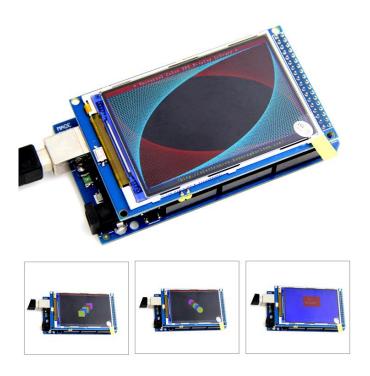
# MAR3513-User Manual

#### 3.5inch LCD Module For Mega2560



#### **Overview**

MAR3513 module is 3.5" TFT LCD with 262K color 480x 320 resolutions. The controller of this LCD module is ILI9486/ILI9488, it supports 16-wires DataBus interface. Moreover, this module includes the 5V-3.3V power conversion circuit and Level conversion circuit, This Module can Directly inserted into the **Arduino**Mega2560 Board ,it also includes the SD card socket and SPI FLASH circuit.

#### **Features**

- Support Arduino Mega2560 Directly inserted
- OnBorad level conversion chip for 5V/3.3V MCU
- Compatible with 3.3/5V operation voltage level
- Compatible with Arduino-Series development Board.
- Compatible with UTFT / UTFT\_Buttons / Utouch Library for arduino.
- provided 12-examples with Arduino ,3-examples with STM32
- With SD Card Socket
- With SPI FLASH circuit

## **Specifications**

| Item               | Description                 |
|--------------------|-----------------------------|
| Display Type       | 3.5 inch TFT LCD Module     |
| Glass Type         | TFT                         |
| Display Resolution | 480XRGBX320 Pixels          |
| Back light         | 6 chip HighLight white LEDs |
| Control IC         | ILI9486/ILI9488             |
| Interface          | 16Bit parallel interface    |
| PCB Module size    | 96.60mmX60.30mm             |
| LCD Area(WxHxT)    | 84.96mmX55.5mmX2.55mm       |
| Active Area(WxH)   | 73.44mmX48.96mm             |
| Module weight      | TDB                         |

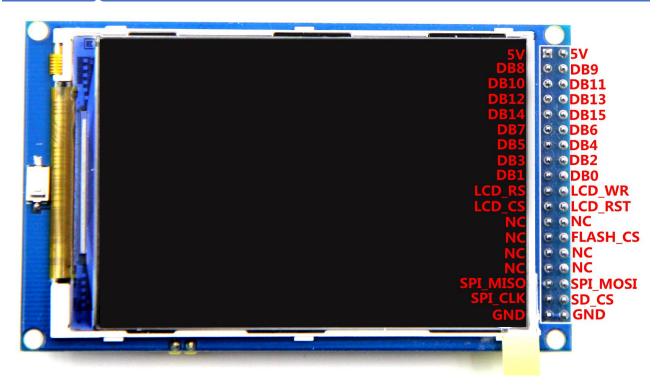
#### **Electrical Characteristics**

| Specification          |                    |     | Type | Max | Unit |  |
|------------------------|--------------------|-----|------|-----|------|--|
| Power Voltage(VDD/VCC) |                    | 4.5 | 5    | 5.5 | VDC  |  |
| IO Dina Valtana        | MCU Voltage = 3.3V | 2.8 | 3.3  | 3.6 |      |  |
| IO Pins Voltage        | MCU Voltage = 5V   | 4.5 | 5    | 5.5 | V    |  |
| BackLight Voltage      |                    | 2.8 | 3.2  | 3.3 | V    |  |
| Current Consumption    |                    | -   | 150  | -   | mA   |  |

