FAT32 formatted microSD card. The microSD card is not included.

Of course, we wouldn't just leave you with a datasheet and a "good luck!" - we've written a full open source graphics library that can draw pixels, lines, rectangles, circles, text and bitmaps as well as example code. The code is written for Arduino but can be easily ported to your favorite microcontroller! Wiring is easy, we strongly encourage using the hardware SPI pins of your Arduino as software SPI is noticeably slower when dealing with this size display. Check the example sketches for wiring help until we get a detailed wiring tutorial written!

## . Technical Details

Specifications:

- o 2.2" diagonal LCD TFT display
- o 320x240 resolution, up to 18-bit (262,144) color
- o 4 wire SPI digital interface - this display talks in '8-bit' SPI check the Arduino library source for how to communicate
- o Built-in microSD slot - uses 2 more digital lines
- o 5V compatible! Use with 3.3V or 5V logic
- o Onboard 3.3V @ 150mA LDO regulator
- o 4 white LED backlight, transistor connected so you can PWM dim the backlight
- o 0.1" spaced header for easy breadboarding
- o Max Dimensions: 40.63mm / 1.59" x 66.35mm / 2.61" x 6.05mm / 0.23"
- o LCD Dimensions: 55.23mm / 2.17" x 40mm / 1.57" x 2.46mm / 0.09"
- o Weight: 18.43g
- o Current draw is based mostly on the backlight: with full on backlight, current draw is approx 100mA
- o Adafruit Fritzing Library
- o ILI9340 (datasheet) controller with built in pixel-addressable video RAM buffer
- o Display datasheet
- o EagleCAD files on GitHub

As of January 12, 2016 the LCD may come with an ILI9340-compatible chip