PRODUCT INFORMATION

Product Introduction: The ESP32-S3-Touch-LCD-1.69 is a low-cost, high-performance microcontroller development board. Despite its compact size, it integrates a 1.69-inch capacitive LCD screen, a lithium battery charging chip, a six-axis sensor (three-axis accelerometer and three-axis gyroscope), a real-time clock (RTC), and other peripherals, facilitating development and product integration for developers. The ESP32-S3 currently supports two development tools and frameworks: Arduino IDE and ESP-IDF, providing flexible development options. You can choose the appropriate development tool based on your project requirements and personal preferences. Product Features Equipped with a high-performance Xtensa® 32-bit LX7 dual-core processor with a clock speed of up to 240 MHz Supports 2.4 GHz Wi-Fi (802.11 b/g/n) and Bluetooth® 5 (LE), with an onboard antenna Built-in 512KB SRAM and 384KB ROM, stacked with 8MB PSRAM and external 16MB Flash Onboard 1.69-inch capacitive LCD screen with 240×280 resolution and 262K colors, capable of clearly displaying color images Integrated QMI8658 six-axis IMU and PCF85063 RTC, supporting motion detection and RTC functions LCD and its Controller The LCD uses the built-in ST7789V2 controller, a 240 × RGB × 320 pixel LCD controller. However, the LCD itself has a resolution of 240(H) × RGB × 280(V), so the internal RAM of the LCD is not fully utilized. The LCD supports 12-bit, 16-bit, and 18-bit per pixel input color formats, namely RGB444, RGB565, and RGB666. The LCD uses a four-wire SPI communication interface, which greatly saves GPIO pins and provides faster communication speeds. The module resolution is 240(H) × RGB × 280(V), but because the corners are rounded (see parameters for dimensions), some parts of the input image may not be displayed. Product List: 1 x Development Board Touch and non-touch versions are available

PRODUCT IMAGES

ESP32-S3 1.69-INCH TOUCH LCD DEVELOPMENT BOARD

Built-in ST7789V2 display driver chip and CST816T capacitive touch chip



32-bit LX7 dual-core processor	Type-C port	Touchscreen	Programmable keys	PCF85063 RTC Clock	QMI8658 Six-axis inertial meter
1.69 in	240 × 280	262k color	IPS panel	ST7789V2 Display Chip	CST816T Touch Chip

ESP32-S3 1.69-INCH TOUCH LCD DEVELOPMENT BOARD

Built-in ST7789V2 display driver chip and CST816T capacitive touch chip

Display Version



Touch Screen Version



Version Selection



ESP32-S3-LCD-1.69
no touch version



ESP32-S3-LCD-1.69
with touch version

1.69-inch compact screen

With 262K IPS color panel, 240x280 resolution for various scenarios with ease



ESP32-S3-LCD-1.69 (Display Edition)

Compact panel
touch more possibilities

Applicable to a variety of intelligent devices development,
can realize human-computer interaction function



ESP32-S3-LCD-1.69
(Touch Screen Version)

Wi-Fi & BT wireless connectivity

On-board antenna, supports 2.4 GHz Wi-Fi (802.11 b/g/n)
and BT 5 (LE) display only version



2.4GHz Wi-Fi

BT 5 (LE)