# Hardware

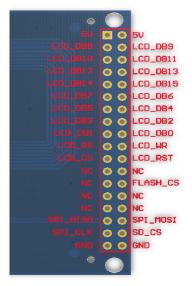
| SV   | Pin | Pin Map  |       |  |  |  |
|--|-----|----------|-------|--|--|--|
| 1         5V         P         5V Power Supply in           2         5V         P         5V Power Supply in           3         LCD_DB8         I         Data Bus           4         LCD_DB10         I         Data Bus           5         LCD_DB10         I         Data Bus           6         LCD_DB11         I         Data Bus           7         LCD_DB12         I         Data Bus           8         LCD_DB13         I         Data Bus           9         LCD_DB14         I         Data Bus           10         LCD_DB15         I         Data Bus           11         LCD_DB7         I         Data Bus           12         LCD_DB6         I         Data Bus           13         LCD_DB4         I         Data Bus           14         LCD_DB3         I         Data Bus           15         LCD_DB3         I         Data Bus           16         LCD_DB2         I         Data Bus           17         LCD_DB1         I         Data Bus           18         LCD_DB3         I         Data Bus           19         LCD_RS         I  | No  | Pin      | Type* | Description                                  |  |  |
| Section   Color   Co | 1   | 5V       |       | 5V Power Supply in                           |  |  |
| 4         LCD_DB9         I         Data Bus           5         LCD_DB10         I         Data Bus           6         LCD_DB11         I         Data Bus           7         LCD_DB12         I         Data Bus           8         LCD_DB13         I         Data Bus           9         LCD_DB14         I         Data Bus           10         LCD_DB15         I         Data Bus           11         LCD_DB7         I         Data Bus           12         LCD_DB6         I         Data Bus           13         LCD_DB5         I         Data Bus           14         LCD_DB4         I         Data Bus           15         LCD_DB3         I         Data Bus           16         LCD_DB2         I         Data Bus           17         LCD_DB1         I         Data Bus           18         LCD_DB0         I         Data Bus           19         LCD_RS         I         LCD Cammand/Data Selection(0:cammand;1:Data)           20         LCD_WR         I         LCD Chip Selection,Low level active           21         LCD_CS         I         LCD Chip Selection,Low level Enable)  | 2   | 5V       | Р     | 5V Power Supply in                           |  |  |
| 5 LCD_DB10 I Data Bus 6 LCD_DB11 I Data Bus 7 LCD_DB12 I Data Bus 8 LCD_DB13 I Data Bus 9 LCD_DB14 I Data Bus 10 LCD_DB15 I Data Bus 11 LCD_DB7 I Data Bus 12 LCD_DB6 I Data Bus 13 LCD_DB6 I Data Bus 14 LCD_DB7 I Data Bus 15 LCD_DB8 I Data Bus 16 LCD_DB8 I Data Bus 17 LCD_DB9 I Data Bus 18 LCD_DB9 I Data Bus 19 LCD_DB1 I Data Bus 10 LCD_DB1 I Data Bus 11 LCD_DB2 I Data Bus 11 LCD_DB3 I Data Bus 12 LCD_DB3 I Data Bus 13 LCD_DB4 I Data Bus 14 LCD_DB6 I Data Bus 15 LCD_DB7 I Data Bus 16 LCD_DB8 I Data Bus 17 LCD_DB1 I Data Bus 18 LCD_DB0 I Data Bus 19 LCD_RS I LCD Cammand/Data Selection(0:cammand;1:Data) 10 LCD_WR I LCD Write signal 11 LCD_CS I LCD Chip Selection,Low level active 11 LCD_CS I LCD Chip Selection,Low level Enable) 12 LCD_CS I LCD Chip Selection 13 NC - No connection 14 NC - No connection 15 NC - No connection 16 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 17 NC - No connection 18 NC - No connection 19 NC - No connection 20 NC - No connection 21 SPI_MISO O Exten circuit: SPI Bus Data output 22 SPI_MOSI I Exten circuit: SPI Bus Data input 23 SPI_MOSI I Exten circuit: SPI Bus Data input 24 SD_CS I Exten circuit: Extern SDCard Chip Sellection 25 GND G Ground 26 GND G Ground   | 3   | LCD_DB8  | I     | Data Bus                                     |  |  |
