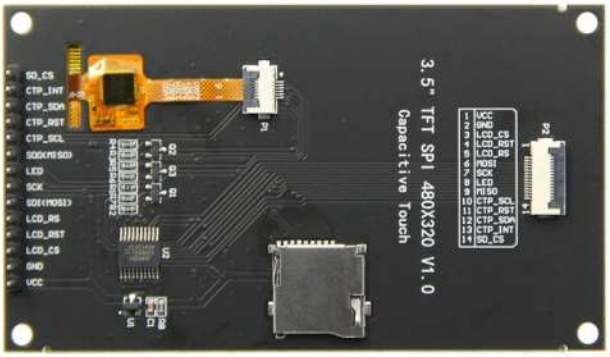
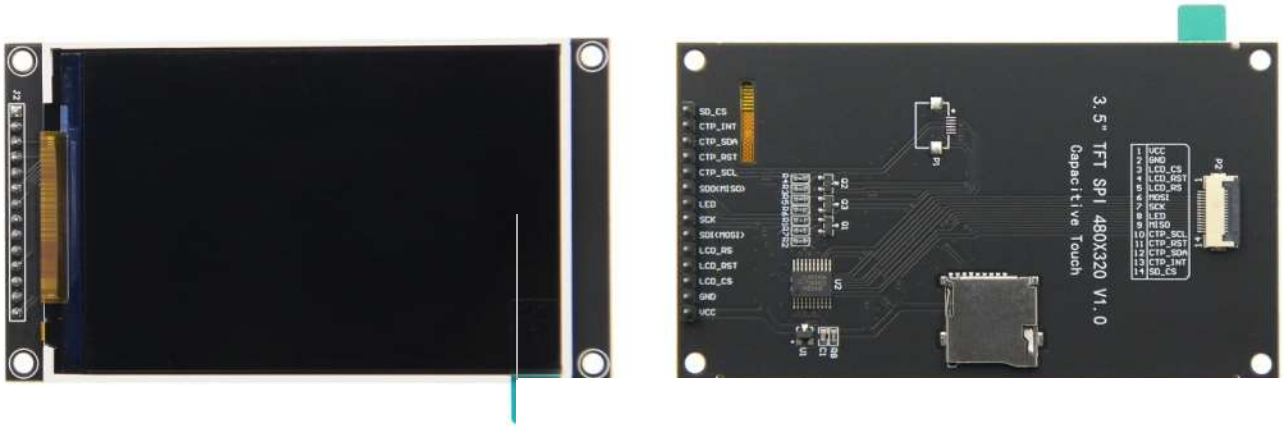
3.5inch IPS SPI Module ST7796

Product Picture





Product Description

- 3.5inch color screen with 320x480 resolution of 65K colors and rich display colors
- The upgrade adopts IPS full view panel, with good visual angle
- On board level conversion circuit, compatible with 5V and 3.3V MCU
- Adopting a 4-wire SPI serial bus to save I/O pins
- Optional capacitive touch/no touch function for modules
- Module input supports 2.54 pin interface and FPC extension interface
- Equipped with micro TF card slot for easy storage expansion
- Provide rich example learning programs (ESP32/STM32/Arduino UNO&Mage2560/C51/CH32)
- Provide low-level driver technical support

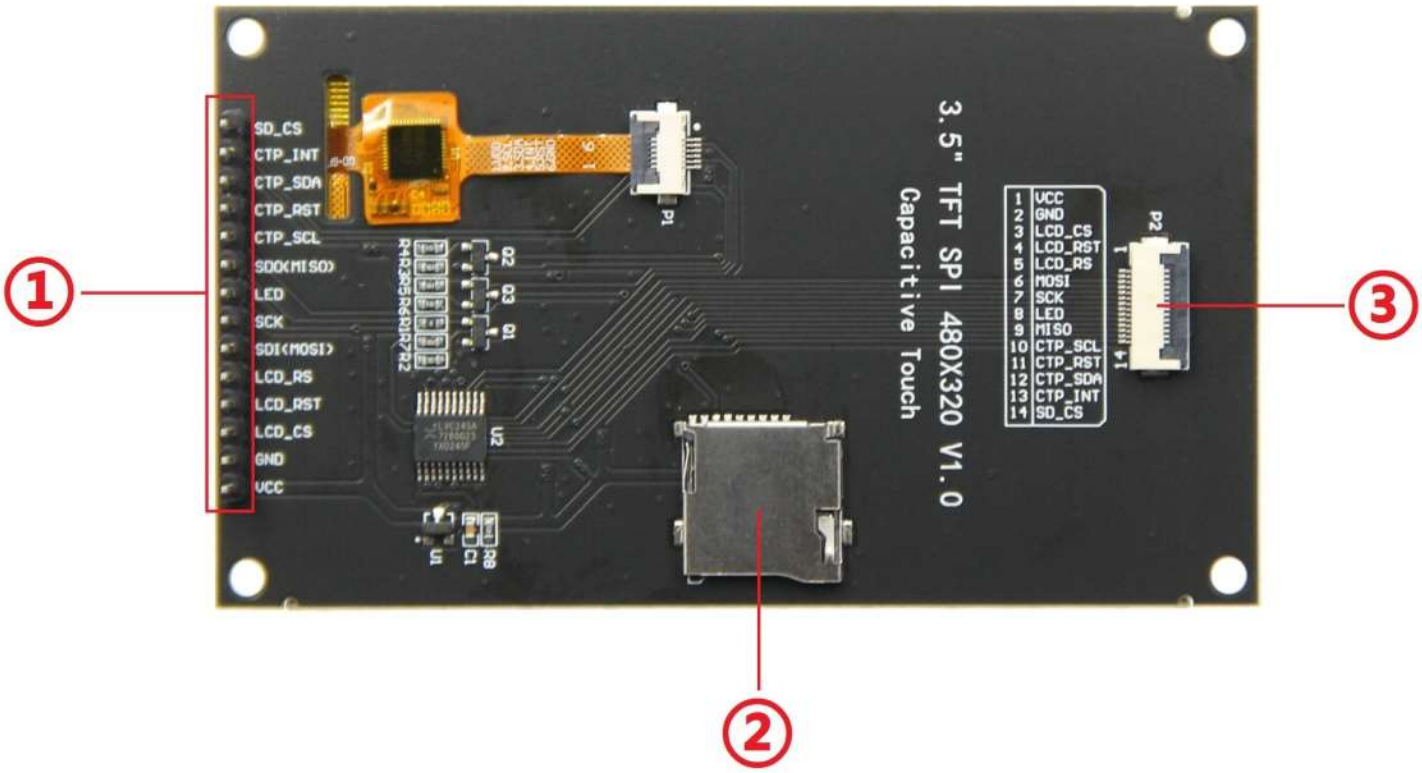
- Multiple tests for module aging can meet military level standards, supporting long-term stable work