Examples of applications



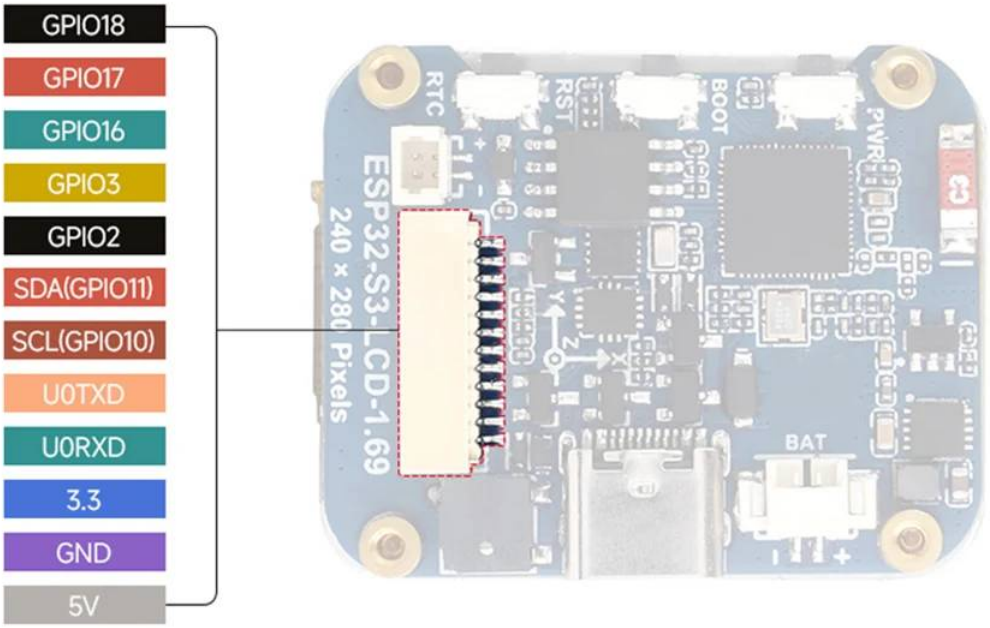




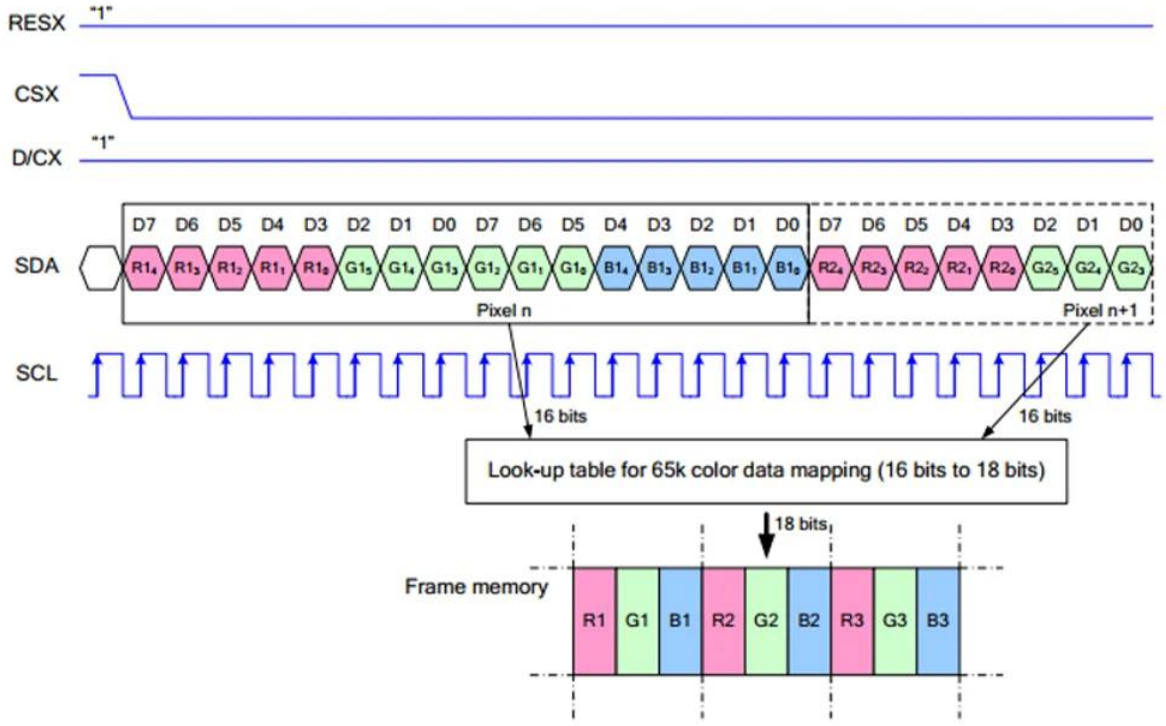


Pin Definitions

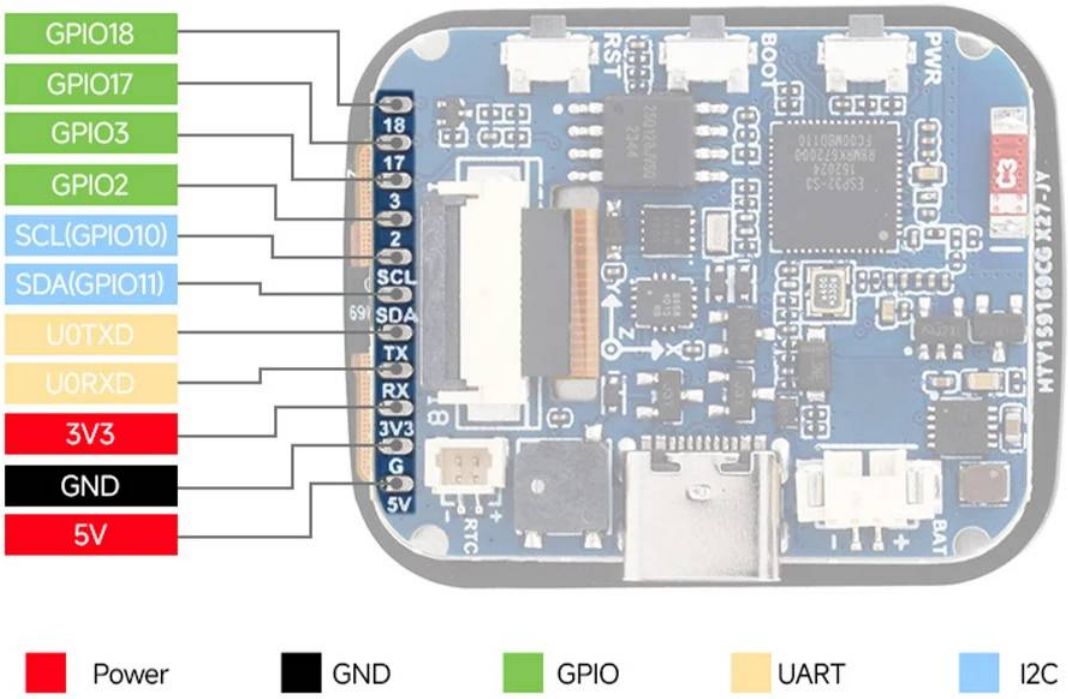
ESP32-S3-LCD-1.69 (display version)