| 6 LCD_DB11 I Data Bus 7 LCD_DB12 I Data Bus 8 LCD_DB13 I Data Bus 9 LCD_DB14 I Data Bus 10 LCD_DB15 I Data Bus 11 LCD_DB7 I Data Bus 12 LCD_DB6 I Data Bus 13 LCD_DB6 I Data Bus 14 LCD_DB7 I Data Bus 15 LCD_DB8 I Data Bus 16 LCD_DB8 I Data Bus 17 LCD_DB9 I Data Bus 18 LCD_DB9 I Data Bus 19 LCD_DB1 I Data Bus 19 LCD_DB2 I Data Bus 10 LCD_DB0 I Data Bus 11 LCD_DB0 I Data Bus 11 LCD_DB0 I Data Bus 12 LCD_DB1 I Data Bus 13 LCD_DB1 I Data Bus 14 LCD_DB2 I Data Bus 15 LCD_DB3 I Data Bus 16 LCD_DB2 I Data Bus 17 LCD_DB1 I Data Bus 18 LCD_DB0 I Data Bus 19 LCD_RS I LCD Cammand/Data Selection(0:cammand;1:Data) 10 LCD_WR I LCD Write signal 11 LCD_CS I LCD Chip Selection,Low level active 11 LCD_CS I LCD Chip Selection,Low level Enable) 12 LCD_RST I LCD Reset(Low level Enable) 13 NC - No connection 14 NC - No connection 15 NC - No connection 16 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 17 NC - No connection 18 NC - No connection 19 NC - No connection 20 NC - No connection 21 SPI_MISO O Exten circuit: SPI Bus Data output 22 SPI_MOSI I Exten circuit: SPI Bus Data input 23 SPI_CLK I Exten circuit: Extern SDCard Chip Sellection 25 GND G Ground 26 GND G Ground   | 4   | LCD_DB9  | I     | Data Bus                                     |  |  |
| 7 LCD_DB12 I Data Bus 8 LCD_DB13 I Data Bus 9 LCD_DB14 I Data Bus 10 LCD_DB15 I Data Bus 11 LCD_DB7 I Data Bus 11 LCD_DB7 I Data Bus 11 LCD_DB6 I Data Bus 11 LCD_DB8 I Data Bus 11 LCD_DB9 I Data Bus 11 LCD_DB9 I Data Bus 11 LCD_DB0 I Data Bus 11 LCD_DB0 I Data Bus 11 LCD_CB0 I LCD Cammand/Data Selection(0:cammand;1:Data) 11 LCD_CS I LCD Write signal 11 LCD_CS I LCD Chip Selection,Low level active 11 LCD_CS I LCD Reset(Low level Enable) 11 LCD_CS I LCD Reset(Low level Enable) 11 NC - No connection 11 NC - No connection 12 NC - No connection 13 NC - No connection 14 NC - No connection 15 NC - No connection 16 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 17 NC - No connection 18 NC - No connection 19 NC - No connection 20 NC - No connection 21 SPI_MISO O Exten circuit: SPI Bus Data output 22 SPI_MOSI I Exten circuit: SPI Bus Data input 23 SPI_CLK I Exten circuit: SPI Bus Clock 24 SD_CS I Exten circuit: Extern SDCard Chip Sellection 25 GND G Ground  | 5   | LCD_DB10 | I     | Data Bus                                     |  |  |
| 8 LCD_DB13 I Data Bus 9 LCD_DB14 I Data Bus 10 LCD_DB15 I Data Bus 11 LCD_DB7 I Data Bus 12 LCD_DB6 I Data Bus 13 LCD_DB5 I Data Bus 14 LCD_DB5 I Data Bus 15 LCD_DB8 I Data Bus 16 LCD_DB2 I Data Bus 17 LCD_DB1 I Data Bus 18 LCD_DB2 I Data Bus 19 LCD_RS I LCD Cammand/Data Selection(0:cammand;1:Data) 19 LCD_RS I LCD Write signal 20 LCD_WR I LCD Write signal 21 LCD_CS I LCD Chip Selection,Low level active 22 LCD_RST I LCD Reset(Low level Enable) 23 NC - No connection 24 NC - No connection 25 NC - No connection 26 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 27 NC - No connection 28 NC - No connection 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 33 SPI_CLK I Exten circuit: SPI Bus Data input 34 SD_CS I Exten circuit: SPI Bus Clock 35 GND G Ground  | 6   | LCD_DB11 | I     | Data Bus                                     |  |  |