Product Parameters

Name	Parameter
LCD Parameters	
Screen Size	3.5 inch
Screen Type	IPS
Resolution	320xRGBx480 (pixels)
Active Area (AA area)	48.96(W)x73.44(H)(mm)
Number of Colors(Max)	16.7M
Driver IC	ST7796U
Display Interface	4-Line SPI
Pixel Size	0.153(H)x0.153(mm)
View Angle	ALL 0’ CLOCK
Brightness(TYP)	300(cd/m^2)
Backlight Type	White LED*6
Operation Temperature	-10~50(℃)
Storage Temperature	-20~60(℃)
Touch Screen Parameters	
Touch Active Area	3.5 inch
Touch Screen Type	Capacitive Touch Screen
Touch Screen Resolution	320x480(pixels)
Driver IC	FT6336U
Touch Screen Visual Area	49.56(w)x74.04(H)(mm)
Communication Interface	IIC
Operation Temperature	-20~70(℃)
Storage Temperature	-30~80(℃)
Size Parameters	
TFT Outline Size	55.50±0.2(W)x84.96±0.2(H)x2.5±0.1(D)(mm)(Excluding cables and adhesive backing)
Touch Screen Outline Size	55.50±0.2(W)x84.96±0.2(H)x0.8 (D)(mm)(Excluding cables and adhesive backing)

Module Outline Size	Have Touch Screen:55.5(W)x98.0(H)x12.98(D)(mm)(including Pin Header) NO Touch Screen:55.5(W)x98.0(H)x14.28(D)(mm)(including Pin Header)
Electrical Parameters	
Working Voltage	5.0 V
Backlight Current	95 mA
Power	0.5W
Other	
SKU	NO Touch Screen : MSP3525 Have Touch Screen : MSP3526
Interface	14P 2.54mm spacing Header and 0.5mm spacing FPC seat
Weight(including package)	MSP3525: 73g MSP3526: 82g

Interface Definition



- **Interface Function Description**

Number	Interface	Function Description
①	**14 Pin Header**	2.54mm spacing row pins, module signal input pins
②	**Micro SD Slot**	Insert a Micro SD card to expand storage space, such as storing big data content such as fonts and images
③	**14P FPC**	0.5mm FPC terminal, used for module signal input with the same function as ①

■ Pin Function Description

Number	Pin Label	
1	**VCC**	Power positive
2	**GND**	Power ground
3	**LCD_CS**	LCD selection control signal, Low level active
4	**LCD_RST**	LCD reset control signal, Low level reset
5	**LCD_RS**	LCD command / data selection control signal High level: data, low level: command
6	**SDI(MOSI)**	SPI bus write data signal(SD card and LCD screen used together)
7	**SCK**	SPI bus clock signal(SD card and LCD screen used together)
8	**LED**	LCD backlight control signal (If you need control, please connect the pins. If you don't need control, you can skip it)
9	**SDO(MISO)**	SPI bus read data signal (SD card and LCD screen used together)
10	**CTP_SCL**	Capacitive touch screen IIC bus clock signal (modules without touch screens do not need to be connected)
11	**CTP_RST**	Capacitor touch screen reset control signal, low-level reset (modules without touch screens do not need to be connected)
12	**CTP_SDA**	Capacitive touch screen IIC bus data signal (modules without touch screens do not need to be connected)
13	**CTP_INT**	Capacitor touch screen IIC bus touch interrupt signal, when generating touch, input low level to the main control (modules without touch screens do not need to be connected)
14	**SD_CS**	SD card selection control signal, low level active (without SD card function, can be disconnected)