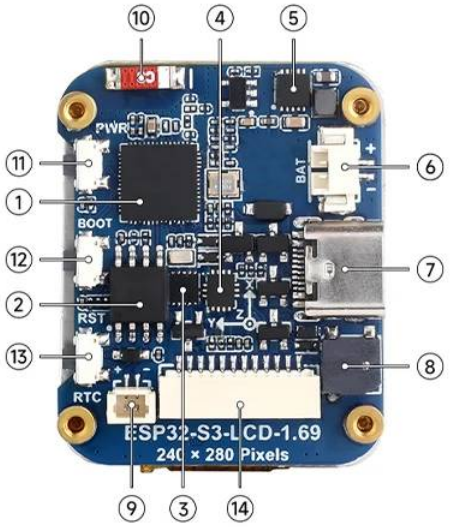
SPI Communication Protocol



ESP32-S3-LCD-1.69 (Touch Screen Version)

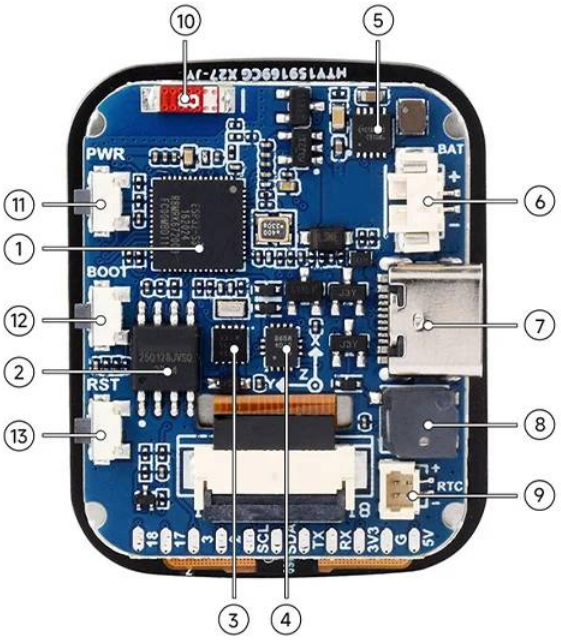


Resource Profile



ESP32-S3-LCD-1.69
(Display Edition)