| 9 LCD_DB14 I Data Bus 10 LCD_DB15 I Data Bus 11 LCD_DB7 I Data Bus 12 LCD_DB6 I Data Bus 13 LCD_DB5 I Data Bus 14 LCD_DB4 I Data Bus 15 LCD_DB3 I Data Bus 16 LCD_DB2 I Data Bus 17 LCD_DB1 I Data Bus 18 LCD_DB0 I Data Bus 19 LCD_RS I LCD Cammand/Data Selection(0:cammand;1:Data) 20 LCD_WR I LCD Write signal 21 LCD_CS I LCD Chip Selection,Low level active 22 LCD_RST I LCD Reset(Low level Enable) 23 NC - No connection 24 NC - No connection 25 NC - No connection 26 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 27 NC - No connection 28 NC - No connection 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground  | 7   | LCD_DB12 | I     | Data Bus                                     |  |  |
| 10 LCD_DB15 I Data Bus 11 LCD_DB7 I Data Bus 12 LCD_DB6 I Data Bus 13 LCD_DB5 I Data Bus 14 LCD_DB4 I Data Bus 15 LCD_DB3 I Data Bus 16 LCD_DB2 I Data Bus 17 LCD_DB1 I Data Bus 18 LCD_DB0 I Data Bus 19 LCD_RS I LCD Cammand/Data Selection(0:cammand;1:Data) 20 LCD_WR I LCD Write signal 21 LCD_CS I LCD Chip Selection,Low level active 22 LCD_RST I LCD Reset(Low level Enable) 23 NC - No connection 24 NC - No connection 25 NC - No connection 26 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 27 NC - No connection 28 NC - No connection 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground  | 8   | LCD_DB13 | I     | Data Bus                                     |  |  |
| 11 LCD_DB7 I Data Bus 12 LCD_DB6 I Data Bus 13 LCD_DB5 I Data Bus 14 LCD_DB4 I Data Bus 15 LCD_DB3 I Data Bus 16 LCD_DB2 I Data Bus 17 LCD_DB1 I Data Bus 18 LCD_DB0 I Data Bus 19 LCD_RS I LCD Cammand/Data Selection(0:cammand;1:Data) 20 LCD_WR I LCD Write signal 21 LCD_CS I LCD Chip Selection,Low level active 22 LCD_RST I LCD Reset(Low level Enable) 23 NC - No connection 24 NC - No connection 25 NC - No connection 26 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 27 NC - No connection 28 NC - No connection 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground   | 9   | LCD_DB14 | I     | Data Bus                                     |  |  |
| 12 LCD_DB6 I Data Bus 13 LCD_DB5 I Data Bus 14 LCD_DB4 I Data Bus 15 LCD_DB3 I Data Bus 16 LCD_DB2 I Data Bus 17 LCD_DB1 I Data Bus 18 LCD_DB0 I Data Bus 19 LCD_RS I LCD Cammand/Data Selection(0:cammand;1:Data) 20 LCD_WR I LCD Write signal 21 LCD_CS I LCD Chip Selection,Low level active 22 LCD_RST I LCD Reset(Low level Enable) 23 NC - No connection 24 NC - No connection 25 NC - No connection 26 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 27 NC - No connection 28 NC - No connection 29 NC - No connection 20 NC - No connection 21 SPI_MISO O Exten circuit: SPI Bus Data output 22 SPI_MOSI I Exten circuit: SPI Bus Data input 23 SPI_CLK I Exten circuit: SPI Bus Clock 24 SD_CS I Exten circuit: SPI Bus Clock 25 SD_CS I Exten circuit: Extern SDCard Chip Sellection 26 GRDD G Ground  | 10  | LCD_DB15 | I     | Data Bus                                     |  |  |
| 13 LCD_DB5 I Data Bus 14 LCD_DB4 I Data Bus 15 LCD_DB3 I Data Bus 16 LCD_DB2 I Data Bus 17 LCD_DB1 I Data Bus 18 LCD_DB0 I Data Bus 19 LCD_RS I LCD Cammand/Data Selection(0:cammand;1:Data) 20 LCD_WR I LCD Write signal 21 LCD_CS I LCD Chip Selection,Low level active 22 LCD_RST I LCD Reset(Low level Enable) 23 NC - No connection 24 NC - No connection 25 NC - No connection 26 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 27 NC - No connection 28 NC - No connection 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground   | 11  | LCD_DB7  | I     | Data Bus                                     |  |  |
| 14 LCD_DB4 I Data Bus 15 LCD_DB3 I Data Bus 16 LCD_DB2 I Data Bus 17 LCD_DB1 I Data Bus 18 LCD_DB0 I Data Bus 19 LCD_RS I LCD Cammand/Data Selection(0:cammand;1:Data) 20 LCD_WR I LCD Write signal 21 LCD_CS I LCD Chip Selection,Low level active 22 LCD_RST I LCD Reset(Low level Enable) 23 NC - No connection 24 NC - No connection 25 NC - No connection 26 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 27 NC - No connection 28 NC - No connection 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground   | 12  | LCD_DB6  | I     | Data Bus                                     |  |  |
| 15 LCD_DB3 I Data Bus 16 LCD_DB2 I Data Bus 17 LCD_DB1 I Data Bus 18 LCD_DB0 I Data Bus 19 LCD_RS I LCD Cammand/Data Selection(0:cammand;1:Data) 20 LCD_WR I LCD Write signal 21 LCD_CS I LCD Chip Selection,Low level active 22 LCD_RST I LCD Reset(Low level Enable) 23 NC - No connection 24 NC - No connection 25 NC - No connection 26 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 27 NC - No connection 28 NC - No connection 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground 36 GND G Ground  | 13  | LCD_DB5  | I     | Data Bus                                     |  |  |
| 16 LCD_DB2 I Data Bus 17 LCD_DB1 I Data Bus 18 LCD_DB0 I Data Bus 19 LCD_RS I LCD Cammand/Data Selection(0:cammand;1:Data) 20 LCD_WR I LCD Write signal 21 LCD_CS I LCD Chip Selection,Low level active 22 LCD_RST I LCD Reset(Low level Enable) 23 NC - No connection 24 NC - No connection 25 NC - No connection 26 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 27 NC - No connection 28 NC - No connection 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground 36 GND G Ground  | 14  | LCD_DB4  | I     | Data Bus                                     |  |  |
| 17 LCD_DB1 I Data Bus 18 LCD_DB0 I Data Bus 19 LCD_RS I LCD Cammand/Data Selection(0:cammand;1:Data) 20 LCD_WR I LCD Write signal 21 LCD_CS I LCD Chip Selection,Low level active 22 LCD_RST I LCD Reset(Low level Enable) 23 NC - No connection 24 NC - No connection 25 NC - No connection 26 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 27 NC - No connection 28 NC - No connection 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground 36 GND G Ground  | 15  | LCD_DB3  | I     | Data Bus                                     |  |  |
| 18 LCD_DB0 I Data Bus 19 LCD_RS I LCD Cammand/Data Selection(0:cammand;1:Data) 20 LCD_WR I LCD Write signal 21 LCD_CS I LCD Chip Selection,Low level active 22 LCD_RST I LCD Reset(Low level Enable) 23 NC - No connection 24 NC - No connection 25 NC - No connection 26 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 27 NC - No connection 28 NC - No connection 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 36 GND G Ground 37 Ground   | 16  | LCD_DB2  | I     | Data Bus                                     |  |  |
| 19 LCD_RS I LCD Cammand/Data Selection(0:cammand;1:Data) 20 LCD_WR I LCD Write signal 21 LCD_CS I LCD Chip Selection,Low level active 22 LCD_RST I LCD Reset(Low level Enable) 23 NC - No connection 24 NC - No connection 25 NC - No connection 26 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 27 NC - No connection 28 NC - No connection 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground 36 GND G Ground   | 17  | LCD_DB1  | I     | Data Bus                                     |  |  |
| 20 LCD_WR I LCD Write signal 21 LCD_CS I LCD Chip Selection,Low level active 22 LCD_RST I LCD Reset(Low level Enable) 23 NC - No connection 24 NC - No connection 25 NC - No connection 26 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 27 NC - No connection 28 NC - No connection 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground  | 18  | LCD_DB0  | I     | Data Bus                                     |  |  |
| 21 LCD_CS I LCD Chip Selection,Low level active 22 LCD_RST I LCD Reset(Low level Enable) 23 NC - No connection 24 NC - No connection 25 NC - No connection 26 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 27 NC - No connection 28 NC - No connection 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground   | 19  | LCD_RS   | I     | LCD Cammand/Data Selection(0:cammand;1:Data) |  |  |