1. ESP32-S3R8
   WiFi and BT SoC running at 240MHz with 8MB-PSRAM overlay
2. W25Q128JVSIQ
   16MB NOR-Flash
3. PCF85063
   RTC Clock Chip
4. QMI8658
   Six-axis Inertial Measurement Unit (IMU) containing a 3-axis gyroscope and a 3-axis accelerometer
5. ETA6098
   High-efficiency lithium battery charging chip
6. MX1.25 lithium battery connector
   MX1.25 2P connector for accessing 3.7V lithium batteries, supports charging and discharging
7. Type-C interface
   ESP32-S3 USB interface, can be used for burning programs and log printing
8. Buzzer
   Aural peripherals
9. RTC Battery Interface
   Access to rechargeable RTC batteries, (only rechargeable RTC batteries are supported)
10. On-board patch antenna
    Supports 2.4 GHz Wi-Fi (802.11 b/g/n) and BT 5 (LE)
11. Power-up function button
    Supports power-up function; supports single-click, double-click, multi-click and long-press operations
12. BOOT button
13. RST button
14. 12pin terminal block



ESP32-S3-LCD-1.69
(Touch Screen Version)

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   16MB NOR-Flash

3. PCF85063

   RTC Clock Chip

4. QMI8658

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   ESP32-S3 USB interface that can be used for program burning and log printing

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   Aural peripherals

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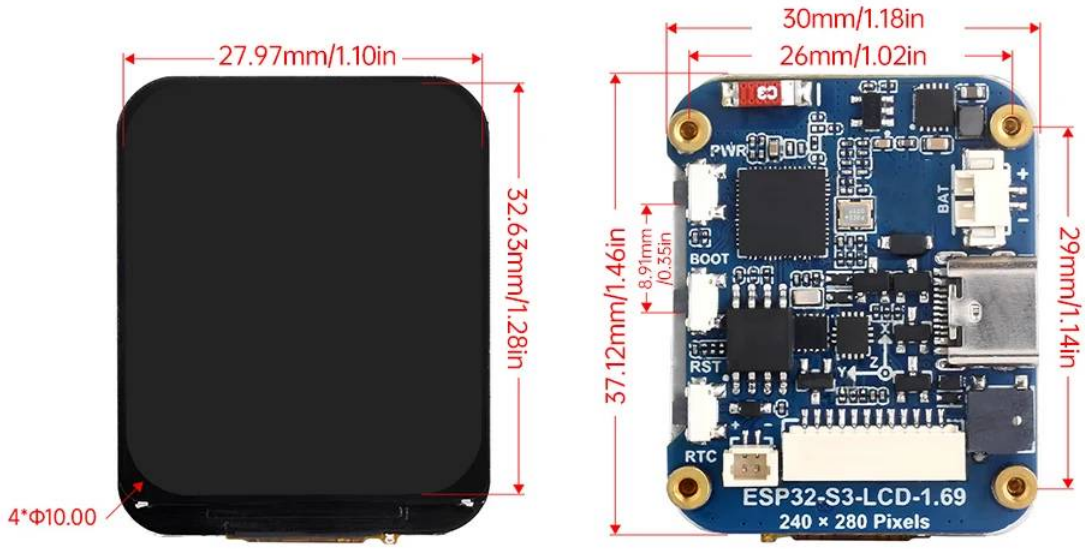
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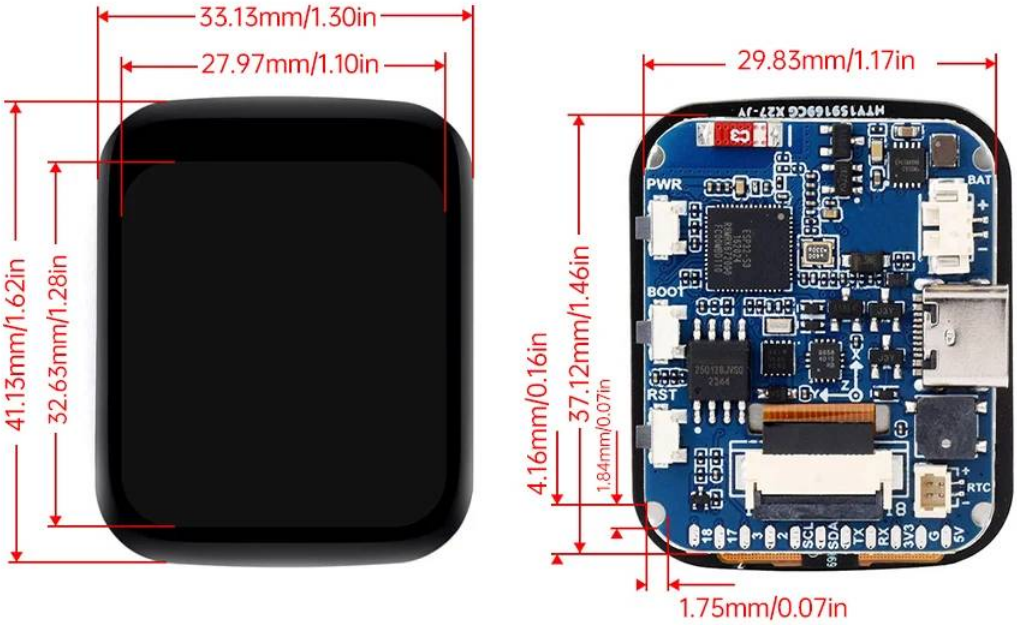
12. BOOT button