| 22 LCD_RST I LCD Reset(Low level Enable) 23 NC - No connection 24 NC - No connection 25 NC - No connection 26 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 27 NC - No connection 28 NC - No connection 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground 36 GND G Ground   | 20  | LCD_WR   | I     | LCD Write signal                             |  |  |
| NC - No connection  NC - No connection  NC - No connection  Exten circuit: SPI_FLASH Chip Sellection  NC - No connection  SPI_MISO O Exten circuit: SPI Bus Data output  SPI_MOSI I Exten circuit: SPI Bus Data input  SPI_CLK I Exten circuit: SPI Bus Clock  SD_CS I Exten circuit: Extern SDCard Chip Sellection  GND G Ground  | 21  | LCD_CS   | I     | LCD Chip Selection,Low level active          |  |  |
| 24 NC - No connection 25 NC - No connection 26 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 27 NC - No connection 28 NC - No connection 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground 36 GND G Ground  | 22  | LCD_RST  | I     | LCD Reset(Low level Enable)                  |  |  |
| 25 NC - No connection 26 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 27 NC - No connection 28 NC - No connection 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground 36 GND G Ground  | 23  | NC       | -     | No connection                                |  |  |
| 26 FLASH_CS I Exten circuit: SPI_FLASH Chip Sellection 27 NC - No connection 28 NC - No connection 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground 36 GND G Ground  | 24  | NC       | -     | No connection                                |  |  |
| 27 NC - No connection 28 NC - No connection 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground 36 GND G Ground   | 25  | NC       | -     | No connection                                |  |  |
| 28 NC - No connection 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground 36 GND G Ground   | 26  | FLASH_CS | I     | Exten circuit: SPI_FLASH Chip Sellection     |  |  |
| 29 NC - No connection 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground 36 GND G Ground   | 27  | NC       | -     | No connection                                |  |  |
| 30 NC - No connection 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground 36 GND G Ground   | 28  | NC       | -     | No connection                                |  |  |
| 31 SPI_MISO O Exten circuit: SPI Bus Data output 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground 36 GND G Ground   | 29  | NC       | -     | No connection                                |  |  |
| 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground 36 GND G Ground  | 30  | NC       | -     | No connection                                |  |  |
| 32 SPI_MOSI I Exten circuit: SPI Bus Data input 33 SPI_CLK I Exten circuit: SPI Bus Clock 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground 36 GND G Ground  | 31  | SPI_MISO | 0     | Exten circuit: SPI Bus Data output           |  |  |
| 34 SD_CS I Exten circuit: Extern SDCard Chip Sellection 35 GND G Ground 36 GND G Ground  | 32  | SPI_MOSI | I     |  |  |  |
| 35 GND G Ground<br>36 GND G Ground   | 33  | SPI_CLK  | I     | Exten circuit: SPI Bus Clock                 |  |  |
| 36 GND G Ground  | 34  | SD_CS    | I     | Exten circuit: Extern SDCard Chip Sellection |  |  |
|  | 35  | GND      | G     | Ground                                       |  |  |
| to D.D. and a Color of Harmaton Color  | 36  | GND      | G     | Ground                                       |  |  |
| * : P:Power supply;G:Ground;I:Input;O:Output   | *:  |          |       |  |  |  |