13. RST reset button

Product Size



ESP32-S3-LCD-1.69 (display version)



ESP32-S3-LCD-1.69 (Touch Screen Version)

ESP32-S3-LCD-1.69
No touch

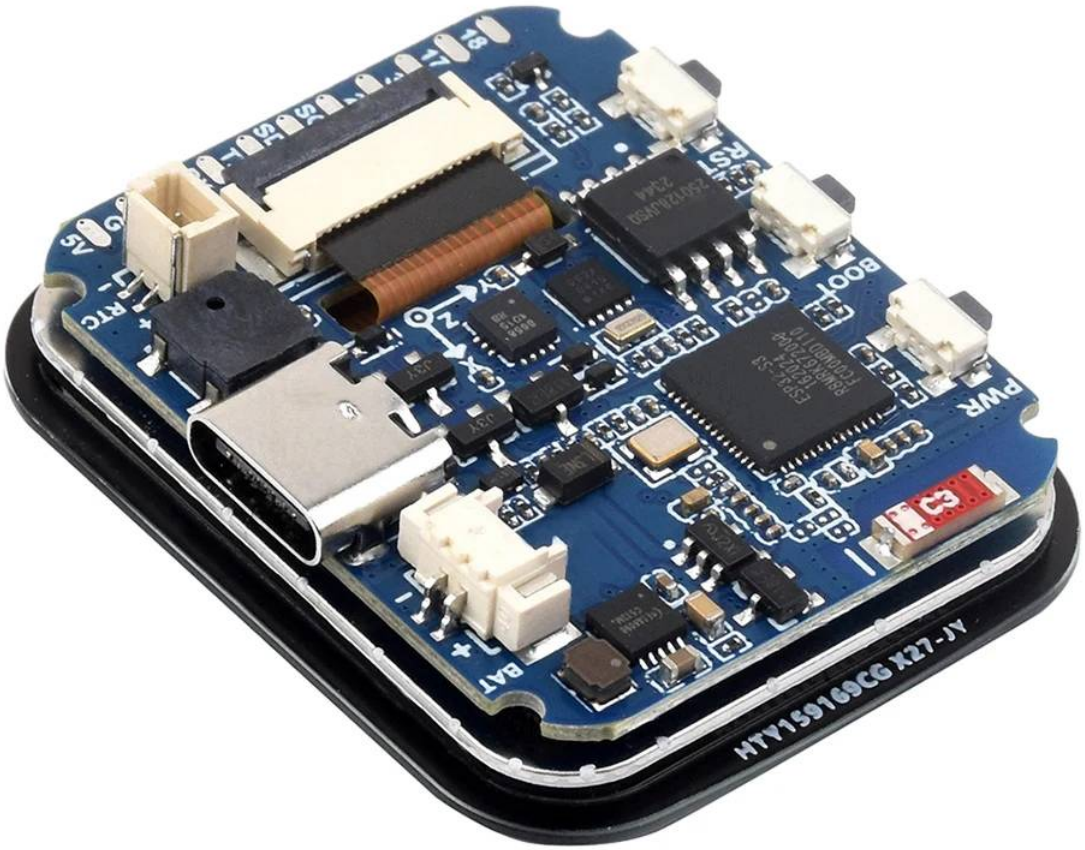


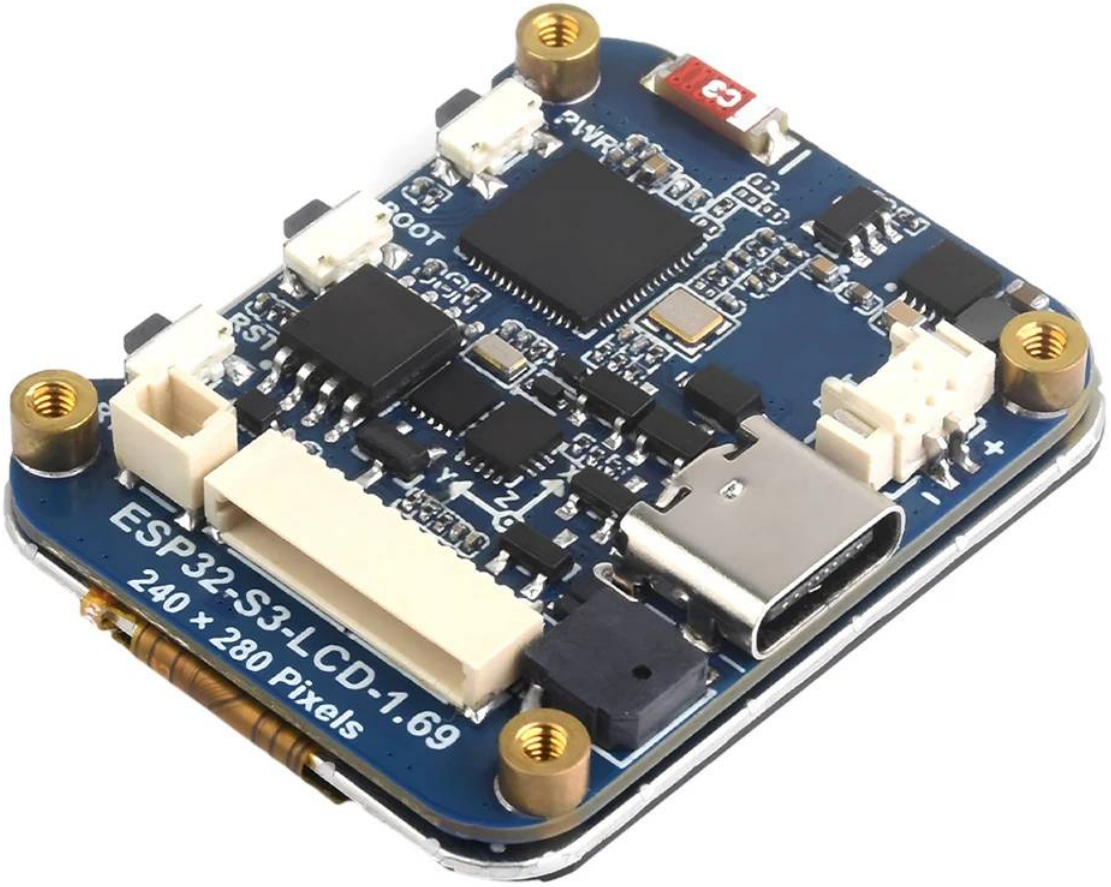


ESP32-S3-LCD-1.69
with touch control


BPM
076
11
03
STEPS
02735
KCAL
0348
07/15
Mon


14:59
11:15AM TRAINING WITH KRISTA
WED
12
52
89
68°
UVI
3.6
1:09PM, +3HRS
NYC


RTC
BOOT
PWR
BAT
HTV159169CG X27-JY


PWR
BOOT
RST
ESP32-S3-LCD-1.69
240 × 280 Pixels