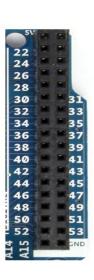
## PinMap



## **How to Connect with Mega2560**

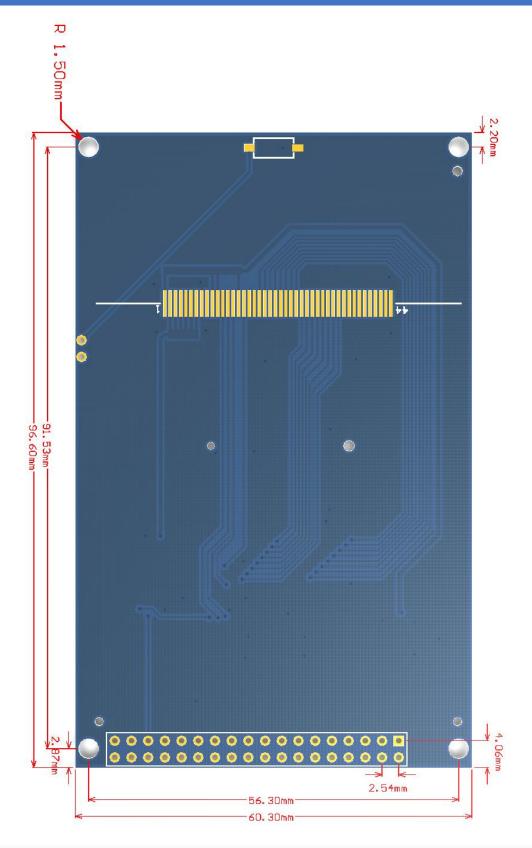






Top view

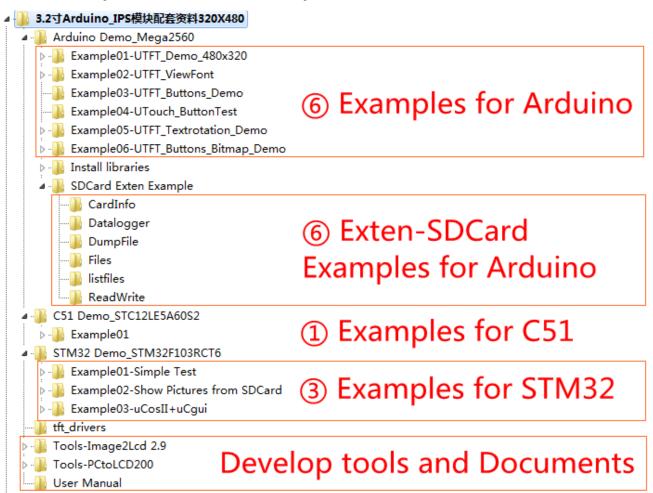
# **Module Structure**



#### **Development Document**

- 6 examples with UTFT librarie for Arduino.
- 6 SDCard Exten examples with SD library for Arduino.
- 3 examples for STM32.
- 1 examples for C51.
- Develop toos and documents.

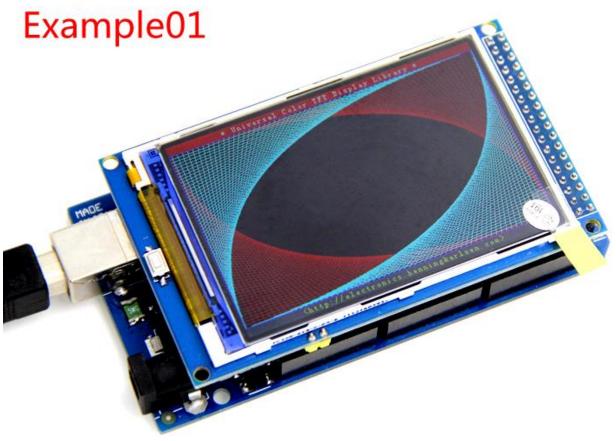
#### The development of information we provide:

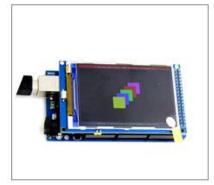


# **Demo Effect**

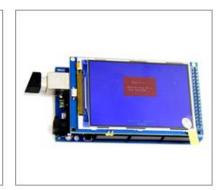
# **UTFT\_Demo Test for Arduino**

Mega2560

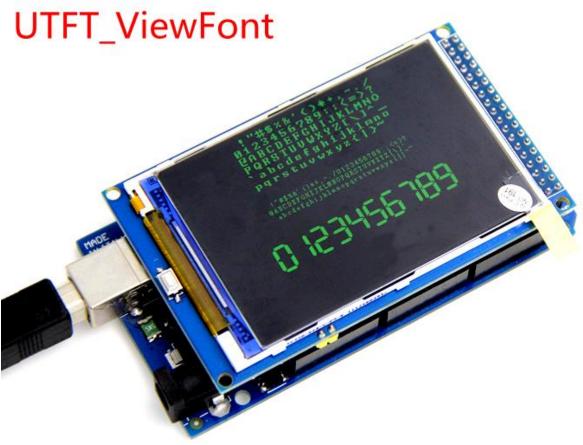










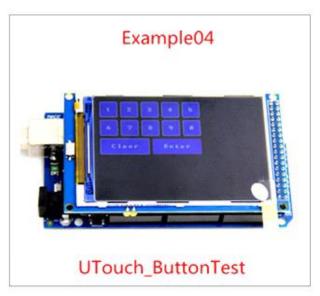


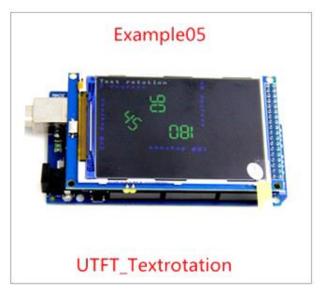




The professional LCD supplier









# **Revision History**

| Rev. | Description     | Release date |
|------|-----------------|--------------|
| V1.0 | Initial version | 2016/8/25    |
| V1.1 | Correction.     | 2017/9/15    |